R-1820-PR
August 1975

Damage Probabilities for Small-CEP, Low-Yield, Airburst/Groundburst Attacks Against Selected PVN and QVN Point Targets

D. C. Kephart and M. J. Parise

A Report prepared for

UNITED STATES AIR FORCE PROJECT RAND

Rand
SANTA MONICA, CA. 90406

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PREFACE

This report is a companion volume to Rand reports R-1168-PR* and R-1168/1-PR,* which together present tables of single-shot "optimal" airburst damage probabilities as a function of delivery CEP and yield for 150 selected P-type (PVN) and Q-type (QVN) military targets. It was prepared under Project RAND in response to requests by Air Force officers and agencies for additional computed tables estimating the outcomes of attacks using small CEPs and small nuclear weapon yields, both airburst and groundburst, against certain overpressure-sensitive PVN point targets and dynamic-pressure-sensitive QVN point targets.

The damage probability tables given here cover 28 PVNs and 12 QVNs of current military interest. Additional spot calculations involving yields, CEPs, and vulnerability numbers not listed here can be made using Rand's circular slide rule calculator R-1380-PR,* which is available to users of this report.

This work was conducted under the Rand project entitled "Future Strategic Aerospace Force Requirements."

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*R-1168-PR, *Some Aids for Estimating Damage Probabilities in Attacks Against Targets with P and Q Vulnerability Numbers*, D. C. Kephart, March 1973; R-1168/1-PR, *Some Aids for Estimating Damage Probabilities in Attacks Against Targets with P and Q Vulnerability Numbers: Supplementary Tables for Point Targets*, D. C. Kephart, November 1973; R-1380-PR, *Damage Probability Computer for Point Targets with P and Q Vulnerability Numbers*, D. C. Kephart, February 1974.

DAMAGE PROBABILITIES FOR SMALL-CEP, LOW-YIELD, AIRBURST/GROUNDBURST ATTACKS AGAINST SELECTED PVN AND QVN POINT TARGETS

This report presents computed tables showing single-shot probability of damage (PD) to a point target as a function of yield and CEP, for a weapon bursting either at ground level or at an altitude that approximately maximizes the probability of blast damage, for a selection of PVN and QVN vulnerability numbers of current military interest. Damage probabilities are tabulated for yields in steps from 1 ton to 70 KT, with CEPs in steps from 0 to 600 ft. Definitions, assumptions, and mathematical bases for the damage tables are as detailed in Rand report R-1168-PR and in *Physical Vulnerability Handbook--Nuclear Weapons* (U), Defense Intelligence Agency, AP-550-1-2-69-INT, 1 June 1969 (Confidential).

The quantities listed in the computer printout PD tables are identified below:

VN = vulnerability number; arbitrary classification of a target's susceptibility to blast damage (as defined in R-1168-PR and in the DIA's *Physical Vulnerability Handbook--Nuclear Weapons*).

KT = warhead yield, kilotons.

Adj VN = adjusted VN, to account for yield-dependent damage response.

psi = peak overpressure (for PVNs), or peak dynamic pressure (for QVNs) at the weapon radius, lb/sq in.

HOB = weapon height of burst, ft (airburst values for HOB > 0 are associated with "maximum" probability of damage).

WR = weapon radius, ft.

CEP = circular probable error weapon delivery accuracy, ft.

PD = single-shot probability of damage.

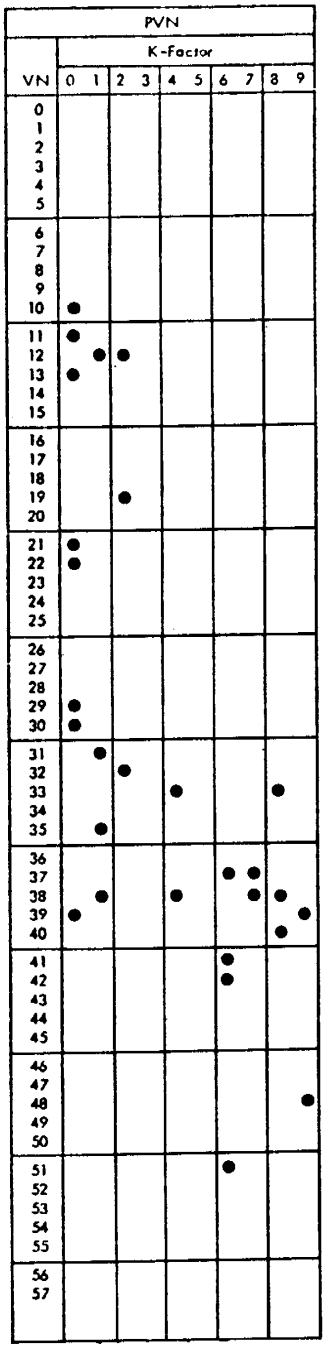
For target VNs and yield-CEP combinations not listed here or in R-1168-PR, an interactive computing program is available (as described

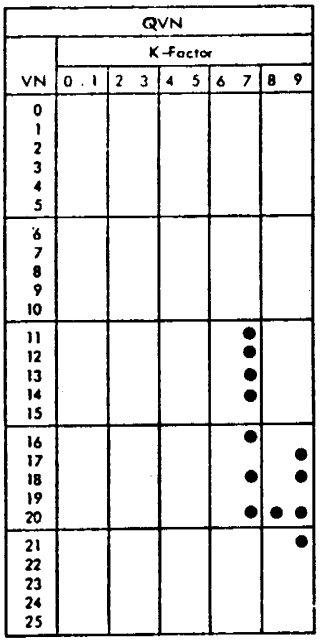
in R-1168-PR) for calculating additional PD tables via remote interactive coupling to Rand's JOSS® computer. The computing program also calculates discrete sets of airburst and groundburst damage probabilities for both point targets and circular area targets with an offset aim point option for any yield-CEP combination, for both PVNs and QVNs.

For those wishing to translate to other computing languages a listing of the JOSS program is included in this report as Appendix A, and a summary of the JOSS language is presented as Appendix B. Attention is invited to parts 37 and 38 in the program where the equations fitting weapon radius to the adjusted vulnerability number are revised slightly to smooth out minor discontinuities associated with those listed in R-1168-PR.

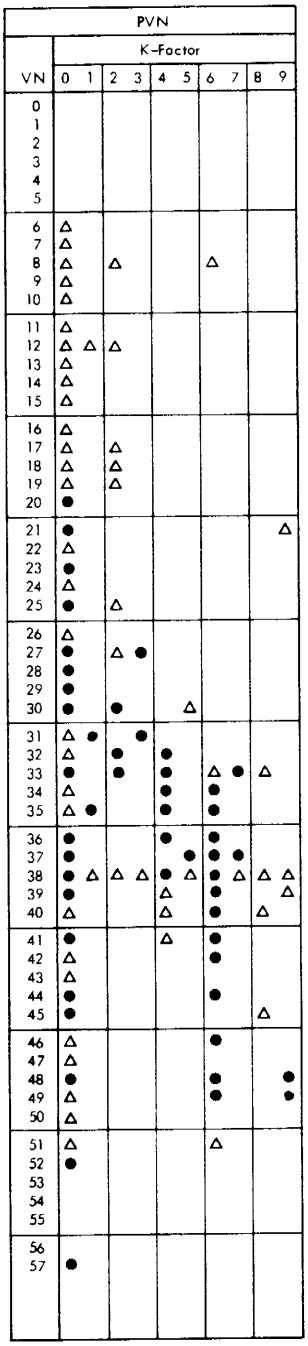
The 1974 revisions to DIA's *Physical Vulnerability Handbook--Nuclear Weapons* do not affect the results for PVNs (sigma-20) and QVNs (sigma-30) given here and in the previous Rand publications. Concerning the accuracy of results--while the calculated damage probabilities are printed in three significant figures as an aid to curve-plotting and to show incremental trends, it should be recognized that actual outcomes might be greatly perturbed, perhaps as much as 25 percent, by uncertainties in bomb yield, delivery accuracy, height-of-burst, target location, target response, and target vulnerability number. These uncertainties, which are not accounted for here, may not ever be predictable, with high confidence, in advance of a conflict involving nuclear weapons.

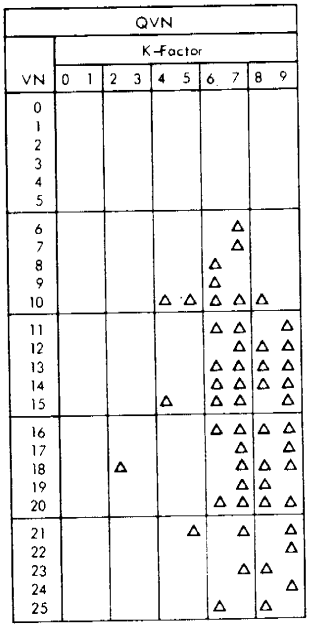
The vulnerability numbers for which PD tables are presented, either here, or in R-1168-PR, or in R-1168/1-PR, are indexed on the following page. In R-1168-PR and R-1168/1-PR the PD tables are for airbursting on point targets with yields varying from 20 KT to 12 MT or 25 MT, with CEPs varying from 200 ft or 400 ft to 10,000 ft. In this report the PD tables are for both airbursting and groundbursting on point targets with yields varying from 1 ton to 70 KT and with CEPs varying from 0 to 600 ft.





● DAMAGE PROBABILITY TABLES IN THIS REPORT





● R-1168-PR

△ R-1168/1-PR

INDICES OF DAMAGE PROBABILITY TABLES

10P0

Ground-burst

10P0

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj YN	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
psi	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
HOB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WR	126	159	216	242	272	343	465	521	586	739	1002	1121	1263	1591	2160	2416	2721	3428	4653	5205
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0																				
5																				
10																				
15																				
20																				
30	.998																			
40	.988	.997																		
50	.962	.989	.998	.999																
75	.817	.918	.980	.990	.995	.999														
100	.638	.785	.923	.953	.974	.993	.999	.999												
125	.488	.643	.831	.883	.926	.975	.996	.998	.999											
150	.377	.520	.724	.792	.855	.940	.987	.993	.997	.999										
200	.237	.346	.532	.608	.688	.826	.944	.967	.982	.995	.999									
250	.160	.240	.391	.460	.537	.693	.867	.911	.946	.983	.997	.999	.999							
300	.115	.175	.295	.352	.420	.570	.770	.833	.887	.957	.992	.996	.998							
350	.086	.132	.228	.275	.333	.468	.672	.745	.814	.916	.980	.989	.995	.999						
400	.066	.103	.180	.220	.269	.387	.582	.658	.736	.863	.960	.978	.988	.997						
450	.053	.082	.146	.179	.220	.323	.503	.578	.659	.803	.933	.959	.978	.994	.999					
500	.043	.067	.120	.148	.183	.272	.436	.508	.587	.741	.898	.935	.962	.989	.998	.999				
600	.030	.047	.085	.105	.131	.199	.332	.394	.467	.621	.813	.868	.915	.970	.995	.997	.999			

Air-burst

10P0

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj YN	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
psi	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
HOB	83	105	142	159	179	226	307	343	386	487	661	739	832	1049	1423	1592	1793	2259	3066	3430
WR	185	233	317	354	399	503	682	763	860	1083	1470	1644	1852	2333	3167	3542	3990	5027	6822	7632
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0																				
5																				
10																				
15																				
20																				
30																				
40	.999																			
50	.995	.999																		
75	.957	.997	.998	.999																
100	.864	.945	.989	.994	.997	.999														
125	.742	.868	.962	.979	.989	.997														
150	.622	.772	.916	.948	.970	.992	.999	.999												
200	.433	.584	.782	.843	.896	.961	.993	.996	.998											
250	.309	.438	.640	.714	.787	.899	.974	.986	.993	.998										
300	.228	.333	.517	.592	.673	.814	.938	.963	.980	.995	.999									
350	.174	.260	.419	.489	.568	.723	.886	.926	.956	.987	.998	.999								
400	.137	.207	.343	.406	.480	.634	.824	.877	.922	.973	.995	.998	.999							
450	.110	.168	.284	.340	.407	.555	.757	.821	.878	.952	.990	.995	.998	.999						
500	.090	.139	.238	.287	.347	.485	.690	.761	.828	.924	.983	.991	.995	.999						
600	.064	.099	.173	.211	.259	.374	.567	.643	.721	.852	.956	.975	.987	.997	.999					

10P0

11P0

Ground-burst

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj VN	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
psi	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
HOB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WR	114	144	195	219	246	310	421	471	530	668	907	1014	1142	1439	1954	2185	2461	3101	4209	4708
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0																				
5																				
10																				
15																				
20																				
30	.996	.999																		
40	.980	.995	.999																	
50	.940	.980	.997	.998	.999															
75	.759	.880	.967	.982	.991	.998														
100	.570	.724	.887	.927	.957	.987	.998	.999												
125	.425	.575	.775	.837	.891	.958	.992	.996	.998											
150	.323	.455	.659	.732	.803	.909	.978	.988	.994	.999										
200	.199	.295	.466	.540	.620	.770	.915	.947	.970	.992	.999	.999								
250	.133	.202	.336	.398	.471	.626	.817	.872	.918	.971	.995	.997	.999							
300	.095	.146	.250	.300	.362	.503	.708	.777	.842	.933	.985	.992	.996	.999						
350	.071	.110	.191	.232	.284	.406	.605	.680	.756	.878	.966	.981	.990	.998						
400	.055	.085	.151	.184	.227	.332	.515	.590	.670	.813	.937	.963	.980	.995	.999					
450	.044	.068	.121	.149	.185	.274	.439	.511	.591	.744	.899	.936	.963	.989	.998	.999				
500	.035	.056	.100	.123	.153	.230	.377	.443	.520	.676	.855	.902	.940	.980	.997	.998	.999			
600	.025	.039	.070	.087	.109	.167	.283	.338	.405	.553	.755	.819	.877	.951	.990	.995	.998	.999		

IIP0

IIP0

Air-burst

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj VN	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
psi	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
HOB	79	100	135	151	170	214	291	325	367	462	627	701	790	995	1350	1511	1702	2144	2910	3255
WR	164	206	280	313	353	444	603	674	760	957	1299	1453	1636	2062	2798	3130	3525	4442	6028	6744
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0																				
5																				
10																				
15																				
20																				
30																				
40	.998	.999																		
50	.991	.998																		
75	.926	.975	.996	.998	.999															
100	.801	.908	.977	.988	.994	.999														
125	.662	.806	.934	.960	.978	.994	.999													
150	.539	.694	.868	.912	.947	.983	.997	.999	.999											
200	.361	.501	.706	.776	.841	.932	.985	.992	.996	.999										
250	.252	.365	.556	.632	.711	.845	.953	.972	.985	.996	.999									
300	.184	.273	.437	.509	.589	.742	.898	.935	.962	.989	.998	.999								
350	.139	.210	.348	.412	.486	.641	.829	.882	.925	.974	.996	.998	.999							
400	.109	.166	.281	.337	.403	.551	.753	.818	.875	.951	.990	.995	.998	.999						
450	.087	.134	.231	.279	.337	.473	.677	.749	.818	.918	.981	.990	.995	.999						
500	.071	.110	.192	.233	.285	.408	.606	.682	.759	.879	.967	.981	.991	.998						
600	.050	.078	.138	.170	.209	.308	.484	.559	.639	.787	.924	.953	.974	.993	.999	.999				

12P1

Ground-burst

12P1

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj YN	24.1	22.1	19.8	19.0	18.3	17.0	15.6	15.2	14.8	14.1	13.4	13.2	13.0	12.7	12.3	12.2	12.1	12.0	11.8	11.8
psi	91	63	41	36	31	25	19	18	17	15	13	12	12	11	11	10	10	10	10	10
HOB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WR	37	54	89	106	127	178	273	317	370	497	719	820	941	1223	1713	1934	2198	2810	3871	4350
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0																				
5																				
10	.995																			
15	.957	.995																		
20	.864	.973	.999																	
30	.622	.853	.984	.994	.998															
40	.432	.685	.933	.970	.989	.999														
50	.308	.535	.847	.917	.963	.994														
75	.153	.297	.597	.713	.819	.949	.995	.998	.999											
100	.090	.182	.410	.520	.641	.846	.974	.989	.995	.999										
125	.059	.121	.291	.381	.491	.718	.927	.963	.983	.997										
150	.041	.086	.214	.286	.379	.596	.856	.916	.958	.991	.999									
200	.023	.049	.128	.174	.239	.409	.689	.783	.864	.959	.995	.998	.999							
250	.015	.032	.084	.116	.161	.290	.539	.641	.743	.894	.980	.991	.996	.999						
300	.010	.022	.059	.082	.115	.213	.422	.518	.623	.808	.951	.974	.988	.998						
350	.008	.016	.044	.061	.086	.162	.335	.420	.519	.715	.907	.946	.972	.994	.999					
400	.006	.013	.034	.047	.067	.127	.270	.344	.433	.626	.850	.906	.947	.986	.998	.999				
450	.005	.010	.027	.038	.053	.102	.221	.285	.364	.546	.788	.857	.913	.974	.996	.998	.999			
500	.004	.008	.022	.031	.043	.084	.184	.239	.309	.477	.724	.803	.872	.956	.993	.997	.998			
600	.003	.006	.015	.021	.030	.059	.132	.174	.228	.367	.602	.691	.777	.904	.980	.990	.995	.999		

Air-burst

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj YN	24.1	22.1	19.8	19.0	18.3	17.0	15.6	15.2	14.8	14.1	13.4	13.2	13.0	12.7	12.3	12.2	12.1	12.0	11.8	11.8
psi	91	63	41	36	31	25	19	18	17	15	13	12	12	11	11	10	10	10	10	10
HOB	17	26	49	62	78	117	186	218	257	346	503	573	658	854	1193	1346	1529	1951	2684	3014
WR	39	57	95	116	144	212	342	403	477	654	966	1109	1280	1678	2371	2684	3058	3925	5427	6106
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0																				
5																				
10	.997																			
15	.969	.996																		
20	.891	.978	.999																	
30	.665	.872	.988	.997	.999															
40	.472	.713	.948	.981	.995															
50	.341	.563	.874	.944	.980	.998														
75	.172	.318	.637	.770	.879	.979	.999													
100	.101	.196	.446	.582	.723	.918	.993	.997	.999											
125	.066	.131	.319	.436	.574	.822	.974	.990	.996	.999										
150	.047	.093	.236	.332	.454	.714	.939	.972	.989	.998										
200	.027	.054	.142	.206	.294	.521	.825	.900	.950	.990	.999									
250	.017	.035	.094	.138	.201	.382	.691	.793	.878	.968	.997	.999	.999							
300	.012	.024	.066	.098	.145	.287	.568	.680	.786	.926	.990	.995	.998							
350	.009	.018	.049	.073	.109	.221	.467	.576	.689	.868	.976	.989	.995	.999						
400	.007	.014	.038	.057	.085	.175	.385	.487	.600	.801	.953	.976	.989	.998						
450	.005	.011	.030	.045	.068	.142	.322	.413	.520	.730	.922	.957	.979	.996	.999					
500	.004	.009	.024	.037	.055	.117	.271	.353	.452	.661	.883	.931	.964	.992	.999					
600	.003	.006	.017	.026	.039	.083	.198	.263	.346	.538	.792	.863	.919	.977	.997	.999	.999			

12P2

Ground-burst

12P2

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj YN	30.8	28.5	25.4	24.4	23.3	21.3	19.0	18.3	17.5	16.2	14.9	14.5	14.1	13.4	12.7	12.5	12.3	12.0	11.7	11.6
psi	310	201	116	96	79	55	36	31	27	22	17	16	15	13	11	11	11	10	9	9
HOB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WR	23	34	57	69	85	124	204	243	291	409	627	728	851	1141	1652	1885	2163	2810	3936	4445
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0																				
5	.999																			
10	.941	.992																		
15	.764	.938	.996	.999																
20	.574	.823	.980	.993	.998															
30	.326	.565	.877	.942	.978	.998														
40	.202	.383	.720	.831	.916	.987	.999													
50	.135	.269	.571	.699	.819	.958	.998	.999												
75	.063	.132	.324	.431	.561	.807	.974	.990	.997											
100	.036	.077	.200	.276	.379	.625	.904	.954	.981	.998										
125	.023	.050	.134	.189	.266	.476	.800	.885	.944	.990	.999									
150	.016	.035	.095	.136	.195	.366	.687	.795	.884	.974	.998	.999								
200	.009	.020	.055	.079	.115	.230	.494	.611	.730	.905	.988	.995	.998							
250	.006	.013	.036	.052	.076	.155	.359	.462	.582	.801	.960	.982	.992	.999						
300	.004	.009	.025	.036	.053	.111	.268	.354	.461	.688	.912	.954	.979	.996						
350	.003	.007	.018	.027	.040	.083	.206	.277	.369	.585	.848	.911	.954	.990	.999					
400	.002	.005	.014	.021	.030	.064	.163	.221	.299	.495	.776	.856	.919	.979	.998	.999				
450	.002	.004	.011	.016	.024	.051	.131	.180	.246	.421	.703	.795	.874	.963	.995	.998	.999			
500	.001	.003	.009	.013	.020	.042	.108	.149	.205	.360	.633	.732	.823	.939	.991	.996	.998			
600	.001	.002	.006	.009	.014	.029	.077	.106	.148	.269	.510	.611	.715	.876	.975	.988	.995	.999		

Air-burst

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj YN	30.8	28.5	25.4	24.4	23.3	21.3	19.0	18.3	17.5	16.2	14.9	14.5	14.1	13.4	12.7	12.5	12.3	12.0	11.7	11.6
psi	310	201	116	96	79	55	36	31	27	22	17	16	15	13	11	11	11	10	9	9
HOB	10	15	25	31	39	64	120	150	186	274	433	506	593	798	1153	1314	1506	1951	2724	3072
WR	25	37	62	74	89	128	224	275	339	501	804	948	1121	1533	2264	2597	2996	3925	5542	6274
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0																				
5	.999																			
10	.963	.996																		
15	.820	.959	.998	.999																
20	.641	.868	.987	.995	.999															
30	.379	.628	.907	.957	.984	.998														
40	.239	.438	.767	.863	.934	.989														
50	.161	.313	.622	.741	.848	.964	.999													
75	.076	.156	.364	.472	.599	.825	.984	.995	.999											
100	.044	.091	.228	.308	.412	.648	.934	.975	.992	.999										
125	.028	.060	.153	.212	.292	.498	.848	.929	.973	.997										
150	.020	.042	.110	.153	.214	.385	.746	.859	.937	.992										
200	.011	.024	.063	.090	.128	.243	.555	.694	.821	.960	.997	.999								
250	.007	.015	.041	.059	.084	.164	.412	.544	.686	.897	.990	.996	.999							
300	.005	.011	.029	.041	.059	.118	.312	.426	.563	.812	.972	.988	.996	.999						
350	.004	.008	.021	.030	.044	.088	.242	.338	.461	.720	.941	.973	.989	.998						
400	.003	.006	.016	.023	.034	.068	.192	.273	.391	.632	.899	.949	.977	.996						
450	.002	.005	.013	.019	.027	.054	.155	.224	.317	.552	.848	.915	.959	.993	.999					
500	.002	.004	.010	.015	.022	.044	.128	.186	.267	.482	.792	.875	.934	.986	.999	.999				
600	.001	.003	.007	.010	.015	.031	.091	.134	.196	.372	.678	.781	.868	.964	.996	.998	.999			

13P0

Ground-burst

13P0

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj VN	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0
psi	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
HOB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WR	94	118	161	180	203	255	346	387	436	550	746	835	940	1184	1608	1798	2025	2552	3463	3874
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0																				
5																				
10																				
15																				
20	.999																			
30	.988	.997																		
40	.947	.983	.997	.999	.999															
50	.871	.949	.989	.995	.997	.999					.999									
75	.633	.781	.921	.951	.973	.992	.999	.999			.996	.998	.999							
100	.442	.594	.791	.851	.901	.964	.993	.997	.998		.984	.992	.996	.999						
125	.316	.447	.650	.724	.796	.904	.976	.987	.994	.998	.959	.977	.988	.997						
150	.234	.341	.527	.603	.683	.822	.942	.966	.982	.995	.999									
200	.140	.212	.351	.415	.490	.645	.832	.884	.926	.975	.996	.998	.999							
250	.093	.142	.244	.294	.355	.495	.699	.770	.836	.929	.984	.992	.996	.999						
300	.065	.102	.178	.217	.265	.383	.577	.653	.731	.859	.959	.977	.988	.997						
350	.049	.076	.135	.165	.204	.301	.475	.549	.629	.778	.919	.950	.972	.992	.999	.999				
400	.037	.059	.105	.129	.161	.241	.393	.461	.539	.694	.868	.912	.947	.983	.997	.999	.999			
450	.030	.047	.084	.104	.130	.197	.328	.390	.462	.615	.809	.865	.912	.969	.994	.997	.999			
500	.024	.038	.069	.085	.107	.163	.277	.332	.397	.544	.747	.812	.871	.949	.989	.995	.997	.999		
600	.017	.027	.048	.060	.075	.117	.203	.246	.300	.427	.627	.702	.776	.892	.972	.984	.992	.998		

Air-burst

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj VN	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0
psi	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
HOB	66	83	112	126	142	178	242	271	305	384	521	583	657	828	1123	1256	1415	1783	2420	2707
WR	128	161	218	244	275	347	471	527	593	747	1014	1134	1278	1610	2185	2444	2752	3468	4706	5265
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0																				
5																				
10																				
15																				
20																				
30	.998																			
40	.989	.997																		
50	.964	.990	.998	.999																
75	.823	.921	.982	.990	.995	.999														
100	.646	.792	.927	.955	.975	.993	.999	.999												
125	.496	.651	.836	.888	.929	.976	.906	.998	.999											
150	.383	.528	.732	.799	.860	.943	.988	.994	.997	.999										
200	.242	.352	.540	.615	.695	.832	.947	.969	.983	.996	.999									
250	.163	.245	.398	.467	.545	.700	.872	.915	.949	.984	.997	.999	.999							
300	.117	.178	.300	.358	.427	.578	.777	.839	.892	.959	.992	.996	.998							
350	.088	.135	.232	.280	.339	.475	.680	.752	.820	.920	.981	.990	.995	.999						
400	.068	.105	.184	.224	.274	.394	.590	.666	.743	.868	.963	.979	.989	.997						
450	.054	.084	.149	.182	.224	.329	.511	.586	.686	.809	.936	.961	.979	.994	.999					
500	.044	.069	.123	.151	.187	.277	.443	.515	.595	.748	.902	.938	.964	.990	.998	.999				
600	.031	.048	.087	.108	.134	.203	.338	.401	.474	.628	.819	.874	.919	.972	.995	.997	.999			

Ground-burst

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj VN	37.8	35.5	32.4	31.4	30.3	28.3	26.0	25.3	24.5	23.2	21.9	21.5	21.1	20.4	19.7	19.5	19.3	19.0	18.7	18.6
psi	1111	720	416	343	282	196	129	112	98	78	60	56	52	46	41	39	38	36	34	33
HOB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WR	15	22	35	42	51	74	118	140	166	231	348	402	467	619	896	1018	1164	1504	2095	2362
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0																				
5	.985	.998																		
10	.757	.926	.994	.998	.999															
15	.488	.730	.948	.979	.993	.999														
20	.320	.538	.844	.918	.965	.995														
30	.160	.299	.593	.713	.825	.957	.997	.999												
40	.094	.183	.407	.520	.649	.864	.983	.994	.998											
50	.061	.122	.288	.381	.498	.741	.948	.977	.991	.999										
75	.028	.057	.142	.196	.271	.473	.780	.868	.932	.986	.999									
100	.016	.032	.083	.116	.165	.308	.594	.706	.811	.942	.993	.997	.999							
125	.010	.021	.054	.076	.109	.212	.447	.556	.673	.863	.977	.989	.996	.999						
150	.007	.015	.038	.054	.077	.153	.341	.437	.550	.765	.943	.971	.987	.998						
200	.004	.008	.022	.031	.044	.090	.212	.281	.370	.577	.834	.898	.945	.987	.999	.999				
250	.003	.005	.014	.020	.029	.059	.142	.192	.259	.431	.702	.791	.868	.958	.994	.997	.999			
300	.002	.004	.010	.014	.020	.041	.101	.138	.189	.328	.579	.677	.772	.908	.984	.992	.997	.999		
350	.001	.003	.007	.010	.015	.030	.076	.104	.143	.255	.477	.573	.674	.843	.964	.982	.991	.998		
400	.001	.002	.005	.008	.011	.023	.059	.081	.112	.203	.395	.484	.584	.769	.934	.963	.982	.996	.999	
450	.001	.002	.004	.006	.009	.019	.047	.064	.090	.164	.330	.411	.505	.695	.895	.937	.966	.992	.999	.999
500	.001	.001	.003	.005	.007	.015	.038	.053	.073	.136	.278	.351	.438	.625	.849	.903	.944	.985	.998	.999
600		.001	.002	.003	.005	.010	.027	.037	.052	.097	.204	.261	.333	.502	.747	.821	.885	.960	.994	.997

Air-burst

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj VN	37.8	35.5	32.4	31.4	30.3	28.3	26.0	25.3	24.5	23.2	21.9	21.5	21.1	20.4	19.7	19.5	19.3	19.0	18.7	18.6
psi	1111	720	416	343	282	196	129	112	98	78	60	56	52	46	41	39	38	36	34	33
HOB	8	10	16	19	23	32	52	62	74	107	172	204	245	348	497	575	668	883	1258	1427
WR	16	24	39	47	57	81	128	151	178	244	362	416	481	632	952	1092	1260	1650	2331	2638
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0																				
5	.989	.999																		
10	.791	.948	.997	.999																
15	.527	.780	.967	.988	.996															
20	.351	.593	.887	.946	.979	.997														
30	.178	.341	.658	.774	.873	.973	.998	.999												
40	.105	.212	.466	.586	.713	.902	.989	.996	.999											
50	.069	.142	.336	.440	.564	.797	.964	.985	.994	.999										
75	.031	.066	.169	.232	.318	.533	.825	.898	.949	.990	.999									
100	.018	.038	.100	.139	.196	.356	.647	.752	.846	.955	.995	.998	.999							
125	.011	.024	.065	.092	.131	.248	.497	.606	.717	.887	.981	.991	.996	.999						
150	.008	.017	.046	.065	.093	.181	.385	.484	.596	.797	.953	.976	.989	.998						
200	.004	.010	.026	.037	.054	.107	.243	.317	.409	.614	.853	.911	.952	.988	.999					
250	.003	.006	.017	.024	.035	.070	.164	.218	.289	.465	.727	.810	.881	.962	.996	.998	.999			
300	.002	.004	.012	.017	.024	.049	.118	.158	.213	.357	.606	.700	.789	.915	.989	.995	.998			
350	.001	.003	.009	.012	.018	.036	.088	.119	.162	.279	.503	.596	.694	.853	.974	.988	.995	.999		
400	.001	.002	.007	.009	.014	.028	.068	.093	.127	.223	.418	.507	.604	.782	.950	.974	.988	.998		
450	.001	.002	.005	.007	.011	.022	.054	.074	.102	.181	.351	.432	.525	.709	.917	.954	.977	.995	.999	
500	.001	.002	.004	.006	.009	.018	.044	.061	.084	.150	.297	.370	.456	.639	.877	.927	.961	.991	.999	.999
600		.001	.003	.004	.006	.013	.031	.043	.059	.107	.219	.277	.349	.516	.784	.856	.914	.975	.997	.998

19P2

21P0

Ground-burst

21P0

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj YN	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0
psi	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52
HOB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WR	47	59	80	90	101	127	173	193	218	274	372	416	469	590	801	896	1010	1272	1726	1931
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0																				
5																				
10	.999																			
15	.988	.997																		
20	.946	.983	.997	.999	.999															
30	.775	.890	.971	.984	.992	.998														
40	.587	.740	.897	.934	.962	.989	.998	.999												
50	.440	.592	.789	.849	.900	.963	.993	.997	.998											
75	.233	.340	.525	.600	.681	.821	.941	.965	.981	.995	.999									
100	.140	.211	.349	.413	.488	.643	.830	.883	.926	.975	.996	.998	.999							
125	.092	.142	.243	.293	.354	.493	.697	.768	.834	.928	.984	.991	.996	.999						
150	.065	.101	.177	.216	.264	.381	.575	.651	.729	.858	.958	.976	.988	.997						
200	.037	.058	.104	.129	.160	.240	.391	.459	.537	.692	.866	.911	.946	.983	.997	.999	.999			
250	.024	.038	.068	.085	.106	.162	.275	.330	.396	.542	.745	.811	.870	.948	.989	.994	.997	.999		
300	.017	.026	.048	.060	.075	.116	.202	.245	.298	.425	.625	.700	.775	.890	.971	.984	.992	.998		
350	.012	.019	.036	.044	.056	.087	.153	.187	.231	.337	.521	.597	.677	.818	.940	.964	.981	.995	.999	
400	.009	.015	.027	.034	.043	.067	.120	.147	.183	.272	.436	.507	.587	.740	.897	.934	.962	.989	.998	.999
450	.007	.012	.022	.027	.034	.054	.096	.119	.148	.223	.366	.432	.508	.663	.846	.895	.935	.978	.996	.998
500	.006	.010	.018	.022	.028	.044	.079	.097	.122	.185	.311	.370	.440	.592	.789	.849	.900	.963	.993	.997
600	.004	.007	.012	.015	.019	.031	.056	.069	.086	.133	.230	.277	.336	.471	.675	.748	.817	.917	.980	.990

Air-burst

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj YN	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0
psi	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52
HOB	25	31	42	47	53	67	91	102	115	145	196	220	247	312	423	473	533	672	911	1020
WR	48	61	82	92	104	131	178	199	224	282	383	428	482	608	825	923	1039	1309	1777	1988
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0																				
5																				
10	.999																			
15	.989	.997																		
20	.953	.985	.998	.999	.999															
30	.791	.901	.975	.986	.993	.998														
40	.606	.758	.908	.942	.967	.991	.999	.999												
50	.458	.612	.806	.863	.911	.968	.994	.997	.999											
75	.244	.355	.544	.620	.700	.836	.949	.970	.984	.996	.999									
100	.147	.222	.365	.431	.506	.662	.845	.894	.934	.978	.996	.998	.999							
125	.097	.149	.255	.307	.370	.512	.716	.785	.849	.936	.986	.993	.996	.999						
150	.069	.107	.186	.227	.277	.397	.594	.670	.747	.871	.964	.980	.989	.997						
200	.039	.062	.110	.136	.168	.252	.408	.478	.556	.711	.879	.921	.953	.985	.998	.999	.999			
250	.025	.040	.072	.089	.112	.171	.269	.345	.413	.561	.763	.826	.882	.954	.991	.995	.998	.999		
300	.018	.028	.051	.063	.079	.122	.212	.257	.312	.442	.645	.719	.791	.901	.975	.986	.993	.998		
350	.013	.021	.038	.047	.059	.092	.162	.197	.242	.352	.541	.616	.696	.833	.947	.969	.983	.996	.999	
400	.010	.016	.029	.036	.046	.071	.127	.155	.192	.285	.453	.526	.606	.758	.908	.942	.967	.991	.999	.999
450	.008	.013	.023	.029	.036	.057	.102	.125	.156	.234	.383	.450	.527	.683	.860	.906	.942	.982	.997	.998
500	.006	.010	.019	.023	.029	.046	.083	.103	.128	.195	.325	.387	.458	.612	.806	.863	.911	.968	.994	.997
600	.004	.007	.013	.016	.021	.032	.059	.073	.091	.140	.241	.291	.351	.490	.694	.765	.832	.927	.983	.991

22P0

Ground-burst

22P0

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj YW	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0
psi	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62
HOB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WR	43	55	74	83	93	118	160	179	201	254	344	385	434	546	742	830	934	1177	1598	1787
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0																				
5																				
10	.998																			
15	.981	.995	.999								.999	.999								
20	.925	.974	.996	.998	.999						.993	.996	.998							
30	.727	.857	.958	.976	.987	.997					.975	.987	.993	.998						
40	.535	.690	.865	.910	.945	.983	.997	.999	.999		.941	.965	.981	.995	.999'					
50	.394	.540	.743	.809	.868	.947	.989	.994	.997	.999	.829	.881	.925	.974	.996	.998	.999			
75	.203	.300	.474	.548	.629	.777	.919	.950	.972	.992	.695	.766	.833	.927	.983	.991	.996	.999		
100	.121	.184	.309	.368	.438	.590	.788	.848	.899	.963	.573	.649	.727	.857	.958	.976	.987	.997		
125	.080	.123	.213	.258	.313	.443	.646	.720	.792	.902	.975	.987	.993	.998						
150	.056	.087	.154	.188	.231	.338	.523	.598	.679	.819	.941	.965	.981	.995	.999'					
200	.032	.050	.090	.111	.139	.210	.348	.411	.486	.641	.829	.881	.925	.974	.996	.998	.999			
250	.021	.032	.059	.073	.092	.141	.242	.291	.352	.491	.695	.766	.833	.927	.983	.991	.996	.999		
300	.014	.023	.041	.051	.065	.100	.176	.214	.262	.379	.573	.649	.727	.857	.958	.976	.987	.997		
350	.011	.017	.031	.038	.048	.075	.133	.163	.202	.298	.471	.544	.625	.774	.917	.949	.971	.992	.999	.999
400	.008	.013	.023	.029	.037	.058	.104	.128	.159	.239	.389	.457	.535	.690	.865	.910	.945	.983	.997	.999
450	.006	.010	.019	.023	.029	.046	.083	.103	.128	.195	.325	.386	.458	.611	.805	.862	.910	.968	.994	.997
500	.005	.008	.015	.019	.024	.038	.068	.084	.105	.161	.274	.328	.394	.540	.743	.809	.868	.947	.989	.994
600	.004	.006	.011	.013	.017	.026	.048	.059	.075	.115	.201	.244	.297	.423	.623	.698	.773	.889	.971	.984

Air-burst

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj YW	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0
psi	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62
HOB	21	27	36	41	46	58	78	88	99	124	169	189	213	268	364	407	458	577	784	877
WR	45	57	77	86	97	123	166	186	210	264	359	401	452	569	773	864	973	1227	1665	1862
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0																				
5																				
10	.999																			
15	.985	.996	.999																	
20	.937	.979	.997	.998	.999															
30	.753	.875	.965	.981	.990	.998														
40	.562	.717	.883	.924	.955	.986	.998	.999	.999											
50	.418	.568	.768	.831	.896	.956	.991	.996	.998	.999										
75	.219	.321	.501	.576	.656	.801	.932	.959	.977	.994	.999									
100	.131	.198	.330	.392	.464	.618	.811	.867	.914	.969	.995	.997	.999							
125	.086	.132	.228	.276	.334	.469	.673	.746	.815	.916	.980	.989	.995	.999						
150	.061	.094	.166	.202	.248	.360	.550	.626	.706	.840	.951	.971	.985	.996	.999					
200	.035	.054	.098	.120	.150	.225	.370	.436	.512	.668	.849	.898	.937	.979	.997	.998	.999			
250	.022	.035	.064	.079	.099	.152	.259	.311	.375	.518	.722	.790	.853	.939	.987	.993	.997	.999		
300	.016	.025	.045	.056	.070	.108	.189	.230	.281	.403	.601	.676	.753	.875	.965	.981	.990	.998		
350	.011	.018	.033	.041	.052	.081	.143	.176	.217	.318	.497	.572	.653	.798	.930	.958	.977	.994	.999	
400	.009	.014	.025	.032	.040	.063	.112	.138	.171	.256	.413	.483	.562	.717	.883	.924	.955	.986	.998	.999
450	.007	.011	.020	.025	.032	.050	.090	.111	.138	.209	.346	.410	.484	.639	.827	.880	.924	.974	.995	.998
500	.006	.009	.016	.020	.026	.041	.074	.091	.114	.174	.293	.350	.418	.568	.768	.831	.886	.956	.991	.996
600	.004	.006	.011	.014	.018	.028	.052	.064	.081	.125	.216	.261	.317	.448	.651	.725	.797	.905	.976	.987

29P0

Ground-burst

29P0

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj VN	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0
psi	222	222	222	222	222	222	222	222	222	222	222	222	222	222	222	222	222	222	222	222
HOB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WR	26	33	44	50	56	71	96	107	121	152	207	231	260	328	445	498	561	706	959	1072
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0																				
5	.999																			
10	.967	.991	.999	.999																
15	.833	.927	.983	.991	.996	.999														
20	.658	.802	.932	.959	.977	.994	.999													
30	.394	.540	.743	.809	.868	.947	.989	.994	.997	.999										
40	.249	.362	.552	.628	.707	.842	.951	.972	.985	.996	.999									
50	.169	.253	.409	.479	.557	.712	.880	.921	.953	.986	.998	.999								
75	.080	.123	.213	.258	.313	.443	.646	.720	.792	.902	.975	.987	.993	.998						
100	.046	.071	.127	.156	.193	.286	.454	.527	.608	.759	.908	.942	.967	.991	.999	.999				
125	.030	.046	.084	.103	.129	.195	.326	.387	.459	.613	.807	.863	.911	.968	.994	.997	.999			
150	.021	.032	.059	.073	.092	.141	.242	.291	.352	.491	.695	.766	.833	.927	.983	.991	.996	.999		
200	.012	.018	.034	.042	.053	.082	.145	.178	.219	.322	.502	.577	.658	.802	.932	.959	.977	.994	.999	
250	.007	.012	.022	.027	.034	.054	.096	.119	.148	.222	.366	.432	.508	.663	.845	.895	.934	.978	.996	.998
300	.005	.008	.015	.019	.024	.038	.068	.084	.105	.161	.274	.328	.394	.540	.743	.809	.868	.947	.989	.994
350	.004	.006	.011	.014	.018	.028	.050	.063	.079	.122	.211	.255	.310	.440	.642	.716	.789	.900	.975	.986
400	.003	.005	.009	.011	.014	.021	.039	.048	.061	.095	.166	.203	.249	.362	.552	.628	.707	.842	.951	.972
450	.002	.004	.007	.008	.011	.017	.031	.038	.049	.076	.134	.165	.203	.300	.474	.548	.629	.777	.919	.950
500	.002	.003	.005	.007	.009	.014	.025	.031	.040	.062	.111	.136	.169	.253	.409	.479	.557	.712	.880	.921
600	.001	.002	.004	.005	.006	.010	.018	.022	.028	.043	.078	.097	.121	.184	.309	.368	.438	.590	.788	.848

Air-burst

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj VN	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0
psi	222	222	222	222	222	222	222	222	222	222	222	222	222	222	222	222	222	222	222	222
HOB	11	14	19	22	25	31	42	47	53	67	90	101	114	144	195	218	245	309	420	469
WR	29	36	49	55	62	78	105	119	133	167	227	254	286	360	489	547	616	777	1054	1179
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0																				
5																				
10	.990	.995	.999																	
15	.877	.952	.990	.995	.998	.999														
20	.720	.852	.956	.974	.987	.997	.999													
30	.451	.604	.799	.857	.907	.966	.994	.997	.999											
40	.292	.416	.616	.691	.766	.885	.969	.983	.991	.998										
50	.200	.295	.467	.541	.621	.771	.916	.947	.970	.992	.999	.999								
75	.095	.146	.250	.301	.363	.504	.709	.778	.843	.933	.985	.992	.996	.999						
100	.055	.086	.151	.185	.227	.333	.516	.591	.672	.814	.938	.963	.980	.995	.999					
125	.036	.056	.100	.123	.153	.230	.378	.444	.521	.677	.855	.903	.940	.981	.997	.999	.999			
150	.025	.039	.071	.088	.109	.167	.283	.339	.406	.554	.756	.820	.877	.952	.990	.995	.998	.999		
200	.014	.022	.040	.050	.063	.098	.173	.211	.258	.373	.566	.642	.720	.852	.956	.974	.987	.997	.999	
250	.009	.014	.026	.033	.041	.064	.115	.141	.175	.261	.421	.492	.571	.725	.888	.928	.957	.987	.998	.999
300	.006	.010	.019	.023	.029	.045	.081	.101	.126	.191	.319	.380	.451	.604	.799	.857	.907	.966	.994	.997
350	.005	.007	.013	.017	.021	.033	.061	.075	.094	.145	.248	.299	.360	.501	.705	.775	.840	.931	.985	.992
400	.004	.006	.010	.013	.016	.026	.047	.058	.073	.113	.197	.239	.292	.416	.616	.691	.766	.885	.969	.983
450	.003	.004	.008	.010	.013	.020	.037	.046	.058	.091	.160	.195	.240	.349	.536	.612	.692	.830	.946	.969
500	.002	.004	.007	.008	.010	.017	.030	.038	.048	.074	.132	.162	.200	.295	.467	.541	.621	.771	.916	.947
600	.002	.002	.005	.006	.007	.012	.021	.026	.033	.052	.094	.116	.144	.213	.339	.424	.499	.654	.839	.890

30P0

Ground-burst

30P0

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj YN	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
psi	266	266	266	266	266	266	266	266	266	266	266	266	266	266	266	266	266	266	266	266
HOB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WR	24	31	42	47	52	66	90	100	113	142	193	216	243	306	416	465	524	660	896	1002
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0																				
5	.999																			
10	.954	.986	.998	.999	.999						.999									
15	.796	.904	.976	.987	.994	.998					.997	.998	.999							
20	.612	.763	.911	.944	.968	.991	.999	.999			.965	.980	.990	.998						
30	.356	.495	.700	.770	.836	.929	.984	.992	.996	.999	.882	.923	.954	.986	.998	.999	.999			
40	.222	.326	.507	.582	.662	.806	.934	.960	.978	.994	.768	.830	.886	.956	.991	.996	.998	.999		
50	.149	.225	.370	.436	.512	.668	.849	.897	.936	.979	.650	.724	.796	.904	.976	.987	.994	.998		
75	.070	.108	.189	.230	.281	.402	.600	.676	.752	.875	.459	.532	.612	.763	.911	.944	.968	.991	.999	.999
100	.040	.063	.112	.138	.171	.255	.413	.483	.562	.716	.330	.391	.464	.617	.810	.866	.914	.969	.994	.997
125	.026	.041	.073	.091	.114	.173	.293	.350	.418	.567	.245	.295	.356	.495	.700	.770	.866	.929	.984	.992
150	.018	.028	.052	.064	.081	.124	.215	.261	.316	.448	.187	.228	.278	.399	.596	.672	.749	.872	.964	.980
200	.010	.016	.029	.037	.046	.072	.128	.158	.195	.289	.147	.180	.222	.326	.507	.582	.662	.806	.934	.960
250	.007	.010	.019	.024	.030	.047	.085	.105	.130	.198	.119	.146	.181	.269	.432	.503	.583	.736	.895	.933
300	.005	.007	.013	.017	.021	.033	.060	.074	.093	.143	.097	.120	.149	.225	.370	.436	.512	.668	.849	.897
350	.003	.005	.010	.012	.015	.024	.044	.055	.069	.107	.069	.085	.107	.163	.277	.332	.398	.544	.747	.813
400	.003	.004	.007	.009	.012	.019	.034	.042	.053	.083										
450	.002	.003	.006	.007	.009	.015	.027	.034	.043	.067										
500	.002	.003	.005	.006	.008	.012	.022	.027	.035	.054										
600	.001	.002	.003	.004	.005	.008	.015	.019	.024	.038										

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj YN	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
psi	266	266	266	266	266	266	266	266	266	266	266	266	266	266	266	266	266	266	266	266
HOB	11	14	19	21	23	29	40	44	50	63	85	95	107	135	184	205	231	292	396	443
WR	27	34	46	51	58	73	99	110	124	157	213	238	268	338	458	513	577	728	987	1105
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0																				
5																				
10	.972	.992	.999	.999																
15	.847	.936	.986	.993	.996	.999														
20	.678	.818	.940	.965	.981	.995	.999													
30	.411	.560	.761	.825	.881	.954	.991	.995	.998	.999										
40	.262	.378	.572	.648	.726	.856	.957	.976	.987	.997										
50	.179	.265	.427	.498	.577	.731	.892	.930	.959	.988	.998	.999								
75	.084	.130	.224	.271	.328	.462	.666	.739	.809	.913	.979	.999	.999							
100	.048	.076	.134	.164	.203	.300	.473	.547	.629	.777	.919	.950	.972	.992	.999	.999				
125	.031	.049	.089	.109	.136	.206	.342	.405	.478	.633	.823	.877	.921	.973	.995	.998	.999			
150	.022	.034	.062	.077	.097	.149	.254	.306	.368	.510	.715	.784	.847	.936	.986	.993	.996	.999		
200	.012	.020	.036	.044	.056	.087	.154	.198	.231	.337	.522	.597	.678	.818	.940	.965	.981	.995	.999	
250	.008	.013	.023	.029	.036	.057	.102	.125	.156	.234	.383	.450	.527	.683	.860	.906	.942	.982	.997	.998
300	.006	.009	.016	.020	.025	.040	.072	.089	.111	.170	.288	.344	.411	.560	.761	.825	.881	.954	.991	.995
350	.004	.006	.012	.015	.019	.029	.053	.066	.083	.128	.222	.268	.325	.459	.662	.735	.806	.911	.978	.988
400	.003	.005	.009	.011	.014	.023	.041	.051	.065	.100	.176	.214	.262	.378	.572	.648	.726	.856	.957	.976
450	.002	.004	.007	.009	.011	.018	.033	.041	.051	.080	.142	.174	.214	.315	.493	.568	.649	.795	.938	.956
500	.002	.003	.006	.007	.009	.015	.027	.033	.042	.066	.117	.144	.178	.265	.427	.499	.577	.731	.892	.930
600	.001	.002	.004	.005	.006	.010	.019	.023	.029	.046	.083	.102	.128	.194	.324	.385	.457	.610	.804	.862

Air-burst

30P0

30P0

31P1

Ground-burst

31P1

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj YN	43.1	41.1	38.8	38.0	37.3	36.0	34.6	34.2	33.8	33.1	32.4	32.2	32.0	31.7	31.3	31.2	31.1	31.0	30.8	30.8
psi	2896	2015	1316	1145	999	789	614	568	528	467	412	396	382	361	340	334	328	319	311	308
HOB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WR	11	15	25	29	34	46	67	77	89	117	165	187	214	275	381	429	486	618	847	950
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0																				
5	.921	.986	.999																	
10	.527	.761	.958	.980	.992	.999														
15	.291	.493	.805	.879	.935	.986	.999	.999												
20	.178	.324	.623	.723	.817	.939	.992	.996	.999											
30	.084	.162	.364	.454	.559	.758	.934	.965	.983	.997										
40	.048	.095	.228	.294	.377	.569	.815	.881	.932	.982	.998	.999								
50	.031	.062	.154	.202	.264	.424	.678	.766	.845	.945	.991	.996	.998							
75	.014	.028	.072	.096	.129	.222	.412	.498	.594	.772	.929	.960	.979	.995	.999					
100	.008	.016	.041	.055	.075	.133	.262	.328	.408	.584	.807	.869	.920	.975	.996	.998	.999			
125	.005	.010	.027	.036	.049	.088	.178	.227	.289	.438	.669	.749	.825	.929	.986	.993	.997	.999		
150	.004	.007	.019	.025	.034	.062	.128	.165	.212	.333	.545	.630	.717	.859	.963	.980	.990	.998		
200	.002	.004	.011	.014	.019	.035	.075	.097	.126	.206	.366	.440	.524	.694	.876	.921	.954	.987	.998	.999
250	.001	.003	.007	.009	.013	.023	.048	.063	.083	.138	.256	.314	.385	.544	.759	.827	.885	.958	.992	.996
300	.001	.002	.005	.006	.009	.016	.034	.044	.059	.099	.187	.232	.289	.426	.641	.719	.795	.907	.978	.989
350	.001	.001	.003	.005	.006	.012	.025	.033	.044	.074	.142	.177	.223	.338	.537	.617	.700	.841	.953	.973
400		.001	.003	.004	.005	.009	.019	.025	.034	.057	.111	.139	.177	.273	.450	.527	.611	.768	.917	.949
450		.001	.002	.003	.004	.007	.015	.020	.027	.045	.089	.112	.143	.224	.379	.450	.531	.694	.872	.916
500		.001	.002	.002	.003	.006	.012	.016	.022	.037	.072	.092	.118	.186	.322	.387	.463	.623	.820	.876
600			.001	.002	.002	.004	.009	.011	.015	.026	.051	.065	.084	.134	.239	.291	.355	.500	.712	.783

Air-burst

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj YN	43.1	41.1	38.8	38.0	37.3	36.0	34.6	34.2	33.8	33.1	32.4	32.2	32.0	31.7	31.3	31.2	31.1	31.0	30.8	30.8
psi	2896	2015	1316	1145	999	789	614	568	528	467	412	396	382	361	340	334	328	319	311	308
HOB	6	9	13	14	17	22	32	36	41	54	75	95	97	124	171	192	217	276	378	423
WR	11	16	26	30	36	49	73	84	97	128	182	206	235	303	420	473	536	682	934	1048
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0																				
5	.939	.990	.999																	
10	.569	.801	.966	.986	.995	.999														
15	.322	.539	.829	.902	.951	.991	.999													
20	.199	.361	.654	.758	.851	.957	.995	.998	.999											
30	.095	.184	.390	.490	.603	.804	.955	.978	.990	.998										
40	.055	.109	.247	.322	.415	.621	.859	.915	.955	.989	.999	.999								
50	.035	.071	.167	.222	.294	.472	.735	.817	.886	.965	.995	.998	.999							
75	.016	.032	.079	.107	.146	.254	.466	.558	.657	.825	.954	.975	.988	.997						
100	.009	.018	.045	.062	.085	.153	.303	.377	.465	.648	.856	.908	.947	.985	.998	.999				
125	.006	.012	.029	.040	.056	.101	.208	.264	.334	.498	.732	.806	.872	.954	.992	.996	.998			
150	.004	.008	.020	.028	.039	.072	.150	.193	.248	.385	.611	.695	.777	.900	.977	.988	.994	.999		
200	.002	.005	.012	.016	.022	.041	.088	.115	.150	.243	.422	.502	.590	.756	.914	.948	.971	.993	.999	.999
250	.001	.003	.007	.010	.014	.027	.057	.075	.099	.164	.300	.366	.443	.610	.816	.874	.921	.974	.996	.998
300	.001	.002	.005	.007	.010	.019	.040	.053	.070	.118	.221	.274	.338	.488	.706	.780	.847	.938	.987	.994
350	.001	.002	.004	.005	.007	.014	.030	.039	.052	.088	.169	.211	.264	.393	.603	.683	.762	.886	.971	.984
400	.001	.001	.003	.004	.006	.010	.023	.030	.040	.068	.132	.166	.210	.320	.513	.593	.677	.823	.945	.968
450		.001	.002	.003	.004	.008	.018	.024	.032	.054	.106	.134	.170	.264	.438	.514	.598	.756	.910	.944
500		.001	.002	.003	.004	.007	.015	.019	.026	.044	.087	.110	.141	.221	.375	.446	.527	.689	.868	.914
600		.001	.001	.002	.002	.005	.010	.014	.018	.031	.061	.078	.100	.160	.281	.340	.411	.566	.773	.836

32P2

Ground-burst

32P2

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj YN	50.8	48.5	45.4	44.4	43.3	41.3	39.0	38.3	37.5	36.2	34.9	34.5	34.1	33.4	32.7	32.5	32.3	32.0	31.7	31.6
psi	11891	7705	4452	3673	3012	2101	1377	1199	1047	830	647	600	558	494	437	421	406	383	362	355
HOB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WR	7	10	16	19	23	32	51	61	72	97	142	163	188	246	349	395	451	579	802	903
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0											.999									
5	.674	.885	.989	.996	.999						.994	.997	.999							
10	.259	.463	.784	.874	.939	.990	.999				.979	.990	.996	.999						
15	.127	.247	.518	.637	.758	.924	.992	.998	.999		.874	.925	.960	.991	.999	.999				
20	.074	.149	.344	.447	.568	.796	.963	.986	.994	.999	.716	.799	.871	.957	.993	.997	.999			
30	.034	.070	.174	.237	.321	.533	.819	.904	.950	.990	.566	.659	.751	.891	.977	.988	.995	.999		
40	.019	.040	.102	.142	.198	.356	.641	.761	.848	.953	.447	.536	.632	.804	.944	.969	.985	.997		
50	.012	.026	.067	.094	.133	.248	.491	.616	.721	.883	.288	.358	.442	.621	.835	.892	.936	.981	.997	.999
75	.005	.012	.030	.043	.062	.120	.266	.359	.452	.652	.197	.250	.316	.472	.704	.782	.852	.943	.989	.995
100	.003	.007	.017	.024	.035	.070	.161	.224	.292	.460	.142	.182	.234	.363	.582	.666	.751	.882	.971	.985
125	.002	.004	.011	.016	.023	.045	.107	.151	.200	.331	.107	.138	.178	.284	.479	.562	.651	.808	.940	.966
150	.001	.003	.008	.011	.016	.032	.076	.108	.144	.246	.083	.108	.140	.227	.397	.474	.560	.728	.898	.936
200	.001	.002	.004	.006	.009	.018	.043	.062	.084	.148	.066	.086	.113	.185	.332	.401	.482	.651	.846	.898
250		.001	.003	.004	.006	.012	.028	.040	.055	.098	.054	.071	.093	.153	.280	.342	.416	.579	.790	.853
300		.001	.002	.003	.004	.008	.020	.028	.039	.069	.038	.050	.065	.109	.205	.255	.315	.459	.676	.752
350		.001	.001	.002	.003	.006	.014	.021	.029	.051	.027	.035	.046	.076	.145	.189	.240	.359	.546	.619
400			.001	.002	.002	.004	.009	.013	.017	.031	.019	.025	.032	.054	.104	.136	.174	.263	.407	.466
450			.001	.001	.002	.003	.007	.010	.014	.026	.015	.020	.026	.044	.085	.112	.144	.219	.342	.393
500			.001	.001	.001	.003	.005	.008	.011	.022	.012	.017	.022	.037	.072	.095	.123	.188	.295	.341
600				.001	.001	.002	.003	.005	.007	.015	.008	.011	.015	.026	.051	.068	.089	.137	.217	.252

Air-burst

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj YN	50.8	48.5	45.4	44.4	43.3	41.3	39.0	38.3	37.5	36.2	34.9	34.5	34.1	33.4	32.7	32.5	32.3	32.0	31.7	31.6
psi	11891	7705	4452	3673	3012	2101	1377	1199	1047	830	647	600	558	494	437	421	406	383	362	355
HOB	5	7	10	12	14	19	27	31	35	47	67	77	98	114	160	180	205	262	362	407
WR	7	10	17	20	24	35	55	64	76	104	155	178	206	271	384	435	496	638	885	996
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0											.999									
5	.695	.901	.992	.997	.999						.997	.999	.999							
10	.273	.459	.813	.897	.954	.993					.987	.994	.998	.999						
15	.134	.265	.553	.675	.794	.943	.995	.998	.999		.909	.949	.975	.995	.999					
20	.079	.161	.373	.483	.609	.833	.975	.990	.996	.999	.769	.845	.907	.973	.996	.998	.999			
30	.036	.075	.191	.259	.353	.579	.858	.922	.963	.993	.624	.717	.804	.924	.985	.993	.997	.999		
40	.020	.043	.113	.158	.221	.394	.692	.793	.877	.967	.502	.595	.693	.852	.954	.981	.991	.998		
50	.013	.028	.074	.104	.148	.278	.542	.652	.760	.912	.411	.409	.500	.684	.880	.926	.959	.989	.999	.999
75	.006	.013	.034	.048	.069	.137	.302	.388	.492	.702	.229	.289	.364	.534	.764	.835	.894	.964	.994	.997
100	.003	.007	.019	.027	.040	.080	.185	.245	.323	.509	.166	.213	.272	.417	.647	.729	.808	.919	.983	.991
125	.002	.005	.012	.018	.026	.052	.124	.166	.223	.372	.124	.162	.209	.330	.542	.627	.715	.857	.962	.979
150	.001	.003	.009	.012	.018	.036	.088	.119	.162	.279	.095	.127	.165	.266	.455	.537	.626	.787	.931	.959
200	.001	.002	.005	.007	.010	.021	.051	.069	.095	.170	.059	.078	.102	.171	.304	.460	.546	.715	.890	.931
250	.001	.001	.003	.004	.006	.013	.033	.045	.062	.113	.045	.059	.078	.133	.218	.384	.460	.645	.843	.895
300		.001	.002	.003	.004	.009	.023	.031	.044	.080	.032	.042	.055	.093	.154	.327	.396	.577	.795	.858
350		.001	.002	.002	.003	.007	.017	.023	.032	.059	.025	.032	.042	.071	.118	.251	.304	.443	.698	.767
400			.001	.002	.003	.005	.013	.018	.025	.046	.020	.026	.034	.057	.095	.202	.244	.355	.561	.623
450			.001	.001	.002	.004	.010	.014	.020	.036	.016	.021	.027	.046	.077	.163	.197	.286	.452	.502
500			.001	.001	.002	.003	.008	.011	.016	.030	.013	.017	.022	.038	.063	.134	.162	.235	.372	.413
600			.001	.001	.001	.002	.006	.008	.011	.021	.009	.012	.015	.026	.044	.093	.112	.163	.258	.287

33P4

Ground-burst

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj YN	59.2	56.7	53.4	52.2	51.0	48.6	45.5	44.5	43.4	41.3	38.9	38.1	37.4	36.0	34.6	34.1	33.7	33.0	32.3	32.1
psi						7889	4526	3722	3040	2100	1356	1174	1019	798	613	565	523	460	403	387
HOB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WR	4	6	10	12	14	21	34	41	49	70	114	132	156	211	311	358	413	544	773	876
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0																				
5	.347	.587	.885	.946	.979	.998														
10	.103	.208	.463	.586	.717	.910	.992	.997	.999											
15	.048	.099	.248	.335	.448	.699	.937	.973	.990	.999										
20	.027	.057	.149	.208	.289	.506	.822	.902	.956	.994										
30	.012	.026	.070	.099	.143	.276	.564	.684	.800	.944	.996	.998	.999							
40	.007	.015	.040	.057	.083	.168	.382	.491	.617	.836	.979	.991	.997	.999						
50	.004	.009	.026	.037	.054	.112	.268	.357	.468	.705	.938	.970	.987	.998						
75	.002	.004	.012	.017	.025	.052	.131	.181	.251	.437	.756	.842	.910	.978	.998	.999				
100	.001	.002	.007	.009	.014	.029	.076	.107	.151	.281	.566	.670	.772	.916	.987	.994	.998			
125	.001	.002	.004	.006	.009	.019	.050	.070	.100	.192	.422	.520	.628	.818	.959	.980	.991	.998		
150		.001	.003	.004	.006	.013	.035	.049	.071	.138	.320	.404	.505	.710	.910	.950	.975	.995	.999	
200		.001	.002	.002	.003	.007	.020	.028	.041	.081	.197	.257	.333	.517	.773	.848	.909	.974	.997	.998
250			.001	.002	.002	.005	.013	.018	.026	.052	.132	.174	.231	.378	.629	.720	.807	.926	.987	.994
300			.001	.001	.002	.003	.009	.013	.018	.037	.094	.125	.168	.284	.506	.599	.696	.854	.965	.982
350		.001	.001	.001	.001	.002	.007	.009	.013	.027	.070	.094	.127	.219	.409	.496	.592	.771	.930	.960
400			.001	.001	.001	.002	.005	.007	.010	.021	.054	.073	.099	.173	.334	.412	.503	.687	.883	.928
450					.001	.001	.004	.006	.008	.017	.043	.058	.079	.140	.276	.345	.428	.608	.827	.886
500					.001	.001	.003	.005	.007	.013	.035	.047	.065	.115	.231	.292	.367	.537	.768	.838
600						.001	.002	.003	.005	.009	.025	.033	.045	.082	.168	.215	.274	.420	.651	.733

Air-burst

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj YN	59.2	56.7	53.4	52.2	51.0	48.6	45.5	44.5	43.4	41.3	38.9	38.1	37.4	36.0	34.6	34.1	33.7	33.0	32.3	32.1
psi						7889	4526	3722	3040	2100	1356	1174	1019	798	613	565	523	460	403	387
HOB	4	6	8	10	11	15	22	25	29	39	58	66	77	102	147	167	192	250	351	397
WR	4	6	10	12	15	22	36	43	52	75	119	140	166	228	340	392	453	598	851	966
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0																				
5	.346	.593	.894	.952	.982	.998														
10	.103	.211	.477	.603	.736	.924	.994	.998	.999											
15	.047	.101	.257	.349	.467	.725	.950	.980	.993	.999										
20	.027	.058	.155	.217	.304	.533	.848	.922	.967	.996										
30	.012	.026	.073	.104	.151	.295	.599	.721	.832	.959	.997	.999								
40	.007	.015	.042	.060	.088	.181	.412	.528	.658	.869	.983	.994	.998							
50	.004	.010	.027	.039	.058	.120	.292	.388	.507	.749	.949	.977	.991	.999						
75	.002	.004	.012	.018	.026	.056	.144	.200	.277	.480	.783	.868	.930	.986	.999	.999				
100	.001	.002	.007	.010	.015	.032	.084	.119	.169	.314	.596	.706	.808	.939	.992	.997	.999			
125	.001	.002	.004	.006	.009	.020	.055	.078	.112	.216	.449	.556	.671	.857	.974	.988	.995	.999		
150		.001	.003	.004	.007	.014	.039	.055	.079	.156	.343	.437	.547	.758	.937	.968	.985	.997		
200		.001	.002	.002	.004	.008	.022	.031	.046	.092	.213	.281	.368	.568	.822	.888	.937	.984	.998	.999
250			.001	.002	.002	.005	.014	.020	.029	.060	.143	.192	.257	.424	.687	.776	.855	.951	.992	.997
300			.001	.001	.002	.004	.010	.014	.021	.042	.102	.138	.188	.321	.564	.660	.755	.895	.979	.990
350			.001	.001	.001	.003	.007	.010	.015	.031	.076	.104	.142	.250	.463	.556	.655	.825	.954	.976
400				.001	.001	.002	.006	.008	.012	.024	.059	.081	.111	.198	.382	.468	.565	.748	.919	.953
450					.001	.002	.004	.006	.009	.019	.047	.064	.089	.161	.319	.396	.486	.672	.874	.921
500					.001	.001	.004	.005	.007	.015	.038	.053	.073	.133	.268	.337	.420	.601	.823	.883
600						.001	.002	.004	.005	.011	.027	.037	.051	.094	.196	.250	.319	.479	.715	.792

33P8

Ground-burst

33P8

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj YN	66.8	64.2	60.9	59.7	58.4	55.8	52.5	51.3	50.0	47.5	44.3	43.2	41.9	39.6	36.8	35.8	34.8	33.0	31.0	30.3
psi										6519	3620	2929	2347	1543	916	765	638	460	317	282
HOB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WR	3	4	6	7	9	13	22	27	33	48	79	95	115	167	275	325	387	544	840	981
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0																				
5	.158	.307	.620	.743	.853	.971	.999													
10	.043	.089	.226	.309	.419	.673	.931	.971	.990	.999										
15	.019	.041	.109	.154	.219	.407	.740	.845	.925	.989	.999									
20	.011	.023	.063	.090	.131	.259	.549	.675	.798	.950	.997	.999								
30	.005	.010	.029	.041	.061	.126	.307	.409	.535	.785	.969	.988	.996							
40	.003	.006	.016	.024	.035	.073	.189	.260	.357	.599	.891	.949	.980	.998						
50	.002	.004	.010	.015	.022	.048	.126	.177	.249	.452	.781	.875	.941	.992						
75	.001	.002	.005	.007	.010	.022	.058	.083	.121	.240	.515	.639	.764	.932	.995	.998	.999			
100		.001	.003	.004	.006	.012	.033	.048	.070	.144	.341	.448	.575	.812	.975	.990	.997			
125		.001	.002	.002	.004	.008	.021	.031	.046	.095	.237	.321	.429	.676	.929	.967	.987	.998		
150			.001	.002	.003	.005	.015	.022	.032	.067	.172	.237	.326	.552	.859	.924	.966	.995		
200			.001	.001	.001	.003	.008	.012	.018	.039	.102	.143	.202	.372	.694	.797	.884	.974	.998	.999
250				.001	.001	.002	.005	.008	.012	.025	.066	.094	.135	.260	.543	.656	.770	.926	.992	.997
300					.001	.001	.004	.005	.008	.017	.047	.067	.096	.190	.426	.533	.653	.854	.977	.990
350						.001	.003	.004	.006	.013	.035	.049	.072	.144	.338	.434	.548	.771	.952	.978
400						.001	.002	.003	.005	.010	.027	.038	.056	.113	.273	.356	.461	.687	.914	.956
450						.001	.002	.002	.004	.008	.021	.030	.044	.090	.223	.296	.389	.608	.868	.926
500							.001	.002	.003	.006	.017	.025	.036	.074	.186	.248	.331	.537	.816	.889
600							.001	.001	.002	.004	.012	.017	.025	.052	.134	.181	.246	.420	.707	.801

Air-burst

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj YN	66.8	64.2	60.9	59.7	58.4	55.8	52.5	51.3	50.0	47.5	44.3	43.2	41.9	39.6	36.8	35.8	34.8	33.0	31.0	30.3
psi										6519	3620	2929	2347	1543	916	765	638	460	317	282
HOB	4	5	7	9	10	13	19	21	25	33	49	57	66	89	134	156	183	250	375	435
WR	2	4	6	7	9	13	23	27	34	50	84	101	123	180	294	351	422	598	927	1082
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0																				
5	.149	.297	.615	.741	.854	.972	.999													
10	.040	.086	.223	.308	.420	.681	.938	.975	.992	.999										
15	.018	.039	.107	.153	.220	.414	.756	.860	.935	.991										
20	.010	.022	.062	.090	.131	.264	.566	.695	.817	.959	.998	.999								
30	.005	.010	.028	.041	.061	.120	.319	.427	.558	.810	.977	.992	.998							
40	.003	.006	.016	.023	.035	.075	.197	.273	.377	.629	.912	.961	.986	.999						
50	.002	.004	.010	.015	.022	.049	.132	.186	.264	.480	.813	.900	.957	.995						
75	.001	.002	.005	.007	.010	.022	.061	.088	.129	.259	.553	.680	.802	.951	.997	.999				
100		.001	.003	.004	.006	.012	.035	.051	.075	.156	.372	.487	.620	.851	.983	.994	.998			
125			.001	.002	.002	.004	.008	.023	.033	.049	.104	.261	.353	.471	.724	.947	.978	.992	.999	
150			.001	.002	.003	.006	.016	.023	.034	.073	.191	.263	.362	.603	.889	.946	.978	.997		
200			.001	.001	.003	.003	.013	.019	.042	.113	.159	.226	.416	.739	.839	.916	.984		.999	
250				.001	.001	.002	.006	.008	.012	.027	.074	.106	.152	.295	.591	.709	.819	.951	.996	.998
300					.001	.001	.004	.006	.009	.019	.052	.075	.109	.217	.470	.587	.710	.895	.987	.995
350						.001	.003	.004	.006	.014	.039	.056	.081	.165	.376	.484	.607	.825	.970	.987
400						.001	.002	.003	.005	.011	.030	.043	.063	.130	.306	.401	.517	.748	.943	.973
450						.001	.002	.003	.004	.008	.024	.034	.050	.104	.252	.335	.441	.672	.908	.952
500						.001	.001	.002	.003	.007	.019	.028	.041	.085	.210	.283	.379	.601	.865	.924
600							.001	.001	.002	.005	.013	.019	.029	.060	.152	.208	.284	.479	.768	.852

33P8

35PI

Ground-burst

35P1

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj VN	47.1	45.1	42.8	42.0	41.3	40.0	38.6	38.2	37.8	37.1	36.4	36.2	36.0	35.7	35.3	35.2	35.1	35.0	34.8	34.8
psi	6005	4179	2730	2374	2071	1637	1273	1178	1094	968	853	822	793	748	705	692	681	662	644	639
HOB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WR	8	12	19	22	26	35	54	61	71	92	130	147	168	215	298	335	379	482	660	740
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0																				
5	.815	.950	.996	.998	.999															
10	.374	.600	.869	.928	.966	.994														
15	.192	.346	.629	.734	.829	.947	.994	.998	.999											
20	.114	.215	.439	.542	.654	.841	.972	.986	.994	.999										
30	.053	.103	.232	.302	.390	.589	.848	.905	.947	.987	.998	.999								
40	.030	.060	.139	.185	.247	.403	.679	.765	.842	.942	.990	.995	.998							
50	.019	.039	.092	.124	.167	.285	.529	.619	.713	.863	.967	.983	.992	.998						
75	.009	.017	.042	.057	.079	.141	.292	.361	.444	.621	.833	.890	.934	.980	.997	.999	.999			
100	.005	.010	.024	.033	.045	.082	.179	.226	.286	.431	.658	.739	.815	.922	.984	.992	.996	.999		
125	.003	.006	.015	.021	.029	.053	.119	.152	.196	.307	.508	.591	.679	.829	.950	.972	.985	.996	.999	
150	.002	.004	.011	.015	.020	.037	.084	.109	.141	.227	.394	.470	.556	.723	.894	.933	.962	.989	.998	.999
200	.001	.002	.006	.008	.012	.021	.049	.063	.082	.136	.250	.306	.375	.530	.745	.814	.875	.952	.991	.995
250	.001	.002	.004	.005	.007	.014	.031	.041	.054	.090	.169	.210	.263	.390	.598	.678	.757	.882	.969	.983
300	.001	.001	.003	.004	.005	.010	.022	.029	.038	.063	.121	.152	.192	.293	.477	.554	.639	.791	.929	.957
350		.001	.002	.003	.004	.007	.016	.021	.028	.047	.091	.115	.146	.227	.383	.454	.534	.696	.873	.917
400		.001	.002	.002	.003	.005	.012	.016	.021	.036	.070	.089	.114	.179	.311	.374	.448	.606	.806	.864
450			.001	.002	.002	.004	.010	.013	.017	.029	.056	.071	.091	.145	.256	.311	.377	.527	.736	.804
500			.001	.001	.002	.003	.008	.010	.014	.023	.046	.058	.075	.119	.214	.262	.321	.458	.668	.742
600			.001	.001	.001	.002	.006	.007	.010	.016	.032	.041	.053	.085	.155	.191	.237	.351	.545	.622

Air-burst

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj VN	47.1	45.1	42.8	42.0	41.3	40.0	38.6	38.2	37.8	37.1	36.4	36.2	36.0	35.7	35.3	35.2	35.1	35.0	34.8	34.8
psi	6006	4179	2730	2374	2071	1637	1273	1178	1094	968	853	822	793	748	705	692	681	662	644	639
HOB	6	8	11	13	15	19	27	31	35	45	63	71	81	103	142	160	181	229	313	350
WR	9	13	20	23	28	38	56	65	75	99	140	159	181	233	323	364	413	525	720	807
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0																				
5	.839	.961	.997	.999																
10	.401	.636	.895	.946	.976	.996														
15	.208	.375	.671	.774	.863	.962	.996	.998	.999											
20	.124	.236	.479	.587	.699	.875	.978	.990	.996	.999										
30	.057	.114	.258	.335	.431	.639	.871	.924	.960	.991	.999									
40	.033	.066	.156	.208	.277	.448	.711	.796	.870	.957	.994	.997	.999							
50	.021	.043	.103	.140	.189	.321	.561	.656	.750	.892	.978	.989	.995	.999						
75	.009	.019	.048	.065	.090	.161	.316	.392	.481	.666	.868	.917	.953	.987	.999	.999				
100	.005	.011	.027	.037	.052	.094	.195	.248	.315	.473	.707	.785	.854	.945	.990	.995	.998	.999		
125	.003	.007	.017	.024	.033	.062	.130	.168	.217	.342	.557	.642	.729	.868	.966	.982	.991	.998		
150	.002	.005	.012	.017	.023	.043	.093	.120	.157	.254	.439	.519	.609	.772	.923	.954	.975	.994	.999	
200	.001	.003	.007	.009	.013	.025	.053	.070	.092	.154	.282	.345	.420	.594	.795	.856	.908	.968	.995	.997
250	.001	.002	.004	.006	.008	.015	.035	.045	.060	.102	.193	.240	.299	.438	.654	.732	.806	.914	.980	.990
300	.001	.001	.003	.004	.005	.011	.024	.032	.042	.072	.139	.174	.220	.333	.531	.611	.695	.837	.951	.972
350		.001	.002	.003	.004	.008	.018	.023	.031	.053	.104	.132	.167	.260	.432	.507	.591	.750	.907	.942
400		.001	.002	.002	.003	.006	.014	.018	.024	.041	.081	.103	.131	.207	.354	.423	.502	.664	.851	.900
450		.001	.001	.002	.003	.005	.011	.014	.019	.033	.065	.082	.106	.168	.294	.355	.427	.584	.798	.849
500			.001	.002	.002	.004	.009	.012	.015	.027	.053	.067	.087	.139	.247	.300	.365	.513	.724	.794
600			.001	.001	.001	.003	.006	.008	.011	.019	.037	.047	.061	.099	.180	.221	.273	.399	.603	.680

37P6

Ground-burst

37P6

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj VN	67.6	65.1	61.8	60.5	59.3	56.8	53.5	52.3	51.1	48.8	45.8	44.8	43.7	41.8	39.6	38.9	38.2	37.0	35.7	35.3
psi										8134	4743	3932	3246	2292	1533	1346	1184	954	758	706
HOB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WR	2	4	6	7	9	13	21	25	30	44	72	86	103	146	227	275	321	431	627	717
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0																				
5	.144	.282	.583	.709	.826	.961	.998	.999												
10	.038	.081	.206	.283	.386	.635	.911	.960	.986	.999										
15	.017	.037	.099	.140	.199	.374	.701	.812	.902	.983	.999									
20	.010	.021	.057	.081	.118	.235	.508	.632	.759	.931	.995	.998	.999							
30	.004	.009	.026	.037	.055	.114	.278	.372	.491	.740	.952	.980	.993	.999						
40	.002	.005	.015	.021	.031	.066	.169	.233	.322	.549	.851	.921	.966	.995						
50	.002	.003	.009	.014	.020	.043	.112	.158	.222	.406	.725	.827	.908	.982	.999					
75	.001	.002	.004	.006	.009	.019	.052	.074	.107	.211	.456	.571	.695	.886	.985	.995	.998			
100		.001	.002	.003	.005	.011	.030	.042	.062	.126	.295	.388	.502	.734	.938	.975	.989	.998		
125		.001	.002	.002	.003	.007	.019	.027	.040	.083	.202	.273	.366	.586	.856	.929	.965	.993	.999	
150			.001	.002	.002	.005	.013	.019	.028	.058	.146	.200	.273	.465	.756	.859	.920	.980	.998	.999
200			.001	.001	.001	.003	.007	.011	.016	.033	.085	.119	.166	.302	.566	.694	.790	.922	.988	.995
250				.001	.001	.002	.005	.007	.010	.021	.056	.078	.110	.207	.421	.543	.648	.829	.961	.980
300					.001	.001	.003	.005	.007	.015	.039	.055	.078	.150	.320	.426	.525	.722	.913	.951
350						.001	.002	.004	.005	.011	.029	.041	.058	.113	.248	.338	.426	.620	.849	.906
400						.001	.002	.003	.004	.008	.022	.031	.045	.088	.197	.273	.350	.530	.777	.849
450						.001	.001	.002	.003	.007	.018	.025	.036	.070	.160	.223	.290	.453	.703	.786
500							.001	.002	.003	.005	.014	.020	.029	.057	.132	.186	.243	.390	.633	.722
600							.001	.001	.002	.004	.010	.014	.020	.040	.094	.134	.177	.293	.510	.601

Air-burst

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj VN	67.6	65.1	61.8	60.5	59.3	56.8	53.5	52.3	51.1	48.8	45.8	44.8	43.7	41.8	39.6	38.9	38.2	37.0	35.7	35.3
psi										8134	4743	3932	3246	2292	1533	1346	1184	954	758	706
HOB	4	5	7	8	10	13	18	21	24	32	47	54	63	84	122	139	161	212	302	343
WR	2	3	6	7	9	13	21	26	31	46	76	91	109	156	245	287	338	461	679	779
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0																				
5	.135	.270	.576	.705	.825	.963	.998	.999												
10	.036	.077	.202	.280	.386	.640	.918	.965	.988	.999										
15	.016	.035	.096	.138	.198	.379	.715	.826	.913	.986	.999									
20	.009	.020	.056	.080	.118	.238	.522	.649	.777	.942	.996	.999								
30	.004	.009	.025	.037	.055	.115	.287	.386	.511	.764	.962	.985	.995	.999						
40	.002	.005	.014	.021	.031	.067	.175	.244	.338	.575	.875	.938	.974	.997						
50	.001	.003	.009	.013	.020	.043	.117	.165	.234	.430	.757	.855	.928	.988	.999					
75	.001	.001	.004	.006	.009	.020	.054	.078	.113	.226	.489	.609	.733	.911	.990	.996	.999			
100		.001	.002	.003	.005	.011	.031	.045	.066	.135	.321	.421	.541	.775	.956	.980	.992	.999		
125		.001	.001	.002	.003	.007	.020	.029	.043	.089	.221	.299	.399	.631	.888	.941	.973	.995		
150			.001	.001	.002	.005	.014	.020	.030	.063	.160	.220	.301	.508	.800	.879	.936	.986	.999	.999
200			.001	.001	.001	.003	.008	.011	.017	.036	.094	.132	.185	.336	.617	.722	.820	.942	.992	.997
250				.001	.001	.002	.005	.007	.011	.023	.062	.087	.123	.233	.468	.573	.684	.862	.973	.987
300					.001	.001	.003	.005	.008	.016	.043	.061	.088	.169	.359	.453	.561	.764	.937	.967
350						.001	.003	.004	.006	.012	.032	.045	.065	.128	.281	.362	.460	.666	.884	.932
400						.001	.002	.003	.004	.009	.025	.035	.050	.100	.225	.293	.379	.575	.821	.886
450						.001	.002	.002	.003	.007	.019	.028	.040	.080	.183	.241	.316	.497	.754	.832
500							.001	.002	.003	.006	.016	.023	.033	.065	.151	.201	.266	.430	.686	.773
600							.001	.001	.002	.004	.011	.016	.023	.046	.108	.145	.195	.327	.563	.656

37P7

Ground-burst

37P7

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj VN	69.3	66.8	63.4	62.2	60.9	58.4	55.1	53.9	52.6	50.2	47.1	46.0	44.8	42.7	40.2	39.3	38.5	37.0	35.4	34.9
psi											6020	4916	3991	2708	1700	1456	1248	954	711	649
HOB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WR	2	3	5	6	8	11	19	23	28	40	67	80	96	138	219	259	316	431	640	737
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0																				
5	.119	.237	.515	.641	.769	.938	.996	.999			.999									
10	.031	.066	.172	.239	.331	.567	.873	.938	.976	.997	.991	.997	.999							
15	.014	.030	.081	.115	.166	.320	.636	.757	.863	.973	.901	.970	.989	.999						
20	.008	.017	.047	.067	.098	.198	.445	.567	.699	.901	.895	.952	.993							
30	.004	.008	.021	.030	.045	.094	.236	.320	.431	.682	.786	.881	.976	.998	.999					
40	.002	.004	.012	.017	.026	.054	.142	.198	.276	.489	.673	.786	.881	.976	.998	.999				
50	.001	.003	.008	.011	.016	.035	.093	.132	.188	.355	.407	.521	.649	.862	.982	.993	.998			
75	.001	.001	.003	.005	.007	.016	.043	.061	.089	.180	.259	.346	.457	.698	.928	.966	.988	.998		
100		.001	.002	.003	.004	.009	.024	.035	.051	.106	.033	.048	.068	.135	.302	.390	.515	.722	.919	.956
125			.001	.002	.003	.006	.016	.023	.033	.070	.176	.241	.328	.548	.838	.909	.962	.993	.999	
150			.001	.001	.002	.004	.011	.016	.023	.049	.126	.175	.243	.430	.734	.829	.915	.980	.998	.999
200				.001	.001	.002	.006	.009	.013	.028	.073	.103	.147	.276	.542	.654	.781	.922	.989	.995
250					.001	.001	.004	.006	.008	.018	.048	.068	.097	.188	.401	.503	.638	.829	.964	.983
300						.001	.003	.004	.006	.013	.033	.048	.068	.135	.302	.390	.515	.722	.919	.956
350						.001	.002	.003	.004	.009	.025	.035	.051	.102	.234	.307	.417	.620	.858	.915
400						.001	.002	.002	.003	.007	.019	.027	.039	.079	.185	.246	.342	.530	.788	.862
450							.001	.002	.003	.006	.015	.021	.031	.063	.150	.201	.283	.453	.716	.802
500							.001	.001	.002	.005	.012	.017	.025	.051	.124	.167	.237	.390	.647	.739
600							.001	.001	.001	.003	.008	.012	.018	.036	.088	.120	.172	.293	.523	.619

Air-burst

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj VN	69.3	66.8	63.4	62.2	60.9	58.4	55.1	53.9	52.6	50.2	47.1	46.0	44.8	42.7	40.2	39.3	38.5	37.0	35.4	34.9
psi											6020	4916	3991	2708	1700	1456	1248	954	711	649
HOB	4	5	7	8	9	12	18	20	23	31	45	52	61	81	119	137	159	212	306	349
WR	2	3	5	6	8	11	19	23	28	42	70	84	102	147	236	279	332	461	694	803
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0																				
5	.110	.225	.503	.632	.764	.939	.996	.999												
10	.029	.063	.167	.233	.326	.568	.879	.943	.979	.998										
15	.013	.028	.078	.113	.164	.321	.646	.768	.874	.977	.939									
20	.007	.016	.045	.065	.096	.198	.454	.580	.715	.913	.993	.998	.999							
30	.003	.007	.020	.030	.044	.094	.242	.330	.446	.704	.944	.977	.992	.999						
40	.002	.004	.011	.017	.025	.054	.145	.204	.288	.511	.834	.913	.963	.995						
50	.001	.003	.007	.011	.016	.035	.096	.137	.197	.374	.703	.814	.903	.983	.999					
75	.001	.001	.003	.005	.007	.016	.044	.064	.094	.191	.435	.555	.685	.889	.988	.996	.999			
100		.001	.002	.003	.004	.009	.025	.036	.054	.113	.279	.374	.492	.738	.948	.977	.991	.999		
125			.001	.002	.003	.006	.016	.024	.035	.074	.191	.262	.357	.590	.873	.933	.970	.995		
150			.001	.001	.002	.004	.011	.016	.024	.052	.137	.191	.267	.469	.779	.866	.931	.986	.999	
200				.001	.001	.002	.006	.009	.014	.030	.080	.113	.162	.305	.592	.704	.809	.942	.993	.997
250					.001	.001	.004	.006	.009	.019	.052	.074	.107	.210	.445	.554	.672	.862	.976	.989
300						.001	.003	.004	.006	.013	.037	.052	.076	.152	.339	.436	.549	.764	.943	.971
350						.001	.002	.003	.005	.010	.027	.039	.057	.114	.265	.347	.448	.666	.894	.941
400						.001	.002	.002	.003	.008	.021	.030	.044	.089	.211	.280	.369	.575	.833	.898
450							.001	.002	.003	.006	.016	.024	.035	.071	.171	.230	.307	.497	.767	.847
500							.001	.001	.002	.005	.013	.019	.028	.058	.141	.191	.258	.430	.701	.790
600							.001	.001	.002	.003	.009	.013	.020	.041	.101	.138	.188	.327	.579	.676

38P1

Ground-burst

38P1

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj YN	50.1	48.1	45.8	45.0	44.3	43.0	41.6	41.2	40.8	40.1	39.4	39.2	39.0	38.7	38.3	38.2	38.1	38.0	37.8	37.8
psi	10378	7222	4717	4102	3579	2828	2199	2035	1890	1672	1474	1420	1370	1292	1218	1196	1176	1145	1114	1104
HOB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WR	7	10	16	18	22	29	43	50	57	75	107	121	143	183	252	284	321	408	558	626

CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0																					
5	.704	.894	.987	.995	.998																
10	.280	.477	.772	.857	.922	.982	.998	.999													
15	.138	.257	.505	.612	.722	.888	.981	.991	.996	.999											
20	.080	.155	.333	.424	.529	.736	.924	.959	.980	.996											
30	.037	.073	.168	.222	.293	.467	.726	.809	.879	.961	.994	.997	.999								
40	.021	.042	.099	.133	.179	.304	.534	.628	.723	.872	.971	.985	.994	.999							
50	.013	.027	.065	.087	.119	.209	.393	.478	.574	.754	.920	.953	.980	.995	.999						
75	.006	.012	.029	.040	.055	.100	.203	.258	.326	.485	.717	.793	.877	.955	.992	.996	.998				
100	.003	.007	.017	.023	.031	.058	.121	.156	.201	.318	.525	.609	.719	.859	.962	.979	.989	.998			
125	.002	.004	.011	.015	.020	.037	.079	.103	.135	.219	.385	.461	.570	.735	.900	.938	.965	.990	.999	.999	
150	.001	.003	.007	.010	.014	.026	.056	.073	.096	.159	.290	.353	.450	.614	.817	.874	.921	.974	.996	.998	
200	.001	.002	.004	.006	.008	.015	.032	.042	.055	.093	.177	.220	.291	.425	.638	.715	.791	.904	.977	.988	
250	.001	.001	.003	.004	.005	.009	.021	.027	.036	.061	.118	.148	.199	.303	.488	.566	.650	.800	.933	.960	
300		.001	.002	.003	.004	.007	.014	.019	.025	.043	.084	.106	.144	.223	.376	.446	.526	.687	.866	.912	
350		.001	.001	.002	.003	.005	.011	.014	.018	.032	.062	.079	.108	.170	.296	.356	.428	.583	.787	.848	
400			.001	.001	.002	.004	.008	.011	.014	.024	.048	.061	.084	.133	.237	.288	.351	.494	.704	.776	
450			.001	.001	.002	.003	.006	.008	.011	.019	.038	.049	.067	.107	.193	.237	.291	.420	.626	.702	
500			.001	.001	.001	.002	.005	.007	.009	.016	.031	.040	.055	.088	.160	.197	.244	.359	.554	.632	
600				.001	.001	.002	.004	.005	.006	.011	.022	.028	.038	.062	.114	.142	.178	.268	.436	.509	

Air-burst

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj YN	50.1	48.1	45.8	45.0	44.3	43.0	41.6	41.2	40.8	40.1	39.4	39.2	39.0	38.7	38.3	38.2	38.1	38.0	37.8	37.8
psi	10378	7222	4717	4102	3579	2828	2199	2035	1890	1672	1474	1420	1370	1292	1218	1196	1176	1145	1114	1104
HOB	5	7	10	12	13	17	25	28	32	41	57	64	73	92	127	143	161	204	278	312
WR	7	10	16	19	23	31	46	53	62	81	115	131	149	192	266	299	339	432	592	664

CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0																					
5	.726	.910	.991	.996	.999																
10	.296	.504	.802	.881	.939	.988	.999														
15	.147	.275	.539	.649	.757	.911	.987	.994	.998												
20	.086	.167	.361	.457	.568	.774	.943	.971	.987	.997											
30	.039	.079	.184	.244	.321	.507	.768	.845	.907	.973	.996	.998	.999								
40	.022	.045	.109	.147	.198	.335	.580	.674	.767	.902	.981	.990	.996	.999							
50	.014	.029	.071	.097	.133	.232	.434	.524	.622	.797	.942	.968	.984	.996							
75	.006	.013	.032	.045	.062	.112	.228	.289	.363	.533	.765	.835	.894	.964	.994	.997	.999				
100	.004	.007	.018	.025	.035	.065	.137	.176	.227	.356	.576	.661	.746	.880	.970	.984	.992	.998			
125	.002	.005	.012	.016	.023	.042	.090	.117	.153	.248	.430	.510	.599	.764	.919	.951	.973	.993	.999		
150	.002	.003	.008	.011	.016	.030	.064	.083	.110	.181	.327	.396	.477	.646	.844	.896	.937	.980	.997	.999	
200	.001	.002	.005	.006	.009	.017	.036	.048	.063	.107	.202	.251	.312	.455	.672	.749	.821	.923	.983	.991	
250	.001	.001	.003	.004	.006	.011	.024	.031	.041	.070	.135	.170	.215	.326	.522	.602	.686	.830	.948	.970	
300		.001	.002	.003	.004	.007	.016	.022	.029	.049	.096	.122	.155	.242	.407	.480	.563	.724	.891	.931	
350		.001	.002	.002	.003	.005	.012	.016	.021	.036	.072	.091	.117	.185	.321	.386	.461	.622	.819	.875	
400			.001	.002	.002	.004	.009	.012	.016	.028	.056	.071	.091	.146	.258	.314	.381	.531	.741	.809	
450			.001	.001	.002	.003	.007	.010	.013	.022	.044	.057	.073	.117	.211	.259	.317	.455	.665	.740	
500			.001	.001	.001	.003	.006	.008	.010	.018	.036	.046	.059	.096	.176	.216	.267	.391	.594	.671	
600				.001	.001	.002	.004	.005	.007	.013	.025	.032	.042	.068	.126	.157	.196	.294	.472	.548	

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj VN	64.2	61.7	58.4	57.2	56.0	53.6	50.5	49.5	48.4	46.3	43.9	43.1	42.4	41.0	39.6	39.1	38.7	38.0	37.3	37.1
psi								9261	7565	5226	3374	2921	2536	1985	1525	1407	1302	1145	1003	964
HOB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WR	3	4	7	9	10	15	25	30	36	51	81	95	112	153	228	262	312	408	576	652
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0																				
5	.209	.390	.720	.829	.913	.986	.999													
10	.058	.120	.292	.389	.511	.761	.960	.984	.995	.999										
15	.026	.055	.144	.201	.280	.493	.811	.895	.952	.993										
20	.015	.032	.084	.119	.171	.324	.631	.747	.851	.965	.997	.999								
30	.007	.014	.038	.055	.080	.162	.371	.479	.603	.826	.972	.988	.996	.999						
40	.004	.008	.022	.031	.046	.095	.233	.313	.416	.649	.900	.949	.977	.996						
50	.002	.005	.014	.020	.030	.062	.157	.215	.295	.499	.794	.875	.934	.986	.999	.999				
75	.001	.002	.006	.009	.013	.028	.074	.103	.146	.272	.531	.639	.748	.905	.985	.993	.998			
100	.001	.001	.004	.005	.008	.016	.042	.060	.085	.165	.354	.448	.557	.764	.938	.968	.988	.998		
125		.001	.002	.003	.005	.010	.027	.039	.056	.110	.247	.321	.414	.618	.856	.913	.960	.990	.999	.999
150		.001	.002	.002	.003	.007	.019	.027	.039	.078	.180	.238	.313	.496	.757	.835	.911	.974	.996	.998
200			.001	.001	.002	.004	.011	.015	.022	.045	.106	.143	.193	.326	.567	.661	.774	.904	.980	.990
250			.001	.001	.001	.003	.007	.010	.014	.029	.069	.094	.129	.226	.422	.511	.630	.800	.942	.967
300				.001	.001	.002	.005	.007	.010	.020	.049	.067	.092	.164	.320	.397	.507	.687	.880	.925
350					.001	.001	.004	.005	.007	.015	.036	.050	.068	.123	.249	.313	.410	.583	.804	.867
400						.001	.003	.004	.006	.011	.028	.038	.053	.096	.198	.251	.335	.494	.724	.799
450						.001	.002	.003	.004	.009	.022	.030	.042	.077	.160	.205	.277	.420	.647	.728
500						.001	.002	.002	.004	.007	.018	.025	.034	.063	.132	.170	.232	.359	.575	.659
600							.001	.002	.002	.005	.012	.017	.024	.044	.094	.122	.169	.268	.455	.536

Ground-burst

38P4

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj VN	64.2	61.7	58.4	57.2	56.0	53.6	50.5	49.5	48.4	46.3	43.9	43.1	42.4	41.0	39.6	39.1	38.7	38.0	37.3	37.1
psi								9261	7565	5226	3374	2921	2536	1985	1525	1407	1302	1145	1003	964
HOB	4	5	8	9	10	13	19	22	26	34	49	57	65	86	122	138	158	204	284	321
WR	3	4	7	9	11	16	26	31	38	54	86	101	120	164	245	282	327	432	614	697
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0																				
5	.201	.384	.721	.832	.917	.987	.999													
10	.055	.117	.292	.393	.519	.774	.966	.987	.996											
15	.025	.054	.145	.203	.285	.507	.829	.909	.960	.995										
20	.014	.031	.085	.121	.174	.335	.653	.770	.870	.973	.998	.999								
30	.006	.014	.039	.056	.082	.169	.390	.503	.631	.851	.980	.992	.997							
40	.004	.008	.022	.032	.047	.099	.246	.332	.441	.682	.921	.962	.984	.998						
50	.002	.005	.014	.021	.031	.065	.167	.230	.315	.532	.826	.900	.951	.991	.999					
75	.001	.002	.006	.009	.014	.029	.078	.111	.157	.295	.570	.680	.787	.928	.990	.996	.998			
100	.001	.001	.004	.005	.008	.017	.045	.064	.092	.180	.387	.487	.601	.804	.956	.978	.990	.998		
125		.001	.002	.003	.005	.011	.029	.042	.060	.120	.272	.353	.453	.665	.889	.937	.968	.993	.999	
150		.001	.002	.002	.003	.007	.020	.029	.042	.085	.199	.264	.347	.542	.801	.872	.926	.980	.998	.999
200			.001	.001	.002	.004	.011	.016	.024	.049	.118	.160	.216	.364	.618	.712	.801	.923	.986	.993
250			.001	.001	.001	.003	.007	.011	.015	.032	.078	.106	.145	.254	.469	.562	.662	.830	.956	.977
300				.001	.001	.002	.005	.007	.011	.022	.055	.075	.103	.185	.360	.443	.538	.724	.905	.944
350					.001	.001	.004	.005	.008	.016	.041	.056	.077	.140	.282	.353	.439	.622	.838	.895
400						.001	.003	.004	.006	.013	.031	.043	.060	.110	.225	.286	.360	.531	.764	.835
450						.001	.002	.003	.005	.010	.025	.034	.048	.088	.183	.235	.299	.455	.690	.769
500						.001	.002	.003	.004	.008	.020	.028	.039	.072	.152	.195	.252	.391	.619	.703
600							.001	.002	.003	.006	.014	.019	.027	.051	.108	.141	.183	.294	.497	.581

Air-burst

38P4

38P7

Ground-burst

38P7																										
KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00						
Adj VN	70.3	67.8	64.4	63.2	61.9	59.4	56.1	54.9	53.6	51.2	48.1	47.0	45.8	43.7	41.2	40.3	39.5	38.0	36.4	35.9						
psi											7224	5899	4789	3249	2040	1748	1497	1145	854	779						
HOB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
WR	2	3	5	6	7	11	18	21	26	38	63	75	91	130	206	243	288	408	604	695						
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD						
0																										
5	.106	.213	.475	.599	.731	.920	.994	.998	.999																	
10	.028	.059	.154	.215	.300	.525	.844	.920	.967	.996																
15	.012	.027	.072	.103	.149	.290	.594	.718	.833	.963	.938	.999														
20	.007	.015	.041	.060	.087	.177	.408	.525	.658	.876	.988	.996	.999													
30	.003	.007	.019	.027	.040	.084	.212	.290	.394	.641	.912	.960	.985	.998												
40	.002	.004	.011	.015	.023	.048	.126	.177	.249	.450	.775	.869	.937	.990	.999											
50	.001	.002	.007	.010	.015	.031	.083	.118	.169	.322	.631	.749	.854	.967	.998	.999										
75	.001	.001	.003	.004	.006	.014	.038	.055	.080	.161	.371	.481	.607	.832	.975	.990	.996									
100		.001	.002	.002	.004	.008	.022	.031	.046	.095	.233	.314	.419	.657	.908	.954	.981	.998								
125			.001	.002	.002	.005	.014	.020	.030	.062	.157	.217	.297	.507	.806	.886	.942	.990	.999							
150			.001	.001	.002	.004	.010	.014	.021	.044	.113	.157	.219	.393	.695	.796	.881	.974	.997	.999						
200				.001	.001	.002	.005	.008	.012	.025	.065	.092	.131	.249	.502	.612	.725	.904	.985	.993						
250					.001	.001	.003	.005	.007	.016	.042	.060	.086	.168	.365	.464	.577	.800	.953	.977						
300						.001	.002	.004	.005	.011	.030	.042	.061	.121	.273	.355	.456	.687	.899	.943						
350					.001	.002	.003	.004	.008	.022	.031	.045	.090	.210	.278	.365	.583	.830	.894							
400						.001	.002	.003	.006	.017	.024	.035	.070	.166	.222	.296	.494	.754	.834							
450							.001	.002	.002	.013	.019	.028	.056	.134	.181	.243	.420	.679	.768							
500							.001	.001	.002	.011	.015	.022	.046	.110	.149	.203	.359	.608	.702							
600							.001	.001	.001	.007	.011	.016	.032	.078	.107	.146	.268	.486	.580							

Air-burst

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00						
Adj VN	70.3	67.8	64.4	63.2	61.9	59.4	56.1	54.9	53.6	51.2	48.1	47.0	45.8	43.7	41.2	40.3	39.5	38.0	36.4	35.9						
psi											7224	5899	4789	3249	2040	1748	1497	1145	854	779						
HOB	4	5	7	8	9	12	17	20	23	30	44	51	59	79	116	133	154	204	294	335						
WR	2	3	5	6	7	11	18	22	27	39	65	78	95	138	221	261	311	432	651	752						
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD						
0																										
5	.097	.201	.461	.588	.723	.920	.995	.998																		
10	.025	.055	.148	.209	.294	.524	.850	.925	.970	.997																
15	.011	.025	.069	.100	.145	.289	.602	.728	.843	.968	.998	.999														
20	.006	.014	.040	.058	.085	.177	.414	.536	.672	.889	.990	.997	.999													
30	.003	.006	.018	.026	.039	.083	.216	.298	.406	.661	.926	.968	.989	.999												
40	.002	.004	.010	.015	.022	.048	.129	.182	.258	.469	.799	.889	.950	.993												
50	.001	.002	.006	.009	.014	.031	.085	.121	.175	.338	.660	.777	.877	.975	.998	.999										
75		.001	.003	.004	.006	.014	.039	.056	.083	.170	.396	.511	.642	.861	.983	.993	.998									
100		.001	.002	.002	.004	.008	.022	.032	.048	.100	.250	.338	.450	.696	.930	.968	.987	.998								
125			.001	.002	.002	.005	.014	.021	.031	.066	.170	.235	.323	.546	.842	.913	.959	.993	.999							
150			.001	.001	.002	.004	.010	.014	.021	.046	.122	.170	.239	.428	.739	.895	.910	.980	.998	.999						
200				.001	.001	.002	.006	.008	.012	.026	.071	.100	.144	.275	.547	.661	.772	.923	.990	.996						
250					.001	.001	.004	.005	.008	.017	.046	.066	.095	.187	.405	.510	.628	.830	.967	.985						
300						.001	.002	.004	.005	.012	.032	.046	.067	.135	.306	.395	.505	.724	.925	.960						
350						.001	.002	.003	.004	.009	.024	.034	.050	.101	.237	.313	.408	.622	.866	.922						
400							.001	.002	.003	.007	.018	.026	.038	.079	.188	.251	.334	.531	.798	.871						
450							.001	.002	.002	.005	.014	.021	.030	.063	.152	.205	.276	.455	.727	.813						
500							.001	.001	.002	.004	.012	.017	.025	.051	.125	.170	.231	.391	.658	.752						
600							.001	.001	.001	.003	.008	.012	.017	.036	.089	.122	.168	.294	.535	.633						

38P7

38P8

Ground-burst

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj YN	71.8	69.2	65.9	64.7	63.4	60.8	57.5	56.3	55.0	52.5	49.3	48.2	46.9	44.6	41.8	40.8	39.8	38.0	36.0	35.3
psi											9008	7289	5841	3840	2279	1904	1587	1145	790	701
HOB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WR	2	3	5	5	7	10	16	20	24	35	58	70	85	123	199	236	283	408	619	719

CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0																				
5	.090	.182	.419	.539	.673	.888	.990	.997	.999											
10	.023	.050	.131	.184	.259	.468	.799	.889	.951	.994	.997	.999								
15	.010	.022	.061	.087	.126	.251	.536	.662	.787	.946	.981	.993	.998							
20	.006	.013	.035	.050	.073	.151	.358	.470	.601	.838	.884	.944	.978	.998						
30	.003	.006	.016	.023	.033	.071	.182	.252	.347	.586	.730	.835	.917	.986	.999					
40	.001	.003	.009	.013	.019	.041	.108	.152	.216	.401	.581	.704	.820	.956	.997	.999				
50	.001	.002	.006	.008	.012	.026	.071	.101	.145	.283	.331	.436	.562	.802	.970	.988	.996			
75		.001	.003	.004	.005	.012	.032	.046	.068	.139	.205	.280	.380	.619	.894	.948	.979	.998		
100		.001	.001	.002	.003	.007	.018	.026	.039	.081	.026	.037	.053	.109	.257	.340	.444	.687	.908	.951
125			.001	.001	.002	.004	.012	.017	.025	.053	.137	.191	.267	.470	.785	.873	.937	.990	.999	
150			.001	.001	.001	.003	.008	.012	.017	.037	.098	.138	.195	.361	.670	.779	.872	.974	.998	.999
200				.001	.001	.002	.005	.007	.010	.021	.056	.080	.116	.226	.477	.592	.713	.904	.987	.995
250						.001	.003	.004	.006	.014	.037	.052	.076	.152	.345	.445	.563	.800	.958	.980
300						.001	.002	.003	.004	.009	.026	.037	.053	.109	.257	.340	.444	.687	.908	.951
350						.001	.002	.002	.003	.007	.019	.027	.040	.081	.197	.265	.354	.583	.842	.906
400							.001	.002	.002	.005	.014	.021	.030	.063	.155	.211	.286	.494	.769	.850
450							.001	.001	.002	.004	.011	.016	.024	.050	.125	.171	.235	.420	.695	.788
500							.001	.001	.002	.003	.009	.013	.020	.041	.103	.142	.196	.359	.624	.723
600							.001	.001	.001	.002	.006	.009	.014	.029	.073	.101	.141	.268	.502	.602

Air-burst

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj YN	71.8	69.2	65.9	64.7	63.4	60.8	57.5	56.3	55.0	52.5	49.3	48.2	46.9	44.6	41.8	40.8	39.8	38.0	36.0	35.3
psi											9008	7289	5841	3840	2279	1904	1587	1145	790	701
HOB	4	5	7	8	9	12	17	19	22	30	43	50	57	77	113	131	152	204	299	343
WR	2	3	4	5	7	10	16	20	24	36	60	73	89	130	212	253	305	432	669	781

CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0																				
5	.081	.169	.403	.524	.662	.885	.991	.997	.999											
10	.021	.046	.124	.177	.251	.463	.802	.893	.954	.995										
15	.009	.021	.058	.083	.122	.247	.540	.669	.796	.951	.997	.999								
20	.005	.012	.033	.048	.071	.149	.361	.476	.611	.851	.985	.995	.999							
30	.002	.005	.015	.022	.032	.070	.184	.256	.355	.603	.898	.954	.983	.998						
40	.001	.003	.008	.012	.018	.040	.109	.155	.222	.415	.753	.856	.931	.990						
50	.001	.002	.005	.009	.012	.026	.071	.103	.149	.295	.606	.731	.844	.967	.998	.999				
75		.001	.002	.004	.005	.012	.032	.047	.070	.146	.462	.593	.832	.979	.992	.997				
100			.001	.002	.003	.007	.018	.027	.040	.085	.219	.300	.407	.657	.918	.962	.986	.998		
125			.001	.001	.002	.004	.012	.017	.026	.056	.147	.206	.288	.506	.822	.902	.955	.993		
150			.001	.001	.001	.003	.008	.012	.018	.039	.105	.149	.212	.393	.714	.819	.903	.980	.999	.999
200					.001	.002	.005	.007	.010	.022	.061	.087	.125	.248	.521	.640	.760	.923	.992	.997
250						.001	.003	.004	.007	.014	.039	.057	.083	.168	.382	.490	.614	.830	.971	.988
300						.001	.002	.003	.005	.010	.028	.040	.059	.121	.287	.379	.492	.724	.933	.967
350						.001	.002	.002	.003	.007	.020	.029	.043	.090	.221	.298	.396	.622	.878	.933
400							.001	.002	.003	.006	.016	.023	.033	.070	.175	.238	.323	.531	.813	.887
450							.001	.001	.002	.004	.012	.018	.027	.056	.142	.194	.267	.455	.744	.833
500							.001	.001	.002	.004	.010	.015	.022	.046	.117	.161	.223	.391	.677	.774
600							.001	.001	.001	.002	.007	.010	.015	.032	.083	.115	.162	.294	.553	.658

39P0

Ground-burst

39P0

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj YN	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0
psi	1374	1374	1374	1374	1374	1374	1374	1374	1374	1374	1374	1374	1374	1374	1374	1374	1374	1374	1374	1374
HOB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WR	14	18	24	27	31	39	53	59	66	83	113	127	143	180	244	273	307	387	526	588

CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0																				
5	.980	.995	.999								.996	.998	.999							
10	.719	.850	.955	.974	.986	.997	.999				.979	.989	.994	.995	.999					
15	.450	.602	.798	.856	.906	.966	.994	.997	.998		.937	.962	.980	.995	.990	.995	.998	.999		
20	.291	.415	.614	.690	.765	.884	.969	.983	.991	.998	.754	.819	.876	.951	.955	.974	.986	.997	.999	
30	.144	.217	.358	.422	.497	.653	.838	.889	.930	.977	.564	.640	.719	.850	.887	.927	.957	.987	.998	.999
40	.084	.129	.223	.270	.327	.461	.665	.738	.808	.912	.420	.490	.569	.724	.798	.856	.906	.966	.994	.997
50	.055	.085	.150	.184	.226	.331	.514	.590	.670	.812	.318	.379	.450	.602	.678	.690	.765	.884	.969	.983
75	.025	.039	.070	.087	.109	.167	.282	.338	.404	.552	.196	.238	.291	.415	.614	.690	.620	.770	.915	.947
100	.014	.022	.040	.050	.063	.098	.172	.210	.257	.372	.131	.161	.199	.294	.466	.539	.497	.653	.838	.889
125	.009	.014	.026	.032	.041	.064	.114	.141	.174	.260	.093	.115	.144	.217	.358	.422	.497	.653	.838	.889
150	.006	.010	.018	.023	.029	.045	.081	.100	.125	.190	.420	.490	.569	.724	.887	.927	.957	.987	.998	.999
200	.004	.006	.010	.013	.016	.026	.047	.058	.073	.113	.318	.379	.450	.602	.798	.856	.906	.966	.994	.997
250	.002	.004	.007	.008	.010	.016	.030	.038	.047	.074	.196	.238	.291	.415	.614	.690	.765	.884	.969	.983
300	.002	.002	.005	.006	.007	.011	.021	.026	.033	.052	.131	.161	.199	.294	.466	.539	.620	.770	.915	.947
350	.001	.002	.003	.004	.005	.008	.015	.019	.024	.039	.093	.115	.144	.217	.358	.422	.497	.653	.838	.889
400	.001	.001	.003	.003	.004	.006	.012	.015	.019	.030	.070	.086	.108	.165	.280	.335	.401	.548	.751	.816
450	.001	.001	.002	.003	.003	.005	.009	.012	.015	.024	.054	.067	.084	.129	.223	.270	.327	.461	.665	.738
500	.001	.001	.002	.002	.003	.004	.008	.010	.012	.019	.043	.053	.067	.104	.182	.221	.271	.389	.585	.661
600		.001	.001	.001	.002	.003	.005	.007	.008	.013	.035	.043	.055	.085	.150	.184	.226	.331	.514	.590
											.024	.030	.038	.060	.107	.132	.164	.246	.400	.469

Air-burst

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj YN	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0	39.0
psi	1374	1374	1374	1374	1374	1374	1374	1374	1374	1374	1374	1374	1374	1374	1374	1374	1374	1374	1374	1374
HOB	7	9	12	14	16	20	27	30	34	42	58	64	73	91	124	139	156	197	267	299
WR	15	19	25	28	32	40	55	61	69	87	118	132	149	188	255	285	321	404	549	614

CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0																				
5	.984	.996	.999								.997	.998	.999							
10	.746	.870	.963	.979	.989	.997					.983	.991	.996	.999						
15	.477	.631	.821	.876	.920	.972	.995	.998	.999		.948	.970	.984	.996	.999					
20	.311	.441	.643	.718	.790	.901	.975	.986	.993	.998	.780	.841	.894	.960	.992	.996	.998			
30	.155	.233	.381	.449	.526	.681	.859	.905	.942	.981	.593	.669	.746	.870	.963	.979	.989	.997		
40	.091	.140	.240	.290	.350	.488	.693	.764	.831	.926	.446	.518	.598	.751	.904	.939	.965	.990	.998	.999
50	.059	.092	.162	.198	.244	.354	.543	.619	.698	.835	.340	.403	.477	.631	.821	.876	.920	.972	.995	.998
75	.027	.042	.076	.094	.118	.180	.303	.361	.430	.581	.211	.256	.311	.441	.643	.718	.790	.901	.975	.986
100	.015	.024	.044	.054	.068	.106	.186	.226	.276	.396	.142	.174	.214	.315	.493	.588	.649	.795	.928	.956
125	.010	.015	.028	.035	.044	.070	.124	.152	.188	.279	.101	.125	.155	.233	.381	.449	.526	.681	.859	.905
150	.007	.011	.020	.025	.031	.049	.088	.109	.135	.205	.076	.094	.117	.178	.300	.358	.427	.577	.777	.838
200	.004	.006	.011	.014	.018	.028	.051	.063	.079	.122	.058	.073	.091	.140	.240	.290	.350	.488	.693	.764
250	.002	.004	.007	.009	.011	.018	.033	.041	.051	.080	.047	.058	.073	.113	.196	.238	.290	.415	.614	.689
300	.002	.003	.005	.006	.008	.012	.023	.029	.036	.056	.038	.047	.059	.092	.162	.198	.244	.354	.543	.619
350	.001	.002	.004	.005	.006	.009	.017	.021	.027	.042	.026	.033	.042	.065	.116	.143	.177	.264	.425	.496
400	.001	.002	.003	.004	.004	.007	.013	.016	.020	.032										
450	.001	.001	.002	.003	.004	.006	.010	.013	.016	.026										
500	.001	.001	.002	.002	.003	.005	.008	.010	.013	.021										
600		.001	.001	.002	.002	.003	.006	.007	.009	.014										

39P0

39P9

Ground-burst

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj VN	74.1	71.5	68.2	66.9	65.6	63.1	59.8	58.5	57.2	54.7	51.4	50.2	49.0	46.5	43.4	42.3	41.1	39.0	36.4	35.6
psi													8459	5431	3069	2504	2030	1374	858	733
HOB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WR	2	2	4	5	6	9	14	17	21	31	51	61	75	109	180	215	260	387	603	709
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0																				
5	.069	.142	.340	.448	.579	.823	.979	.993	.998											
10	.018	.038	.101	.143	.204	.383	.715	.826	.912	.986	.999									
15	.008	.017	.046	.067	.097	.197	.446	.569	.702	.905	.992	.998	.999							
20	.004	.010	.026	.038	.056	.117	.288	.386	.509	.764	.963	.986	.996							
30	.002	.004	.012	.017	.025	.054	.142	.199	.279	.496	.822	.905	.959	.995						
40	.001	.002	.007	.010	.014	.031	.083	.118	.170	.326	.644	.764	.868	.974	.999					
50	.001	.002	.004	.006	.009	.020	.054	.078	.113	.225	.494	.619	.748	.927	.995	.998	.999			
75		.001	.002	.003	.004	.009	.024	.035	.052	.108	.268	.361	.479	.732	.951	.980	.993	.999		
100			.001	.002	.002	.005	.014	.020	.030	.063	.163	.226	.313	.540	.850	.923	.967	.997		
125			.001	.001	.001	.003	.009	.013	.019	.041	.108	.152	.216	.399	.724	.829	.911	.987	.999	
150				.001	.001	.002	.006	.009	.013	.028	.076	.109	.156	.301	.602	.723	.833	.966	.997	.999
200					.001	.001	.003	.005	.008	.016	.044	.063	.092	.184	.415	.530	.658	.884	.985	.994
250						.001	.002	.003	.005	.010	.028	.041	.060	.123	.294	.390	.508	.770	.953	.979
300						.001	.002	.002	.003	.007	.020	.029	.042	.087	.217	.293	.394	.653	.899	.948
350							.001	.002	.002	.005	.015	.021	.031	.065	.165	.227	.311	.548	.829	.901
400							.001	.001	.002	.004	.011	.016	.024	.050	.129	.179	.249	.461	.754	.843
450							.001	.001	.001	.003	.009	.013	.019	.040	.104	.145	.204	.389	.678	.780
500							.001	.001	.001	.003	.007	.010	.015	.032	.085	.120	.169	.331	.607	.715
600								.001	.001	.002	.005	.007	.011	.023	.060	.085	.121	.246	.485	.593

39P9

Air-burst

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj VN	74.1	71.5	68.2	66.9	65.6	63.1	59.8	58.5	57.2	54.7	51.4	50.2	49.0	46.5	43.4	42.3	41.1	39.0	36.4	35.6
psi													8459	5431	3069	2504	2030	1374	858	733
HOB	4	5	7	7	9	11	16	18	21	28	41	47	55	73	108	125	146	197	294	340
WR	2	2	4	5	6	8	14	17	21	31	52	64	78	115	191	230	279	404	649	769
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0																				
5	.061	.129	.321	.429	.561	.814	.979	.993	.998											
10	.016	.034	.094	.135	.195	.374	.713	.826	.914	.987	.999									
15	.007	.015	.043	.063	.093	.191	.444	.570	.706	.911	.994	.998	.999							
20	.004	.009	.025	.036	.053	.113	.286	.387	.513	.773	.968	.989	.997							
30	.002	.004	.011	.016	.024	.052	.141	.199	.282	.506	.837	.917	.966	.996						
40	.001	.002	.006	.009	.014	.030	.082	.118	.172	.335	.663	.784	.885	.980	.999					
50	.001	.001	.004	.006	.009	.019	.054	.078	.114	.232	.513	.642	.771	.941	.996	.999				
75		.001	.002	.003	.004	.009	.024	.035	.053	.112	.281	.380	.504	.762	.963	.986	.996			
100			.001	.001	.002	.005	.014	.020	.030	.065	.171	.239	.333	.573	.878	.941	.977	.997		
125			.001	.001	.001	.003	.009	.013	.019	.042	.114	.162	.231	.427	.761	.861	.933	.990	.999	
150				.001	.001	.002	.006	.009	.013	.029	.081	.116	.167	.325	.643	.763	.866	.972	.998	.999
200					.001	.001	.003	.005	.008	.017	.046	.067	.099	.201	.452	.574	.704	.901	.990	.996
250						.001	.002	.003	.005	.011	.030	.044	.064	.134	.324	.428	.554	.795	.967	.986
300						.001	.002	.002	.003	.007	.021	.031	.045	.096	.240	.326	.436	.681	.924	.964
350							.001	.002	.002	.005	.015	.023	.033	.071	.184	.253	.347	.577	.865	.929
400							.001	.001	.002	.004	.012	.017	.026	.055	.144	.201	.280	.488	.797	.881
450							.001	.001	.002	.003	.009	.014	.020	.044	.116	.163	.230	.415	.726	.825
500							.001	.001	.001	.003	.008	.011	.017	.036	.095	.135	.191	.354	.657	.765
600								.001	.001	.002	.005	.008	.012	.025	.067	.096	.138	.264	.534	.648

39P9

40P8

Ground-burst

40P8

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj VN	73.8	71.2	67.9	66.7	65.4	62.8	59.5	58.3	57.0	54.5	51.3	50.2	48.9	46.6	43.8	42.8	41.8	40.0	38.0	37.3
psi													8411	5530	3281	2742	2285	1648	1137	1010
HOB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WR	2	2	4	5	6	9	14	17	21	31	51	62	75	109	176	209	250	352	555	643
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0																				
5	.071	.146	.349	.459	.591	.832	.981	.993	.998		.999									
10	.018	.039	.104	.147	.210	.393	.725	.833	.917	.987	.993	.998	.999							
15	.008	.018	.048	.069	.101	.203	.456	.579	.711	.909	.965	.987	.996							
20	.005	.010	.027	.039	.058	.121	.295	.395	.519	.771	.965	.987	.996							
30	.002	.004	.012	.018	.026	.056	.146	.204	.285	.504	.826	.907	.960	.995						
40	.001	.002	.007	.010	.015	.032	.085	.121	.174	.332	.649	.767	.869	.973	.998	.999				
50	.001	.002	.004	.006	.010	.021	.056	.080	.116	.230	.499	.622	.749	.925	.994	.998	.999			
75		.001	.002	.003	.004	.009	.025	.036	.053	.111	.272	.364	.480	.728	.946	.977	.992	.999		
100			.001	.002	.002	.005	.014	.021	.030	.064	.165	.228	.314	.536	.839	.912	.960	.994		
125			.001	.001	.002	.003	.009	.013	.020	.042	.109	.153	.216	.395	.709	.813	.897	.978	.999	.999
150				.001	.001	.002	.006	.009	.014	.029	.078	.110	.157	.298	.587	.703	.812	.946	.995	.998
200					.001	.001	.004	.005	.008	.017	.045	.064	.092	.182	.402	.510	.631	.840	.976	.989
250						.001	.002	.003	.005	.011	.029	.041	.060	.121	.284	.372	.482	.710	.931	.965
300						.001	.002	.002	.003	.007	.020	.029	.042	.086	.208	.279	.371	.588	.864	.921
350							.001	.002	.003	.005	.015	.021	.031	.064	.158	.215	.291	.485	.783	.860
400							.001	.001	.002	.004	.011	.016	.024	.050	.124	.170	.233	.402	.700	.791
450							.001	.001	.002	.003	.009	.013	.019	.039	.100	.137	.190	.336	.621	.719
500							.001	.001	.001	.003	.007	.010	.015	.032	.082	.113	.157	.284	.550	.650
600								.001	.001	.002	.005	.007	.011	.022	.057	.080	.113	.209	.432	.526

Air-burst

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj VN	73.8	71.2	67.9	66.7	65.4	62.8	59.5	58.3	57.0	54.5	51.3	50.2	48.9	46.6	43.8	42.8	41.8	40.0	38.0	37.3
psi													8411	5530	3281	2742	2285	1648	1137	1010
HOB	4	5	7	7	9	11	16	19	21	28	41	47	55	73	107	123	143	190	277	317
WR	2	2	4	5	6	9	14	17	21	32	53	64	78	114	186	222	267	379	587	685
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0																				
5	.063	.134	.330	.440	.573	.824	.980	.993	.998		.994	.998	.999							
10	.016	.036	.098	.139	.201	.384	.723	.834	.919	.988	.970	.989	.997							
15	.007	.016	.045	.065	.096	.198	.454	.581	.716	.915										
20	.004	.009	.025	.037	.055	.117	.294	.396	.523	.781										
30	.002	.004	.011	.017	.025	.054	.145	.205	.289	.515	.841	.919	.967	.996						
40	.001	.002	.006	.009	.014	.031	.085	.122	.176	.341	.669	.787	.886	.979	.999					
50	.001	.001	.004	.006	.009	.020	.055	.080	.117	.237	.518	.645	.773	.939	.996	.999				
75		.001	.002	.003	.004	.009	.025	.037	.054	.115	.285	.383	.506	.758	.959	.983	.994	.999		
100			.001	.002	.002	.005	.014	.021	.031	.066	.174	.241	.334	.568	.867	.932	.971	.996		
125			.001	.001	.001	.003	.009	.013	.020	.043	.116	.163	.231	.424	.747	.845	.920	.985	.999	
150				.001	.001	.002	.006	.009	.014	.030	.082	.117	.168	.321	.627	.743	.846	.962	.997	.999
200					.001	.001	.004	.005	.008	.017	.047	.068	.099	.198	.437	.552	.676	.874	.982	.993
250						.001	.002	.003	.005	.011	.030	.044	.065	.133	.312	.409	.526	.756	.946	.975
300						.001	.002	.002	.003	.008	.021	.031	.045	.094	.231	.309	.410	.638	.888	.939
350							.001	.002	.003	.006	.016	.023	.034	.070	.176	.240	.324	.533	.815	.888
400							.001	.001	.002	.004	.012	.017	.026	.054	.138	.199	.261	.447	.736	.826
450							.001	.001	.002	.003	.010	.014	.020	.043	.111	.154	.213	.376	.660	.759
500							.001	.001	.001	.003	.008	.011	.017	.035	.091	.127	.177	.320	.588	.692
600								.001	.001	.002	.005	.008	.012	.025	.064	.090	.127	.237	.467	.570

41P6

Ground-burst

41P6

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj WR	71.6	69.1	65.8	64.5	63.3	60.8	57.5	56.3	55.1	52.8	49.8	48.8	47.7	45.8	43.6	42.9	42.2	41.0	39.7	39.3
psi											9835	8153	6732	4753	3179	2790	2456	1978	1571	1464
HOB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WR	2	3	5	5	7	10	16	20	24	35	56	67	81	114	178	208	244	331	485	556
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0																				
5	.091	.185	.424	.544	.678	.890	.990	.997	.999											
10	.024	.051	.133	.186	.262	.471	.799	.888	.950	.993	.996	.999								
15	.011	.023	.062	.088	.128	.252	.536	.660	.784	.942	.978	.992	.997							
20	.006	.013	.035	.051	.074	.152	.358	.468	.598	.832				.996						
30	.003	.006	.016	.023	.034	.071	.182	.251	.344	.577	.871	.934	.972	.980	.999	.999	.999			
40	.002	.003	.009	.013	.019	.041	.108	.151	.214	.393	.711	.816	.900	.940	.994	.998	.998	.998		
50	.001	.002	.006	.008	.012	.026	.071	.100	.144	.277	.561	.679	.794	.940	.994	.998	.998	.998		
75		.001	.003	.004	.006	.012	.032	.046	.067	.136	.316	.413	.530	.760	.949	.976	.990	.998		
100		.001	.001	.002	.003	.007	.018	.026	.038	.079	.195	.263	.353	.570	.845	.910	.955	.991	.999	
125			.001	.001	.002	.004	.012	.017	.025	.052	.130	.179	.246	.425	.716	.810	.887	.970	.997	.999
150			.001	.001	.001	.003	.008	.012	.017	.036	.093	.128	.179	.323	.594	.699	.798	.930	.990	.996
200				.001	.001	.002	.005	.007	.010	.021	.053	.075	.106	.199	.408	.506	.615	.807	.954	.976
250					.001	.001	.003	.004	.006	.013	.035	.049	.069	.133	.289	.369	.466	.669	.885	.932
300					.001	.001	.002	.003	.004	.009	.024	.034	.049	.095	.212	.276	.358	.546	.795	.865
350						.001	.002	.002	.003	.007	.018	.025	.036	.071	.161	.213	.280	.446	.700	.784
400							.001	.002	.002	.005	.014	.019	.028	.055	.127	.168	.224	.367	.611	.702
450							.001	.001	.002	.004	.011	.015	.022	.044	.102	.136	.182	.305	.531	.623
500							.001	.001	.002	.003	.009	.012	.018	.035	.083	.112	.151	.256	.462	.552
600							.001	.001	.001	.002	.006	.009	.012	.025	.059	.079	.108	.187	.354	.433

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj WR	71.6	69.1	65.8	64.5	63.3	60.8	57.5	56.3	55.1	52.8	49.8	48.8	47.7	45.8	43.6	42.9	42.2	41.0	39.7	39.3
psi											9835	8153	6732	4753	3173	2790	2456	1979	1571	1464
HOB	4	5	7	8	9	12	17	19	22	29	43	49	56	75	108	123	141	184	261	296
WR	2	3	4	5	7	10	16	20	24	35	58	70	84	120	189	221	261	355	523	600
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0																				
5	.083	.172	.407	.529	.666	.887	.981	.997	.999											
10	.021	.047	.126	.179	.254	.466	.802	.892	.953	.984										
15	.010	.021	.059	.085	.124	.249	.539	.667	.792	.948	.997	.999								
20	.005	.012	.033	.049	.072	.150	.361	.475	.608	.844	.992	.994	.998							
30	.002	.005	.015	.022	.033	.070	.184	.255	.352	.593	.886	.945	.978	.997						
40	.001	.003	.008	.012	.019	.040	.109	.154	.220	.407	.733	.836	.915	.985	.999					
50	.001	.002	.005	.008	.012	.026	.071	.102	.148	.289	.585	.705	.818	.952	.996	.998	.999			
75		.001	.002	.004	.005	.012	.032	.047	.069	.142	.334	.437	.559	.790	.961	.983	.993	.999		
100			.001	.002	.003	.007	.018	.027	.040	.083	.207	.281	.377	.605	.872	.930	.967	.994	.999	
125			.001	.001	.002	.004	.012	.017	.026	.054	.139	.192	.265	.457	.754	.842	.912	.979	.998	.999
150			.001	.001	.001	.003	.008	.012	.018	.038	.099	.138	.194	.350	.635	.739	.833	.948	.993	.997
200				.001	.001	.002	.005	.007	.010	.022	.057	.081	.115	.218	.444	.548	.659	.844	.968	.984
250						.001	.003	.004	.006	.014	.037	.053	.075	.147	.318	.405	.509	.715	.913	.951
300						.001	.002	.003	.004	.010	.026	.037	.053	.105	.235	.306	.395	.593	.835	.897
350						.001	.002	.002	.003	.007	.019	.027	.039	.078	.180	.237	.311	.490	.748	.826
400							.001	.002	.003	.005	.015	.021	.030	.060	.141	.188	.250	.407	.661	.750
450							.001	.001	.002	.004	.012	.017	.024	.048	.114	.152	.204	.341	.581	.674
500							.001	.001	.002	.003	.009	.013	.019	.039	.093	.125	.169	.288	.511	.603
600							.001	.001	.001	.002	.007	.009	.014	.027	.066	.089	.121	.212	.397	.481

Air-burst

42P6

Ground-burst

42P6

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj Wt psi	72.6	70.1	66.8	65.5	64.3	61.8	58.5	57.3	56.1	53.8	50.8	49.8	48.7	46.8	44.6	43.9	43.2	42.0	40.7	40.3
HOB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WR	2	3	4	5	6	9	15	18	22	33	53	63	76	108	167	195	230	311	456	523
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0																				
5	.081	.166	.387	.503	.637	.864	.986	.995	.999											
10	.021	.045	.119	.167	.236	.432	.763	.862	.934	.990										
15	.009	.020	.055	.079	.114	.227	.495	.619	.747	.925	.994	.998	.999							
20	.005	.011	.031	.045	.066	.136	.326	.430	.556	.799	.970	.988	.996							
30	.002	.005	.014	.020	.030	.063	.163	.226	.312	.536	.842	.915	.962	.994						
40	.001	.003	.008	.012	.017	.036	.096	.135	.192	.358	.670	.781	.875	.972	.998	.999				
50	.001	.002	.005	.007	.011	.023	.063	.089	.128	.250	.520	.638	.757	.922	.992	.997	.999			
75		.001	.002	.003	.005	.010	.028	.041	.060	.121	.286	.377	.489	.722	.933	.967	.986	.998		
100			.001	.002	.003	.006	.016	.023	.034	.071	.175	.237	.321	.529	.813	.887	.941	.987	.999	.999
125			.001	.001	.002	.004	.010	.015	.022	.046	.116	.160	.222	.389	.676	.775	.861	.959	.995	.998
150			.001	.001	.001	.003	.007	.010	.015	.032	.082	.115	.161	.293	.553	.658	.762	.910	.986	.993
200					.001	.001	.004	.006	.009	.018	.047	.066	.094	.179	.372	.466	.573	.772	.939	.968
250						.001	.003	.004	.006	.012	.031	.043	.062	.119	.261	.336	.428	.628	.858	.913
300						.001	.002	.003	.004	.008	.021	.030	.043	.085	.191	.250	.325	.505	.759	.835
350							.001	.002	.003	.006	.016	.022	.032	.063	.144	.191	.253	.408	.659	.748
400							.001	.001	.002	.005	.012	.017	.025	.049	.113	.150	.201	.334	.569	.661
450							.001	.001	.002	.004	.010	.014	.019	.039	.090	.121	.163	.276	.491	.581
500							.001	.001	.001	.003	.008	.011	.016	.031	.074	.100	.135	.231	.424	.511
600								.001	.001	.002	.005	.008	.011	.022	.052	.070	.096	.168	.322	.397

Air-burst

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj Wt psi	72.6	70.1	66.8	65.5	64.3	61.8	58.5	57.3	56.1	53.8	50.8	49.8	48.7	46.8	44.6	43.9	43.2	42.0	40.7	40.3
HOB	4	5	7	8	9	11	17	19	22	29	42	48	55	73	105	119	137	179	252	286
WR	2	2	4	5	6	9	15	19	23	33	55	65	79	113	177	207	244	332	490	562
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0																				
5	.073	.153	.370	.486	.622	.859	.986	.996	.999											
10	.019	.041	.112	.159	.228	.425	.764	.865	.937	.991										
15	.008	.018	.052	.075	.110	.223	.496	.623	.754	.931	.995	.998	.999							
20	.005	.010	.029	.043	.064	.133	.326	.434	.564	.810	.974	.991	.997							
30	.002	.005	.013	.019	.029	.062	.164	.228	.318	.549	.857	.927	.969	.996						
40	.001	.003	.007	.011	.016	.035	.096	.137	.196	.369	.691	.801	.892	.978	.998	.999				
50	.001	.002	.005	.007	.010	.023	.063	.090	.131	.258	.541	.662	.781	.936	.994	.998	.999			
75		.001	.002	.003	.005	.010	.029	.041	.061	.126	.301	.398	.515	.751	.947	.976	.990	.999		
100			.001	.002	.003	.006	.016	.023	.035	.073	.185	.252	.342	.561	.842	.909	.955	.991	.999	
125			.001	.001	.002	.004	.010	.015	.022	.043	.123	.171	.237	.417	.713	.808	.887	.970	.997	.999
150			.001	.001	.001	.003	.007	.011	.016	.033	.088	.122	.172	.316	.591	.697	.798	.931	.990	.996
200					.001	.001	.004	.006	.009	.019	.050	.071	.102	.195	.405	.504	.615	.810	.956	.978
250						.001	.003	.004	.006	.012	.033	.046	.066	.130	.286	.368	.466	.672	.889	.935
300						.001	.002	.003	.004	.008	.023	.032	.047	.093	.210	.275	.358	.549	.800	.870
350							.001	.002	.003	.006	.017	.024	.035	.069	.160	.212	.280	.449	.706	.791
400							.001	.001	.002	.005	.013	.018	.027	.053	.125	.167	.224	.369	.617	.709
450							.001	.001	.002	.004	.010	.015	.021	.042	.101	.135	.182	.307	.537	.630
500							.001	.001	.001	.003	.008	.012	.017	.035	.082	.111	.150	.258	.468	.559
600								.001	.001	.002	.006	.009	.012	.024	.058	.079	.107	.189	.360	.440

48P9

Ground-burst

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj YN	83.1	80.5	77.2	75.9	74.6	72.1	68.8	67.5	66.2	63.7	60.4	59.2	58.0	55.5	52.4	51.3	50.1	48.0	45.4	44.6
psi																		7088	4426	3780
HOB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WR	1	1	2	3	3	5	8	10	12	18	29	35	43	63	103	124	150	215	342	404

CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0																				
5	.023	.050	.132	.185	.260	.469	.801	.891	.952	.994										
10	.006	.013	.035	.050	.074	.152	.360	.472	.604	.842	.982	.994	.998							
15	.003	.006	.016	.023	.034	.071	.183	.253	.349	.590	.888	.947	.980	.998						
20	.001	.003	.009	.013	.019	.041	.108	.153	.218	.404	.736	.842	.922	.988	.999					
30	.001	.001	.004	.006	.009	.018	.050	.072	.104	.210	.467	.591	.722	.914	.993	.998	.999			
40		.001	.002	.003	.005	.010	.028	.041	.060	.125	.304	.405	.529	.779	.966	.987	.996			
50		.001	.001	.002	.003	.007	.018	.027	.039	.082	.209	.286	.389	.635	.909	.958	.984	.998		
75			.001	.001	.001	.003	.008	.012	.018	.038	.100	.141	.201	.375	.697	.807	.896	.980	.999	.997
100				.001	.001	.002	.005	.007	.010	.021	.058	.082	.119	.235	.504	.625	.749	.922	.993	.997
125						.001	.003	.004	.006	.014	.037	.054	.078	.159	.367	.476	.602	.829	.975	.990
150						.001	.002	.003	.004	.010	.026	.038	.055	.114	.275	.366	.481	.722	.939	.972
200							.001	.002	.002	.005	.015	.021	.031	.066	.167	.229	.314	.530	.826	.900
250							.001	.001	.002	.003	.009	.014	.020	.043	.111	.155	.217	.390	.692	.794
300							.001	.001	.001	.002	.007	.010	.014	.030	.079	.111	.157	.293	.569	.681
350								.001	.001	.002	.005	.007	.010	.022	.058	.083	.118	.227	.467	.577
400									.001	.001	.004	.005	.008	.017	.045	.064	.092	.179	.386	.488
450										.001	.003	.004	.006	.013	.036	.051	.074	.145	.322	.414
500										.001	.002	.003	.005	.011	.029	.042	.060	.119	.272	.354
600										.001	.002	.002	.004	.008	.020	.029	.042	.085	.199	.264

Air-burst

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj YN	83.1	80.5	77.2	75.9	74.6	72.1	68.8	67.5	66.2	63.7	60.4	59.2	58.0	55.5	52.4	51.3	50.1	48.0	45.4	44.6
psi																		7088	4426	3780
HOB	3	4	6	7	8	10	14	16	18	24	34	39	45	60	87	99	115	152	220	252
WR	1	1	2	3	3	5	8	10	12	17	29	35	43	64	106	128	155	225	361	427

CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0																				
5	.019	.042	.115	.163	.234	.436	.778	.877	.945	.993										
10	.005	.011	.030	.044	.065	.138	.339	.450	.584	.832	.982	.994	.998							
15	.002	.005	.014	.020	.030	.064	.171	.239	.334	.577	.885	.947	.980	.998						
20	.001	.003	.008	.011	.017	.037	.101	.144	.207	.393	.732	.841	.923	.989						
30	.001	.001	.003	.005	.008	.017	.046	.067	.099	.203	.463	.590	.724	.918	.994	.998	.999			
40		.001	.002	.003	.004	.009	.026	.038	.057	.121	.301	.404	.532	.786	.970	.989	.997			
50			.001	.002	.003	.006	.017	.025	.037	.079	.207	.285	.391	.644	.918	.964	.987	.999		
75			.001	.001	.001	.003	.008	.011	.017	.036	.099	.141	.202	.382	.713	.823	.909	.984	.999	
100				.001	.001	.002	.004	.006	.009	.021	.057	.082	.120	.241	.520	.645	.770	.935	.995	.998
125						.001	.003	.004	.006	.013	.037	.054	.079	.163	.381	.495	.626	.850	.981	.993
150						.001	.002	.003	.004	.009	.026	.038	.056	.117	.286	.383	.503	.749	.952	.979
200							.001	.002	.002	.005	.015	.021	.032	.068	.175	.241	.332	.558	.852	.920
250							.001	.001	.002	.003	.009	.014	.020	.044	.116	.163	.230	.415	.726	.825
300								.001	.001	.002	.007	.010	.014	.031	.083	.117	.167	.314	.605	.717
350								.001	.001	.002	.005	.007	.010	.023	.061	.088	.126	.244	.501	.615
400									.001	.001	.004	.005	.009	.017	.047	.068	.098	.193	.417	.525
450											.003	.004	.006	.014	.038	.054	.078	.157	.350	.448
500										.001	.002	.003	.005	.011	.031	.044	.064	.129	.296	.385
600										.001	.002	.002	.004	.008	.021	.031	.045	.092	.218	.289

51P6

Ground-burst

51P6

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj VN psi	81.6	79.1	75.8	74.5	73.3	70.8	67.5	66.3	65.1	62.8	59.8	58.8	57.7	55.8	53.6	52.9	52.2	51.0	49.7	49.3
HOB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9726	9065
WR	1	1	2	3	4	5	9	11	13	19	31	36	44	62	96	112	132	179	263	301
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0																				
5	.028	.059	.154	.215	.299	.523	.841	.918	.966	.996										
10	.007	.015	.041	.059	.087	.176	.404	.520	.652	.870	.986	.995	.998							
15	.003	.007	.019	.027	.040	.083	.210	.286	.389	.631	.903	.954	.982	.998						
20	.002	.004	.011	.015	.023	.048	.125	.175	.245	.441	.761	.856	.927	.987	.999					
30	.001	.002	.005	.007	.010	.022	.058	.083	.119	.233	.493	.610	.732	.908	.989	.996	.998			
40		.001	.003	.004	.006	.012	.033	.047	.069	.140	.324	.422	.539	.769	.952	.978	.991	.999		
50		.001	.002	.002	.004	.008	.021	.031	.045	.092	.224	.300	.398	.624	.881	.935	.969	.994	.999	
75			.001	.001	.002	.003	.010	.014	.020	.042	.108	.149	.206	.365	.648	.749	.840	.950	.994	.997
100				.001	.001	.002	.005	.008	.011	.024	.062	.087	.123	.229	.456	.559	.668	.848	.969	.985
125					.001	.001	.003	.005	.007	.015	.040	.057	.081	.154	.328	.415	.518	.721	.914	.952
150						.001	.002	.003	.005	.011	.028	.040	.057	.110	.243	.314	.403	.600	.837	.898
200							.001	.002	.003	.006	.016	.023	.032	.064	.146	.194	.256	.413	.664	.752
250							.001	.001	.002	.004	.010	.015	.021	.041	.097	.129	.174	.292	.514	.605
300							.001	.001	.001	.003	.007	.010	.015	.029	.068	.092	.125	.215	.399	.483
350								.001	.001	.002	.005	.007	.011	.021	.051	.069	.093	.164	.315	.389
400									.001	.002	.004	.006	.008	.016	.039	.053	.072	.128	.253	.316
450									.001	.001	.003	.005	.007	.013	.031	.042	.058	.103	.207	.261
500										.001	.003	.004	.005	.011	.025	.034	.047	.084	.172	.218
600										.001	.002	.003	.004	.007	.018	.024	.033	.060	.123	.158

Air-burst

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj VN psi	81.6	79.1	75.8	74.5	73.3	70.8	67.5	66.3	65.1	62.8	59.8	58.8	57.7	55.8	53.6	52.9	52.2	51.0	49.7	49.3
HOB	3	4	6	7	8	10	14	16	19	24	35	40	46	59	84	96	110	142	198	223
WR	1	1	2	3	3	5	9	10	13	18	30	36	44	63	98	115	136	185	272	312
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0																				
5	.023	.050	.136	.192	.272	.492	.824	.908	.961	.995	.986	.995	.998							
10	.006	.013	.036	.053	.078	.162	.384	.501	.635	.863	.902	.954	.982	.998						
15	.003	.006	.016	.024	.035	.076	.198	.273	.374	.621	.758	.856	.928	.988	.999					
20	.001	.003	.009	.013	.020	.044	.117	.166	.235	.431										
30	.001	.001	.004	.006	.009	.020	.054	.078	.114	.227	.490	.610	.734	.912	.991	.996	.999			
40		.001	.002	.003	.005	.011	.031	.045	.066	.136	.322	.422	.543	.776	.956	.980	.992	.999		
50		.001	.001	.002	.003	.007	.020	.029	.043	.090	.222	.300	.401	.632	.889	.941	.973	.995		
75			.001	.001	.001	.003	.009	.013	.019	.041	.107	.149	.208	.372	.662	.764	.853	.957	.995	.998
100				.001	.001	.002	.005	.007	.011	.023	.062	.087	.124	.234	.470	.575	.686	.863	.974	.988
125					.001	.001	.003	.005	.007	.015	.040	.057	.081	.158	.339	.429	.535	.741	.926	.960
150						.001	.002	.003	.005	.010	.028	.040	.057	.113	.252	.326	.419	.621	.855	.911
200							.001	.002	.003	.006	.016	.023	.033	.065	.152	.202	.267	.431	.688	.774
250							.001	.001	.002	.004	.010	.015	.021	.042	.101	.135	.182	.307	.538	.630
300							.001	.001	.001	.003	.007	.010	.015	.030	.071	.096	.131	.227	.421	.508
350								.001	.001	.002	.005	.007	.011	.022	.053	.072	.098	.173	.334	.411
400									.001	.001	.004	.006	.008	.017	.041	.056	.076	.136	.269	.336
450									.001	.001	.003	.005	.007	.013	.032	.044	.061	.109	.220	.278
500										.001	.003	.004	.005	.011	.026	.036	.050	.090	.183	.233
600										.001	.002	.003	.004	.008	.018	.025	.035	.063	.132	.169

51P6

11Q7

Ground-burst

11Q7

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj YN	23.1	22.2	20.9	20.5	20.0	19.1	17.8	17.4	16.9	16.0	14.9	14.5	14.1	13.3	12.3	12.0	11.6	11.0	10.3	10.1
psi	133	94	60	51	42	30	19	19	17	14	7	6	5	4	3	2	2	2	1	1
HOB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WR	39	54	81	95	111	152	231	268	315	430	634	742	876	1204	1821	2113	2471	3329	4880	5598
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
5	.993	.994	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
10	.974	.987	.993	.994	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
15	.922	.967	.987	.990	.992	.994	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
20	.834	.928	.976	.983	.988	.992	.995	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
30	.622	.794	.930	.954	.970	.986	.992	.994	.994	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
40	.447	.638	.849	.898	.935	.972	.989	.991	.993	.994	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996
50	.326	.502	.748	.820	.880	.949	.982	.987	.990	.993	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996
75	.167	.283	.508	.602	.698	.849	.950	.967	.978	.988	.993	.994	.995	.995	.996	.996	.996	.996	.996	.996
100	.099	.175	.345	.428	.525	.713	.891	.928	.954	.979	.990	.992	.993	.995	.996	.996	.996	.996	.996	.996
125	.065	.117	.243	.310	.394	.581	.809	.868	.914	.963	.986	.989	.992	.994	.995	.996	.996	.996	.996	.996
150	.046	.083	.178	.231	.300	.469	.718	.795	.861	.940	.978	.985	.989	.993	.995	.995	.995	.996	.996	.996
200	.026	.048	.106	.140	.187	.313	.546	.639	.731	.869	.955	.970	.980	.989	.994	.994	.995	.995	.996	.996
250	.017	.031	.070	.093	.126	.218	.413	.502	.601	.776	.916	.946	.965	.984	.992	.993	.994	.995	.996	.996
300	.012	.022	.049	.066	.090	.159	.317	.396	.489	.678	.863	.910	.943	.976	.990	.992	.993	.995	.995	.996
350	.009	.016	.036	.049	.067	.120	.248	.316	.399	.585	.801	.864	.913	.964	.986	.989	.992	.994	.995	.995
400	.007	.012	.028	.038	.052	.094	.198	.256	.329	.503	.735	.812	.875	.948	.982	.987	.990	.993	.995	.995
450	.005	.010	.022	.030	.041	.075	.161	.210	.274	.433	.668	.755	.832	.927	.976	.983	.988	.992	.994	.995
500	.004	.008	.018	.024	.034	.062	.134	.175	.230	.374	.605	.698	.785	.903	.969	.978	.985	.991	.994	.995
600	.003	.006	.013	.017	.023	.043	.096	.126	.169	.284	.493	.590	.689	.844	.949	.966	.977	.988	.993	.994

Air-burst

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj YN	23.1	22.2	20.9	20.5	20.0	19.1	17.8	17.4	16.9	16.0	14.9	14.5	14.1	13.3	12.3	12.0	11.6	11.0	10.3	10.1
psi	133	94	60	51	42	30	19	17	14	10	7	6	5	4	3	2	2	2	1	1
HOB	24	31	43	49	55	71	99	111	127	162	232	269	318	455	751	902	1095	1580	2507	2948
WR	52	70	104	120	140	188	279	322	375	503	765	902	1073	1498	2306	2694	3170	4320	6419	7395
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
5	.994	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
10	.986	.992	.994	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
15	.964	.983	.991	.993	.994	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
20	.921	.965	.986	.989	.992	.994	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
30	.780	.894	.964	.975	.983	.990	.994	.994	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
40	.620	.785	.921	.947	.965	.983	.992	.993	.994	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
50	.483	.664	.857	.902	.936	.971	.988	.990	.992	.994	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996
75	.270	.420	.657	.739	.813	.913	.970	.979	.985	.991	.994	.995	.995	.996	.996	.996	.996	.996	.996	.996
100	.166	.274	.482	.570	.663	.818	.935	.956	.971	.985	.992	.994	.994	.995	.996	.996	.996	.996	.996	.996
125	.111	.189	.356	.436	.527	.706	.881	.919	.947	.976	.990	.992	.993	.995	.996	.996	.996	.996	.996	.996
150	.079	.137	.269	.337	.419	.598	.812	.868	.912	.961	.986	.989	.992	.994	.995	.996	.996	.996	.996	.996
200	.045	.080	.165	.212	.273	.424	.661	.742	.816	.914	.972	.981	.987	.992	.995	.995	.995	.996	.996	.996
250	.029	.052	.110	.144	.188	.307	.525	.614	.703	.845	.950	.968	.979	.989	.994	.994	.995	.996	.996	.996
300	.021	.037	.078	.103	.136	.229	.417	.502	.595	.764	.917	.947	.967	.985	.992	.994	.994	.995	.996	.996
350	.015	.027	.058	.077	.103	.176	.334	.411	.501	.680	.874	.919	.950	.979	.991	.993	.994	.995	.996	.996
400	.012	.021	.045	.060	.080	.139	.272	.340	.422	.600	.825	.884	.928	.971	.989	.991	.993	.994	.995	.996
450	.009	.017	.036	.048	.064	.112	.224	.283	.357	.528	.771	.843	.900	.960	.986	.989	.992	.994	.995	.995
500	.007	.013	.029	.039	.052	.092	.187	.239	.305	.464	.715	.799	.868	.947	.982	.987	.990	.993	.995	.995
600	.005	.009	.020	.027	.037	.065	.135	.175	.227	.361	.608	.705	.795	.912	.973	.981	.987	.992	.994	.995

Ground-burst

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj VN	24.1	23.2	21.9	21.5	21.0	20.1	18.8	18.4	17.9	17.0	15.9	15.5	15.1	14.3	13.3	13.0	12.6	12.0	11.3	11.1
psi	191	136	86	73	61	44	28	24	20	14	10	8	7	5	4	3	3	2	2	2
HOB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WR	36	49	74	87	102	139	211	245	288	393	591	686	802	1079	1631	1893	2214	2982	4373	5016
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
5	.992	.994	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
10	.967	.984	.992	.993	.994	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
15	.900	.958	.985	.989	.991	.994	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
20	.795	.908	.970	.980	.986	.992	.994	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
30	.567	.751	.910	.941	.962	.983	.992	.993	.994	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
40	.396	.584	.812	.871	.917	.965	.987	.990	.992	.994	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996
50	.284	.448	.699	.780	.850	.935	.978	.985	.989	.993	.995	.995	.995	.996	.996	.996	.996	.996	.996	.996
75	.142	.245	.455	.547	.646	.812	.937	.958	.973	.986	.993	.994	.994	.995	.996	.996	.996	.996	.996	.996
100	.084	.149	.301	.378	.471	.662	.862	.908	.941	.974	.989	.991	.993	.994	.995	.996	.996	.996	.996	.996
125	.055	.099	.209	.270	.346	.526	.767	.835	.891	.953	.983	.988	.990	.993	.995	.995	.996	.996	.996	.996
150	.038	.070	.152	.199	.261	.417	.667	.751	.826	.923	.974	.982	.987	.992	.994	.995	.995	.996	.996	.996
200	.022	.041	.090	.119	.160	.272	.492	.585	.681	.836	.945	.963	.975	.987	.993	.994	.995	.995	.996	.996
250	.014	.026	.059	.079	.107	.187	.364	.449	.546	.730	.898	.932	.956	.979	.991	.992	.994	.995	.996	.996
300	.010	.018	.041	.056	.076	.136	.276	.348	.436	.625	.837	.888	.927	.968	.987	.990	.992	.994	.995	.995
350	.007	.013	.031	.041	.056	.102	.214	.275	.351	.530	.767	.834	.889	.951	.983	.987	.990	.993	.995	.995
400	.006	.010	.024	.032	.044	.080	.170	.221	.287	.450	.695	.775	.844	.929	.976	.983	.988	.992	.995	.995
450	.004	.008	.019	.025	.035	.064	.138	.180	.237	.383	.626	.713	.793	.902	.968	.978	.985	.991	.994	.995
500	.004	.007	.015	.021	.028	.052	.114	.150	.198	.328	.561	.652	.741	.870	.958	.972	.981	.989	.993	.994
600	.002	.005	.011	.014	.020	.036	.081	.107	.144	.246	.451	.541	.637	.798	.930	.954	.970	.985	.992	.993

Air-burst

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj VN	24.1	23.2	21.9	21.5	21.0	20.1	18.8	18.4	17.9	17.0	15.9	15.5	15.1	14.3	13.3	13.0	12.6	12.0	11.3	11.1
psi	191	136	86	73	61	44	28	24	20	14	10	8	7	5	4	3	3	2	2	2
HOB	24	30	42	48	54	70	97	109	124	159	221	249	283	391	616	733	884	1267	2008	2363
WR	48	65	97	112	130	175	259	299	349	468	690	795	924	1317	2028	2368	2787	3798	5644	6502
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
5	.994	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
10	.984	.991	.994	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
15	.957	.980	.991	.992	.993	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
20	.904	.958	.984	.988	.991	.993	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
30	.744	.873	.956	.970	.980	.989	.993	.994	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
40	.577	.749	.904	.935	.958	.980	.991	.992	.993	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
50	.441	.622	.829	.881	.922	.965	.986	.989	.992	.994	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996
75	.240	.381	.615	.700	.781	.895	.964	.975	.983	.990	.994	.994	.995	.996	.996	.996	.996	.996	.996	.996
100	.146	.244	.440	.527	.621	.785	.921	.947	.965	.983	.991	.993	.994	.995	.996	.996	.996	.996	.996	.996
125	.097	.167	.320	.395	.484	.665	.857	.902	.935	.971	.988	.990	.992	.994	.995	.996	.996	.996	.996	.996
150	.069	.120	.239	.302	.379	.554	.779	.842	.893	.953	.982	.987	.990	.993	.995	.995	.996	.996	.996	.996
200	.040	.070	.146	.188	.243	.385	.618	.703	.783	.895	.964	.975	.982	.991	.994	.995	.995	.996	.996	.996
250	.026	.046	.097	.126	.166	.274	.482	.570	.662	.816	.933	.955	.970	.987	.993	.994	.995	.995	.996	.996
300	.018	.032	.069	.090	.120	.203	.377	.459	.551	.726	.890	.925	.951	.980	.991	.993	.994	.995	.996	.996
350	.013	.024	.051	.067	.090	.155	.300	.372	.458	.637	.837	.887	.924	.971	.989	.991	.993	.994	.995	.996
400	.010	.018	.039	.052	.070	.122	.242	.305	.382	.556	.778	.840	.891	.959	.986	.989	.992	.994	.995	.995
450	.008	.014	.031	.041	.056	.098	.198	.252	.321	.484	.717	.789	.852	.943	.981	.987	.990	.993	.995	.995
500	.006	.012	.025	.034	.046	.080	.165	.212	.272	.422	.656	.736	.810	.924	.976	.983	.988	.992	.995	.995
600	.005	.008	.018	.024	.032	.057	.119	.154	.201	.325	.545	.632	.718	.876	.962	.974	.983	.990	.994	.994

13Q7

Ground-burst

13Q7																									
KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00					
Adj VN	25.1	24.2	22.9	22.5	22.0	21.1	19.8	19.4	18.9	18.0	16.9	16.5	16.1	15.3	14.3	14.0	13.6	13.0	12.3	12.1					
psi	276	195	124	105	88	63	40	34	29	21	14	12	10	8	5	5	4	3	3	2					
HOB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
WR	33	45	68	79	93	128	193	224	264	360	541	627	734	992	1462	1696	1984	2672	3918	4494					
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
5	.991	.994	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
10	.958	.981	.991	.993	.994	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
15	.874	.947	.982	.987	.990	.993	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
20	.751	.883	.962	.975	.983	.990	.994	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
30	.512	.702	.886	.925	.952	.979	.990	.992	.993	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
40	.348	.529	.771	.839	.894	.955	.984	.988	.991	.994	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
50	.246	.399	.647	.734	.813	.917	.973	.981	.987	.992	.994	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
75	.121	.211	.404	.493	.592	.771	.919	.947	.966	.984	.992	.993	.994	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
100	.071	.127	.261	.332	.419	.608	.828	.883	.924	.968	.987	.990	.992	.994	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
125	.046	.084	.180	.233	.302	.472	.720	.797	.862	.940	.980	.985	.989	.993	.995	.995	.995	.995	.996	.996	.996	.996	.996	.996	.996
150	.032	.059	.130	.171	.225	.368	.613	.703	.787	.902	.968	.978	.984	.991	.994	.995	.995	.995	.996	.996	.996	.996	.996	.996	.996
200	.018	.034	.076	.101	.136	.235	.439	.530	.628	.797	.929	.953	.969	.985	.992	.993	.994	.994	.995	.996	.996	.996	.996	.996	.996
250	.012	.022	.050	.066	.090	.160	.319	.398	.492	.680	.871	.913	.944	.975	.989	.991	.993	.994	.995	.996	.996	.996	.996	.996	.996
300	.008	.015	.035	.047	.064	.115	.239	.304	.386	.570	.798	.859	.907	.959	.984	.988	.991	.994	.995	.996	.996	.996	.996	.996	.996
350	.006	.011	.026	.035	.048	.087	.184	.238	.307	.476	.720	.796	.860	.938	.978	.984	.988	.992	.995	.995	.995	.995	.995	.995	.995
400	.005	.009	.020	.027	.037	.067	.145	.189	.248	.399	.643	.729	.806	.910	.969	.979	.985	.991	.994	.995	.995	.995	.995	.995	.995
450	.004	.007	.016	.021	.029	.054	.117	.154	.204	.336	.572	.662	.749	.877	.957	.971	.980	.989	.993	.994	.994	.994	.994	.994	.994
500	.003	.006	.013	.017	.024	.044	.096	.127	.170	.286	.507	.598	.691	.840	.943	.962	.975	.987	.993	.994	.994	.994	.994	.994	.994
600	.002	.004	.009	.012	.017	.031	.068	.091	.122	.212	.400	.486	.582	.757	.906	.938	.959	.981	.991	.992	.992	.992	.992	.992	.992

Air-burst

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00					
Adj VN	25.1	24.2	22.9	22.5	22.0	21.1	19.8	19.4	18.9	18.0	16.9	16.5	16.1	15.3	14.3	14.0	13.6	13.0	12.3	12.1					
psi	276	195	124	105	88	63	40	34	29	21	14	12	10	8	5	5	4	3	3	2					
HOB	23	30	41	47	53	68	95	107	122	156	217	244	277	355	529	619	734	1031	1614	1896					
WR	45	61	90	104	121	163	242	279	325	436	643	740	859	1147	1783	2082	2450	3339	4962	5716					
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
5	.994	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
10	.981	.990	.994	.994	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
15	.948	.976	.988	.991	.993	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
20	.885	.949	.981	.986	.990	.993	.995	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
30	.706	.848	.947	.964	.976	.987	.993	.994	.994	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
40	.533	.711	.884	.921	.949	.976	.989	.992	.993	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
50	.401	.579	.798	.858	.905	.958	.984	.988	.991	.993	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
75	.214	.344	.571	.659	.745	.873	.956	.970	.980	.989	.993	.994	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
100	.129	.217	.400	.484	.577	.750	.904	.935	.957	.980	.990	.992	.993	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
125	.085	.147	.287	.357	.442	.623	.829	.881	.921	.965	.986	.989	.991	.994	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996
150	.060	.106	.213	.270	.342	.511	.743	.812	.871	.942	.979	.985	.988	.992	.995	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996
200	.035	.061	.128	.166	.216	.347	.575	.662	.747	.874	.956	.970	.979	.989	.994	.994	.995	.995	.995	.996	.996	.996	.996	.996	.996
250	.022	.040	.085	.111	.147	.245	.440	.526	.619	.783	.919	.945	.963	.982	.992	.993	.994	.995	.995	.996	.996	.996	.996	.996	.996
300	.016	.028	.060	.079	.105	.179	.340	.418	.508	.686	.868	.909	.940	.972	.989	.991	.993	.995	.995	.996	.996	.996	.996	.996	.996
350	.011	.021	.044	.059	.079	.136	.268	.335	.416	.594	.807	.863	.908	.958	.986	.989	.992	.994	.995	.995	.995	.995	.995	.995	.995
400	.009	.016	.034	.045	.061	.107	.215	.272	.344	.512	.742	.810	.869	.940	.981	.986	.990	.993	.995	.995	.995	.995	.995	.995	.995
450	.007	.013	.027	.036	.049	.086	.175	.224	.287	.441	.676	.754	.824	.917	.975	.982	.987	.992	.995	.995	.995	.995	.995	.995	.995
500	.006	.010	.022	.029	.040	.070	.145	.187	.242	.382	.613	.697	.776	.889	.967	.978	.984	.991	.994	.995	.995	.995	.995	.995	.995
600	.004	.007	.015	.021	.028	.050	.104	.136	.178	.291	.501	.588	.678	.824	.946	.964	.977	.988	.993	.994	.994	.994	.994	.994	.994

14Q7

Ground-burst

14Q7																									
KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00					
Adj VN	26.1	25.2	23.9	23.5	23.0	22.1	20.8	20.4	19.9	19.0	17.9	17.5	17.1	16.3	15.3	15.0	14.6	14.0	13.3	13.1					
psi	397	281	179	151	127	90	58	49	42	30	20	17	15	11	8	7	6	5	4	3					
HOB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
WR	30	41	62	72	85	117	176	205	241	329	494	574	671	908	1344	1520	1777	2394	3511	4027					
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD					
0	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996					
5	.989	.993	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996					
10	.947	.977	.990	.992	.993	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996					
15	.842	.932	.977	.984	.988	.993	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996					
20	.703	.852	.952	.968	.979	.989	.994	.994	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996					
30	.459	.651	.856	.904	.938	.974	.989	.991	.993	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996					
40	.304	.475	.724	.801	.866	.943	.980	.986	.989	.993	.995	.995	.995	.996	.996	.996	.996	.996	.996	.996					
50	.212	.350	.593	.685	.772	.894	.966	.977	.984	.991	.994	.995	.995	.996	.996	.996	.996	.996	.996	.996					
75	.103	.181	.355	.440	.537	.724	.897	.932	.956	.980	.991	.992	.994	.995	.996	.996	.996	.996	.996	.996					
100	.060	.108	.226	.290	.370	.553	.789	.853	.903	.959	.985	.989	.991	.994	.995	.995	.996	.996	.996	.996					
125	.039	.071	.153	.200	.263	.420	.669	.753	.828	.924	.975	.982	.987	.992	.994	.995	.995	.996	.996	.996					
150	.027	.050	.110	.146	.194	.323	.559	.651	.742	.875	.959	.972	.981	.990	.994	.994	.995	.995	.996	.996					
200	.015	.029	.064	.086	.116	.202	.388	.476	.574	.754	.910	.940	.961	.982	.991	.992	.994	.995	.996	.996					
250	.010	.018	.042	.056	.076	.137	.278	.350	.439	.627	.838	.890	.928	.968	.987	.990	.992	.994	.995	.995					
300	.007	.013	.029	.039	.054	.098	.205	.264	.339	.515	.755	.825	.882	.948	.981	.986	.989	.993	.995	.995					
350	.005	.009	.022	.029	.040	.073	.157	.204	.267	.424	.670	.752	.826	.921	.973	.980	.986	.991	.994	.995					
400	.004	.007	.017	.022	.031	.057	.123	.162	.214	.351	.589	.678	.764	.886	.961	.972	.981	.989	.993	.994					
450	.003	.006	.013	.018	.024	.045	.099	.131	.175	.293	.517	.608	.701	.846	.946	.962	.975	.987	.993	.994					
500	.002	.005	.011	.014	.020	.037	.082	.108	.145	.248	.453	.543	.639	.802	.928	.949	.967	.984	.992	.993					
600	.002	.003	.007	.010	.014	.026	.058	.077	.104	.182	.352	.434	.528	.709	.882	.915	.945	.975	.989	.991					

Air-burst

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00					
Adj VN	26.1	25.2	23.9	23.5	23.0	22.1	20.8	20.4	19.9	19.0	17.9	17.5	17.1	16.3	15.3	15.0	14.6	14.0	13.3	13.1					
psi	397	281	179	151	127	90	58	49	42	30	20	17	15	11	8	7	6	5	4	3					
HOB	22	29	40	46	52	67	93	105	119	153	213	240	272	348	481	558	645	872	1324	1545					
WR	42	57	84	97	113	152	225	260	302	406	598	689	800	1067	1554	1930	2154	2936	4362	5026					
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD					
0	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996					
5	.993	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996					
10	.978	.988	.993	.994	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996					
15	.936	.972	.988	.991	.992	.994	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996					
20	.862	.938	.978	.984	.988	.992	.995	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996					
30	.666	.819	.936	.957	.971	.986	.992	.993	.994	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996					
40	.491	.671	.861	.905	.937	.972	.988	.991	.992	.994	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996					
50	.363	.536	.764	.830	.885	.949	.981	.986	.990	.993	.995	.995	.995	.996	.996	.996	.996	.996	.996	.996					
75	.190	.309	.528	.617	.707	.848	.947	.964	.976	.987	.993	.994	.994	.995	.996	.996	.996	.996	.996	.996					
100	.113	.193	.362	.442	.534	.712	.894	.921	.948	.976	.989	.991	.993	.994	.995	.996	.996	.996	.996	.996					
125	.075	.130	.256	.322	.402	.579	.798	.857	.904	.957	.984	.988	.990	.993	.995	.995	.996	.996	.996	.996					
150	.053	.093	.189	.241	.307	.468	.704	.780	.846	.930	.975	.982	.987	.992	.994	.995	.995	.996	.996	.996					
200	.030	.054	.113	.146	.192	.312	.531	.619	.708	.848	.947	.964	.975	.987	.993	.994	.994	.995	.996	.996					
250	.019	.035	.074	.097	.129	.217	.399	.483	.576	.747	.901	.933	.956	.979	.990	.992	.993	.995	.996	.996					
300	.014	.024	.052	.069	.092	.158	.305	.378	.465	.644	.841	.890	.927	.967	.986	.990	.992	.994	.995	.995					
350	.010	.018	.039	.051	.069	.120	.238	.300	.377	.550	.773	.836	.888	.949	.981	.986	.990	.993	.995	.995					
400	.008	.014	.030	.040	.053	.094	.190	.242	.309	.469	.702	.777	.843	.927	.973	.982	.987	.992	.995	.995					
450	.006	.011	.024	.031	.042	.075	.155	.199	.256	.401	.633	.716	.792	.899	.964	.976	.984	.991	.994	.995					
500	.005	.009	.019	.026	.035	.061	.128	.165	.215	.344	.569	.655	.739	.866	.952	.969	.979	.989	.993	.994					
600	.003	.006	.013	.018	.024	.043	.091	.119	.157	.259	.458	.544	.635	.792	.920	.949	.967	.984	.992	.993					

Ground-burst

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj VN	28.1	27.2	25.9	25.5	25.0	24.1	22.8	22.4	21.9	21.0	19.9	19.5	19.1	18.3	17.3	17.0	16.6	16.0	15.3	15.1
psi	823	583	371	314	263	187	120	102	86	62	41	35	30	23	16	14	12	10	8	7
HOB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WR	25	34	52	61	71	98	148	172	202	275	414	480	562	759	1125	1296	1505	2002	2893	3303
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
5	.985	.991	.994	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
10	.913	.963	.986	.990	.992	.994	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
15	.762	.889	.964	.976	.983	.991	.994	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
20	.597	.776	.922	.949	.967	.984	.992	.993	.994	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
30	.359	.542	.781	.847	.899	.958	.985	.988	.991	.994	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996
40	.228	.374	.621	.710	.794	.906	.970	.979	.985	.991	.994	.995	.995	.996	.996	.996	.996	.996	.996	.996
50	.155	.266	.484	.578	.675	.833	.945	.963	.976	.988	.993	.994	.995	.995	.996	.996	.996	.996	.996	.996
75	.073	.132	.270	.343	.431	.621	.837	.889	.928	.969	.988	.990	.992	.994	.995	.996	.996	.996	.996	.996
100	.042	.077	.166	.216	.282	.446	.695	.776	.846	.933	.977	.984	.988	.992	.995	.995	.995	.996	.996	.996
125	.027	.051	.111	.147	.195	.325	.561	.654	.744	.877	.960	.973	.981	.990	.994	.994	.995	.995	.996	.996
150	.019	.035	.079	.105	.141	.243	.451	.542	.640	.807	.933	.956	.971	.985	.992	.993	.994	.995	.996	.996
200	.011	.020	.046	.061	.083	.148	.298	.374	.465	.654	.855	.902	.936	.972	.988	.991	.992	.994	.995	.995
250	.007	.013	.029	.040	.054	.099	.207	.266	.341	.518	.757	.826	.883	.949	.981	.986	.989	.993	.995	.995
300	.005	.009	.021	.028	.038	.070	.150	.196	.257	.410	.656	.740	.815	.915	.971	.979	.985	.991	.994	.995
350	.004	.007	.015	.021	.028	.052	.114	.150	.198	.328	.562	.652	.741	.872	.956	.970	.979	.988	.993	.994
400	.003	.005	.012	.016	.022	.040	.089	.118	.157	.266	.480	.571	.666	.822	.937	.957	.971	.985	.992	.993
450	.002	.004	.009	.012	.017	.032	.071	.095	.127	.219	.412	.499	.595	.767	.912	.941	.961	.981	.990	.992
500	.002	.003	.007	.010	.014	.026	.058	.078	.105	.183	.354	.436	.530	.711	.884	.921	.948	.975	.989	.991
600	.001	.002	.005	.007	.010	.018	.041	.055	.074	.132	.267	.337	.421	.604	.816	.871	.913	.960	.984	.988

16Q7

16Q7

Air-burst

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj VN	28.1	27.2	25.9	25.5	25.0	24.1	22.8	22.4	21.9	21.0	19.9	19.5	19.1	18.3	17.3	17.0	16.6	16.0	15.3	15.1
psi	823	583	371	314	263	187	120	102	86	62	41	35	30	23	16	14	12	10	8	7
HOB	21	28	39	44	50	64	89	101	114	147	204	230	262	335	463	522	592	754	1037	1165
WR	37	49	73	84	98	132	195	225	262	352	519	597	693	925	1346	1543	1780	2343	3346	3805
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
5	.992	.994	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
10	.969	.985	.992	.993	.994	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
15	.907	.959	.984	.988	.991	.993	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
20	.806	.909	.969	.978	.985	.991	.994	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
30	.582	.753	.905	.936	.958	.980	.991	.992	.993	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
40	.410	.587	.804	.862	.908	.959	.984	.988	.991	.993	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996
50	.295	.452	.688	.766	.835	.925	.974	.981	.986	.992	.994	.995	.995	.996	.996	.996	.996	.996	.996	.996
75	.149	.247	.444	.531	.624	.788	.922	.947	.965	.983	.991	.993	.994	.995	.996	.996	.996	.996	.996	.996
100	.088	.151	.293	.364	.449	.629	.833	.884	.923	.966	.986	.989	.991	.994	.995	.995	.996	.996	.996	.996
125	.057	.100	.203	.258	.328	.493	.727	.799	.861	.937	.977	.984	.988	.992	.994	.995	.995	.996	.996	.996
150	.040	.071	.147	.190	.246	.387	.621	.705	.784	.896	.964	.975	.982	.990	.994	.994	.995	.995	.996	.996
200	.023	.041	.087	.113	.150	.249	.446	.532	.625	.788	.921	.946	.964	.982	.991	.993	.994	.995	.995	.996
250	.015	.026	.057	.075	.100	.170	.325	.400	.489	.668	.856	.901	.934	.970	.987	.990	.992	.994	.995	.995
300	.010	.018	.040	.053	.071	.123	.243	.306	.384	.557	.779	.841	.892	.951	.981	.986	.989	.993	.995	.995
350	.008	.014	.030	.039	.053	.092	.188	.239	.305	.464	.697	.772	.839	.925	.973	.980	.986	.991	.994	.994
400	.006	.010	.023	.030	.041	.072	.148	.191	.246	.387	.618	.702	.780	.892	.961	.973	.981	.989	.993	.994
450	.005	.008	.018	.024	.032	.057	.120	.155	.202	.326	.546	.632	.719	.853	.947	.963	.975	.986	.992	.993
500	.004	.007	.015	.019	.026	.047	.099	.128	.168	.277	.482	.568	.659	.810	.929	.951	.967	.983	.991	.992
600	.003	.005	.010	.014	.018	.033	.070	.092	.121	.205	.377	.457	.548	.719	.883	.919	.945	.974	.988	.990

17Q9

Ground-burst

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj YN	30.1	29.2	27.9	27.5	27.0	26.0	24.8	24.3	23.9	22.9	21.7	21.2	20.8	19.9	18.7	18.3	17.8	17.0	16.0	15.6
psi	1720	1217	771	652	546	386	245	207	174	124	79	67	56	41	26	23	19	14	10	9
HOB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WR	21	29	44	51	60	82	124	145	170	233	352	410	482	659	992	1153	1350	1832	2727	3150
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
5	.978	.989	.993	.994	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
10	.860	.940	.980	.986	.989	.993	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
15	.662	.825	.942	.962	.975	.987	.993	.994	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
20	.487	.679	.873	.916	.946	.977	.990	.992	.993	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
30	.272	.434	.685	.768	.841	.931	.977	.984	.988	.993	.995	.995	.995	.996	.996	.996	.996	.996	.996	.996
40	.168	.285	.511	.605	.701	.851	.952	.968	.979	.989	.993	.994	.995	.995	.996	.996	.996	.996	.996	.996
50	.112	.197	.381	.469	.568	.751	.911	.941	.962	.983	.992	.993	.994	.995	.996	.996	.996	.996	.996	.996
75	.052	.095	.201	.259	.334	.512	.757	.828	.886	.952	.983	.988	.990	.993	.995	.995	.996	.996	.996	.996
100	.030	.055	.120	.159	.211	.348	.592	.683	.771	.894	.966	.977	.984	.991	.994	.995	.995	.996	.996	.996
125	.019	.036	.080	.106	.142	.246	.456	.548	.647	.813	.937	.959	.973	.987	.993	.994	.994	.995	.996	.996
150	.013	.025	.056	.075	.102	.180	.354	.438	.536	.723	.896	.932	.956	.980	.991	.992	.994	.995	.996	.996
200	.008	.014	.032	.043	.059	.107	.225	.288	.368	.552	.788	.852	.903	.959	.985	.989	.991	.994	.995	.995
250	.005	.009	.021	.028	.038	.071	.153	.200	.261	.419	.668	.753	.828	.924	.975	.982	.987	.992	.995	.995
300	.003	.006	.014	.020	.027	.050	.110	.145	.193	.322	.558	.651	.742	.876	.960	.973	.981	.990	.994	.994
350	.002	.005	.011	.014	.020	.037	.082	.109	.147	.252	.464	.557	.655	.818	.938	.959	.973	.986	.993	.994
400	.002	.004	.008	.011	.015	.028	.064	.085	.115	.202	.388	.475	.573	.754	.910	.941	.962	.982	.991	.993
450	.001	.003	.006	.009	.012	.023	.051	.068	.093	.164	.326	.407	.501	.690	.877	.918	.947	.976	.990	.992
500	.001	.002	.005	.007	.010	.018	.041	.056	.076	.136	.277	.350	.439	.628	.840	.891	.929	.969	.987	.990
600	.001	.002	.004	.005	.007	.013	.029	.039	.054	.097	.205	.264	.339	.516	.757	.826	.884	.950	.982	.986

Air-burst

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj YN	30.1	29.2	27.9	27.5	27.0	26.0	24.8	24.3	23.9	22.9	21.7	21.2	20.8	19.9	18.7	18.3	17.8	17.0	16.0	15.6
psi	1720	1217	771	652	546	386	245	207	174	124	79	67	56	41	26	23	19	14	10	9
HOB	20	26	37	42	47	61	85	96	110	141	197	222	253	324	451	509	578	740	1024	1154
WR	32	43	63	73	85	115	170	197	229	308	456	527	614	825	1217	1403	1631	2181	3189	3662
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
5	.990	.993	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
10	.955	.979	.990	.992	.993	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
15	.865	.940	.978	.984	.988	.992	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
20	.738	.869	.955	.969	.979	.989	.993	.994	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
30	.497	.677	.863	.907	.939	.972	.988	.991	.992	.994	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996
40	.335	.502	.735	.805	.866	.940	.979	.985	.988	.993	.995	.995	.995	.996	.996	.996	.996	.996	.996	.996
50	.235	.373	.605	.691	.773	.890	.963	.974	.982	.990	.994	.994	.995	.995	.996	.996	.996	.996	.996	.996
75	.115	.196	.366	.446	.539	.716	.886	.923	.950	.977	.990	.992	.993	.995	.995	.995	.995	.996	.996	.996
100	.067	.117	.233	.295	.371	.544	.771	.836	.889	.951	.982	.987	.990	.993	.995	.995	.995	.996	.996	.996
125	.044	.077	.159	.204	.263	.411	.648	.730	.806	.909	.969	.978	.985	.991	.994	.995	.995	.996	.996	.996
150	.031	.055	.114	.148	.194	.316	.536	.625	.714	.853	.949	.966	.977	.988	.993	.994	.994	.995	.996	.996
200	.017	.031	.067	.087	.116	.197	.369	.450	.542	.719	.888	.924	.950	.977	.990	.992	.993	.995	.995	.996
250	.011	.020	.043	.057	.077	.133	.262	.328	.409	.588	.804	.862	.908	.950	.984	.988	.991	.993	.995	.995
300	.008	.014	.030	.040	.054	.095	.193	.246	.314	.476	.712	.786	.851	.933	.976	.983	.987	.992	.994	.995
350	.006	.010	.022	.030	.040	.071	.147	.190	.246	.387	.622	.706	.786	.897	.965	.975	.983	.990	.994	.994
400	.004	.008	.017	.023	.031	.055	.115	.150	.196	.318	.540	.628	.717	.854	.949	.965	.976	.987	.993	.994
450	.003	.006	.014	.018	.025	.044	.093	.121	.160	.265	.468	.556	.649	.806	.929	.952	.968	.984	.992	.993
500	.003	.005	.011	.015	.020	.036	.076	.100	.132	.222	.407	.491	.585	.755	.906	.936	.958	.980	.990	.992
600	.002	.004	.008	.010	.014	.025	.054	.071	.094	.162	.312	.385	.473	.654	.848	.895	.930	.969	.987	.990

17Q9

18Q7

Ground-burst

18Q7

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj VN	30.1	29.2	27.9	27.5	27.0	26.1	24.8	24.4	23.9	23.0	21.9	21.5	21.1	20.3	19.3	19.0	18.6	18.0	17.3	17.1
psi	1706	1209	768	650	546	388	249	212	179	129	85	73	63	47	33	29	26	21	16	15
HOB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WR	21	29	44	51	60	82	124	144	169	230	346	402	470	636	941	1085	1260	1676	2421	2764
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.995	.996	.996	.996	.996	.996
5	.978	.989	.993	.994	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
10	.860	.940	.980	.986	.989	.993	.995	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
15	.664	.825	.942	.962	.975	.987	.993	.994	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
20	.488	.680	.873	.916	.946	.977	.990	.992	.993	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
30	.273	.435	.686	.768	.841	.931	.977	.984	.988	.992	.995	.995	.995	.996	.996	.996	.996	.996	.996	.996
40	.168	.286	.512	.605	.701	.851	.951	.968	.978	.989	.993	.994	.995	.995	.996	.996	.996	.996	.996	.996
50	.112	.197	.382	.469	.568	.750	.910	.941	.962	.982	.991	.993	.994	.995	.996	.996	.996	.996	.996	.996
75	.052	.095	.201	.260	.334	.512	.755	.826	.884	.950	.982	.987	.990	.993	.995	.995	.995	.996	.996	.996
100	.030	.055	.121	.159	.211	.348	.589	.680	.767	.891	.964	.976	.983	.990	.994	.994	.995	.995	.996	.996
125	.019	.036	.080	.106	.142	.245	.453	.545	.643	.809	.934	.956	.971	.986	.992	.993	.994	.995	.996	.996
150	.013	.025	.056	.075	.102	.180	.352	.435	.532	.717	.891	.927	.953	.979	.990	.992	.993	.995	.995	.996
200	.008	.014	.032	.043	.059	.107	.223	.286	.365	.546	.780	.844	.896	.955	.983	.987	.990	.993	.995	.995
250	.005	.009	.021	.028	.038	.070	.152	.198	.259	.413	.658	.742	.817	.916	.971	.980	.985	.991	.994	.995
300	.003	.006	.014	.020	.027	.050	.109	.143	.190	.317	.547	.638	.728	.864	.953	.968	.978	.988	.993	.994
350	.002	.005	.011	.014	.020	.037	.082	.108	.145	.248	.454	.544	.639	.802	.928	.952	.968	.984	.991	.993
400	.002	.004	.008	.011	.015	.028	.063	.084	.114	.198	.378	.463	.558	.736	.887	.930	.954	.978	.990	.991
450	.002	.003	.006	.009	.012	.022	.050	.068	.091	.161	.318	.395	.486	.669	.859	.903	.936	.970	.987	.990
500	.001	.002	.005	.007	.010	.018	.041	.055	.075	.133	.269	.339	.424	.606	.818	.872	.914	.961	.984	.988
600	.001	.002	.004	.005	.007	.013	.029	.039	.053	.095	.199	.255	.326	.495	.729	.800	.861	.935	.976	.982

Air-burst

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj VN	30.1	29.2	27.9	27.5	27.0	26.1	24.8	24.4	23.9	23.0	21.9	21.5	21.1	20.3	19.3	19.0	18.6	18.0	17.3	17.1
psi	1706	1209	768	650	546	388	249	212	179	129	85	73	63	47	33	29	26	21	16	15
HOB	20	26	37	42	47	61	85	96	110	141	196	221	251	322	445	502	569	725	998	1122
WR	32	43	63	73	85	115	170	196	228	306	450	518	601	802	1167	1337	1543	2031	2898	3296
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
5	.990	.993	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
10	.955	.979	.990	.992	.993	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
15	.866	.940	.978	.984	.988	.992	.995	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
20	.738	.868	.955	.969	.979	.989	.993	.994	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
30	.498	.677	.864	.907	.939	.972	.988	.991	.992	.994	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996
40	.336	.503	.735	.806	.866	.940	.979	.984	.988	.992	.995	.995	.995	.996	.996	.996	.996	.996	.996	.996
50	.236	.374	.606	.691	.773	.890	.962	.974	.982	.990	.994	.994	.995	.995	.996	.996	.996	.996	.996	.996
75	.116	.196	.366	.447	.539	.715	.885	.922	.949	.976	.989	.991	.993	.994	.995	.996	.996	.996	.996	.996
100	.067	.117	.234	.295	.371	.544	.770	.834	.887	.950	.981	.986	.989	.993	.995	.995	.995	.996	.996	.996
125	.044	.077	.159	.204	.263	.411	.546	.728	.804	.907	.968	.977	.984	.990	.994	.994	.995	.995	.996	.996
150	.031	.055	.114	.149	.194	.315	.534	.622	.711	.850	.947	.964	.975	.987	.993	.994	.994	.995	.996	.996
200	.017	.031	.067	.088	.116	.197	.367	.447	.539	.715	.884	.920	.947	.975	.989	.991	.993	.994	.995	.995
250	.011	.020	.043	.057	.077	.133	.261	.326	.406	.582	.798	.856	.903	.956	.983	.987	.990	.993	.995	.995
300	.008	.014	.030	.040	.054	.095	.192	.244	.311	.471	.704	.778	.844	.927	.974	.981	.986	.991	.994	.995
350	.006	.010	.022	.030	.040	.071	.146	.188	.243	.383	.613	.697	.776	.889	.960	.972	.980	.989	.993	.994
400	.004	.008	.017	.023	.031	.055	.115	.149	.194	.314	.531	.618	.705	.844	.943	.961	.973	.986	.992	.993
450	.003	.006	.014	.018	.025	.044	.092	.120	.158	.261	.460	.545	.637	.793	.921	.946	.963	.981	.990	.992
500	.003	.005	.011	.015	.020	.036	.076	.099	.131	.219	.399	.481	.572	.741	.894	.927	.951	.976	.989	.991
600	.002	.004	.008	.010	.014	.025	.053	.070	.093	.160	.305	.377	.461	.637	.832	.881	.919	.962	.984	.988

18Q7

18Q9

Ground-burst

18Q9

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj YN	31.1	30.2	28.9	28.5	28.0	27.0	25.8	25.3	24.9	23.9	22.7	22.2	21.8	20.9	19.7	19.3	18.8	18.0	17.0	16.6
psi	2477	1753	1110	938	786	556	353	299	250	178	114	97	81	58	38	33	28	21	14	12
HOB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WR	19	26	40	46	55	75	114	132	156	213	322	375	441	602	908	1054	1235	1676	2494	2882
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
5	.972	.986	.993	.994	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
10	.825	.923	.975	.983	.987	.992	.995	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
15	.609	.785	.926	.951	.969	.985	.992	.994	.994	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
20	.435	.626	.841	.893	.931	.971	.988	.991	.993	.994	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996
30	.236	.384	.633	.721	.803	.912	.972	.980	.986	.992	.994	.995	.995	.996	.996	.996	.996	.996	.996	.996
40	.143	.247	.458	.550	.649	.815	.938	.959	.973	.987	.993	.994	.995	.995	.996	.996	.996	.996	.996	.996
50	.095	.169	.335	.417	.513	.703	.886	.925	.952	.979	.991	.992	.994	.995	.996	.996	.996	.996	.996	.996
75	.044	.080	.172	.224	.291	.459	.709	.788	.856	.938	.979	.985	.989	.993	.995	.995	.995	.996	.996	.996
100	.025	.046	.102	.135	.181	.304	.537	.630	.724	.866	.957	.971	.980	.989	.994	.994	.995	.995	.996	.996
125	.016	.030	.067	.090	.121	.212	.405	.494	.593	.772	.920	.947	.966	.984	.992	.993	.994	.995	.996	.996
150	.011	.021	.047	.064	.086	.154	.310	.388	.482	.673	.869	.913	.944	.976	.990	.992	.993	.995	.995	.996
200	.006	.012	.027	.036	.050	.091	.193	.250	.323	.498	.743	.817	.877	.948	.982	.987	.990	.993	.995	.995
250	.004	.008	.017	.024	.032	.060	.130	.171	.226	.370	.615	.705	.788	.903	.968	.978	.985	.991	.994	.995
300	.003	.005	.012	.016	.023	.042	.093	.123	.165	.280	.503	.597	.693	.844	.948	.966	.977	.988	.993	.994
350	.002	.004	.009	.012	.017	.031	.069	.093	.125	.218	.413	.502	.601	.777	.921	.948	.966	.984	.992	.993
400	.002	.003	.007	.009	.013	.024	.054	.072	.098	.173	.341	.423	.519	.706	.886	.924	.951	.978	.990	.992
450	.001	.002	.005	.007	.010	.019	.043	.058	.078	.140	.284	.358	.448	.638	.846	.895	.932	.970	.988	.990
500	.001	.002	.004	.006	.008	.015	.035	.047	.064	.116	.240	.306	.388	.573	.802	.862	.909	.961	.985	.989
600	.001	.001	.003	.004	.006	.011	.024	.033	.045	.082	.176	.228	.296	.462	.709	.787	.854	.935	.978	.984

Air-burst

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj YN	31.1	30.2	28.9	28.5	28.0	27.0	25.8	25.3	24.9	23.9	22.7	22.2	21.8	20.9	19.7	19.3	18.8	18.0	17.0	16.6
psi	2477	1753	1110	938	786	556	353	299	250	178	114	97	81	58	38	33	28	21	14	12
HOB	20	26	36	41	46	60	83	94	107	138	193	217	247	318	442	498	566	725	1005	1132
WR	30	40	59	68	80	107	159	183	214	287	425	491	572	768	1133	1307	1519	2031	2968	3408
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
5	.989	.993	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
10	.946	.975	.989	.991	.993	.994	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
15	.840	.927	.975	.982	.987	.992	.994	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
20	.700	.843	.945	.963	.975	.987	.993	.994	.994	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
30	.456	.636	.838	.888	.926	.967	.987	.990	.992	.994	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996
40	.302	.461	.697	.773	.841	.928	.975	.982	.987	.992	.994	.995	.995	.996	.996	.996	.996	.996	.996	.996
50	.210	.337	.563	.651	.737	.868	.955	.969	.979	.989	.993	.994	.995	.995	.996	.996	.996	.996	.996	.996
75	.102	.174	.330	.407	.496	.676	.863	.907	.939	.972	.988	.991	.992	.994	.995	.996	.996	.996	.996	.996
100	.059	.103	.208	.264	.335	.502	.735	.806	.857	.940	.979	.985	.988	.992	.995	.996	.995	.996	.996	.996
125	.038	.068	.140	.181	.235	.373	.605	.691	.773	.890	.962	.974	.982	.990	.994	.994	.995	.995	.996	.996
150	.027	.048	.101	.131	.172	.283	.494	.582	.674	.825	.938	.958	.972	.986	.992	.993	.994	.995	.996	.996
200	.015	.027	.058	.077	.102	.175	.333	.410	.499	.679	.865	.908	.939	.973	.988	.991	.992	.994	.995	.996
250	.010	.018	.038	.050	.067	.117	.233	.295	.371	.544	.771	.835	.888	.950	.982	.986	.990	.993	.995	.995
300	.007	.012	.027	.035	.047	.083	.171	.219	.281	.435	.671	.751	.823	.918	.972	.980	.985	.991	.994	.995
350	.005	.009	.020	.026	.035	.062	.130	.168	.218	.350	.578	.665	.750	.876	.957	.971	.980	.989	.993	.994
400	.004	.007	.015	.020	.027	.048	.101	.132	.174	.285	.497	.585	.675	.826	.938	.958	.972	.986	.992	.993
450	.003	.005	.012	.016	.021	.038	.081	.107	.141	.236	.427	.512	.606	.773	.914	.942	.962	.981	.991	.992
500	.002	.004	.010	.013	.017	.031	.067	.088	.116	.197	.369	.449	.541	.718	.886	.922	.949	.976	.989	.991
600	.002	.003	.007	.009	.012	.022	.047	.062	.083	.143	.279	.348	.432	.611	.819	.873	.915	.962	.985	.988

20Q7

Ground-burst

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj YN	32.1	31.2	29.9	29.5	29.0	28.1	26.8	26.4	25.9	25.0	23.9	23.5	23.1	22.3	21.3	21.0	20.6	20.0	19.3	19.1
psi	3539	2508	1593	1348	1131	806	517	440	371	268	176	152	130	97	68	60	53	43	33	30
HOB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WR	18	24	36	42	50	68	103	120	141	193	290	336	393	532	788	908	1054	1402	2026	2313
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
5	.965	.984	.992	.993	.994	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
10	.786	.903	.969	.979	.985	.991	.994	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
15	.555	.741	.905	.938	.960	.982	.991	.993	.994	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
20	.386	.572	.804	.865	.912	.963	.986	.989	.992	.994	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996
30	.204	.338	.579	.671	.760	.887	.964	.975	.983	.990	.994	.995	.995	.996	.996	.996	.996	.996	.996	.996
40	.122	.213	.407	.496	.595	.773	.920	.947	.966	.984	.992	.993	.994	.995	.996	.996	.996	.996	.996	.996
50	.081	.144	.292	.368	.459	.650	.855	.903	.938	.973	.989	.991	.993	.994	.995	.996	.996	.996	.996	.996
75	.037	.068	.147	.193	.253	.407	.655	.741	.818	.919	.973	.981	.986	.992	.994	.995	.995	.996	.996	.996
100	.021	.039	.087	.115	.154	.264	.480	.573	.670	.828	.942	.961	.974	.987	.993	.994	.994	.995	.996	.996
125	.014	.025	.057	.076	.103	.181	.354	.438	.534	.719	.892	.928	.954	.979	.990	.992	.993	.995	.995	.996
150	.009	.018	.040	.054	.073	.131	.267	.338	.425	.613	.829	.882	.923	.966	.986	.990	.992	.994	.995	.996
200	.005	.010	.023	.031	.042	.077	.164	.214	.278	.438	.684	.765	.836	.926	.974	.982	.987	.992	.994	.995
250	.003	.006	.015	.020	.027	.050	.110	.145	.192	.319	.550	.640	.730	.865	.954	.968	.978	.988	.993	.994
300	.002	.004	.010	.014	.019	.035	.078	.104	.139	.238	.440	.529	.625	.791	.923	.948	.966	.983	.991	.993
350	.002	.003	.007	.010	.014	.026	.058	.078	.105	.183	.355	.437	.530	.711	.884	.921	.948	.975	.989	.991
400	.001	.003	.006	.008	.011	.020	.045	.060	.082	.145	.289	.362	.450	.634	.837	.886	.924	.965	.985	.989
450	.001	.002	.005	.006	.008	.016	.036	.048	.065	.117	.239	.304	.383	.562	.785	.846	.895	.952	.981	.986
500	.001	.002	.004	.005	.007	.013	.029	.039	.053	.096	.200	.257	.328	.497	.731	.802	.862	.936	.976	.982
600	.001	.001	.003	.003	.005	.009	.020	.027	.037	.068	.145	.189	.246	.391	.626	.709	.787	.895	.962	.973

Air-burst

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj YN	32.1	31.2	29.9	29.5	29.0	28.1	26.8	26.4	25.9	25.0	23.9	23.5	23.1	22.3	21.3	21.0	20.6	20.0	19.3	19.1
psi	3539	2508	1593	1348	1131	806	517	440	371	268	176	152	130	97	68	60	53	43	33	30
HOB	19	25	35	40	45	58	81	92	105	135	187	212	241	308	427	482	546	697	959	1078
WR	28	37	55	64	74	100	148	170	198	266	391	450	522	696	1012	1160	1338	1760	2512	2856
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
5	.988	.992	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
10	.935	.971	.988	.990	.992	.994	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
15	.812	.912	.970	.979	.985	.991	.994	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
20	.662	.816	.934	.955	.970	.985	.992	.993	.994	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
30	.417	.595	.809	.866	.910	.960	.985	.988	.991	.994	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996
40	.272	.422	.657	.738	.812	.912	.970	.979	.985	.991	.994	.995	.995	.996	.996	.996	.996	.996	.996	.996
50	.187	.305	.521	.609	.699	.842	.945	.963	.975	.987	.993	.994	.994	.995	.996	.996	.996	.996	.996	.996
75	.090	.154	.298	.369	.455	.635	.836	.886	.925	.966	.986	.989	.991	.994	.995	.995	.996	.996	.996	.996
100	.052	.091	.185	.236	.301	.459	.695	.771	.839	.926	.974	.981	.986	.991	.994	.995	.995	.996	.996	.996
125	.034	.060	.124	.161	.209	.336	.561	.648	.734	.865	.953	.968	.978	.988	.993	.994	.994	.995	.996	.996
150	.024	.042	.089	.116	.152	.253	.450	.536	.629	.790	.922	.947	.965	.983	.991	.993	.994	.995	.995	.996
200	.013	.024	.051	.067	.090	.154	.288	.369	.454	.633	.833	.883	.922	.965	.985	.989	.991	.993	.995	.995
250	.009	.015	.033	.044	.059	.103	.207	.262	.332	.496	.727	.798	.859	.935	.976	.983	.987	.992	.994	.995
300	.006	.011	.023	.031	.041	.073	.150	.193	.249	.390	.621	.704	.782	.893	.962	.973	.981	.989	.993	.994
350	.004	.008	.017	.023	.031	.054	.114	.147	.192	.311	.526	.613	.701	.840	.941	.960	.972	.985	.992	.993
400	.003	.006	.013	.017	.024	.042	.089	.115	.152	.251	.446	.531	.622	.782	.915	.942	.961	.980	.990	.992
450	.003	.005	.010	.014	.019	.033	.071	.093	.123	.207	.380	.460	.550	.721	.883	.919	.946	.974	.988	.990
500	.002	.004	.008	.011	.015	.027	.058	.076	.101	.172	.325	.399	.486	.661	.847	.893	.927	.966	.985	.988
600	.001	.003	.006	.008	.011	.019	.041	.054	.072	.124	.244	.305	.381	.550	.767	.829	.881	.944	.978	.983

20Q8

Ground-burst

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj YN	32.7	31.7	30.5	30.0	29.5	28.6	27.4	26.9	26.4	25.5	24.3	23.9	23.4	22.6	21.5	21.1	20.7	20.0	19.1	18.9
psi	4313	3053	1936	1638	1373	974	621	526	443	317	205	175	148	109	73	64	55	43	31	28
HOB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WR	17	23	35	41	48	65	99	115	135	185	279	325	381	518	774	895	1044	1402	2054	2358
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
5	.961	.982	.991	.993	.994	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
10	.762	.889	.965	.976	.984	.991	.994	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
15	.526	.715	.892	.929	.955	.980	.991	.992	.994	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
20	.360	.543	.782	.848	.900	.958	.985	.989	.991	.994	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996
30	.187	.314	.550	.643	.736	.873	.959	.973	.981	.990	.994	.994	.995	.996	.996	.996	.996	.996	.996	.996
40	.112	.196	.380	.468	.566	.750	.910	.941	.962	.982	.992	.993	.994	.995	.996	.996	.996	.996	.996	.995
50	.074	.132	.271	.343	.432	.623	.838	.891	.930	.970	.988	.991	.992	.994	.995	.996	.996	.996	.996	.996
75	.034	.062	.135	.177	.234	.381	.629	.717	.799	.909	.970	.980	.986	.991	.994	.995	.995	.996	.996	.996
100	.019	.036	.079	.106	.142	.245	.454	.546	.644	.810	.935	.957	.972	.986	.993	.994	.994	.995	.996	.996
125	.012	.023	.052	.069	.094	.167	.331	.413	.508	.697	.881	.921	.949	.977	.990	.992	.993	.995	.995	.996
150	.009	.016	.036	.049	.067	.120	.249	.317	.401	.588	.813	.871	.916	.964	.986	.989	.991	.994	.995	.995
200	.005	.009	.021	.028	.038	.070	.152	.198	.259	.415	.663	.747	.823	.920	.973	.981	.986	.992	.994	.995
250	.003	.006	.013	.018	.025	.046	.101	.134	.178	.299	.527	.619	.712	.856	.951	.967	.978	.988	.993	.994
300	.002	.004	.009	.013	.017	.032	.072	.095	.129	.223	.418	.507	.605	.778	.920	.946	.965	.983	.991	.993
350	.002	.003	.007	.009	.013	.024	.053	.071	.097	.171	.336	.416	.511	.696	.878	.918	.946	.975	.989	.991
400	.001	.002	.005	.007	.010	.018	.041	.055	.075	.134	.273	.344	.431	.617	.829	.882	.922	.965	.986	.989
450	.001	.002	.004	.006	.008	.014	.033	.044	.060	.108	.225	.287	.366	.545	.776	.841	.893	.952	.982	.986
500	.001	.001	.003	.005	.006	.012	.027	.036	.049	.089	.188	.242	.312	.481	.721	.796	.859	.936	.977	.983
600	.001	.001	.002	.003	.004	.008	.019	.025	.034	.063	.136	.178	.233	.376	.615	.701	.782	.895	.963	.974

Air-burst

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00
Adj YN	32.7	31.7	30.5	30.0	29.5	28.6	27.4	26.9	26.4	25.5	24.3	23.9	23.4	22.6	21.5	21.1	20.7	20.0	19.1	18.9
psi	4313	3053	1936	1638	1373	974	621	526	443	317	205	175	148	109	73	64	55	43	31	28
HOB	19	25	34	39	45	57	80	91	103	133	186	210	239	306	426	480	545	697	962	1083
WR	27	36	53	62	72	96	142	164	191	257	379	438	509	681	998	1147	1328	1760	2540	2900
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD
0	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
5	.987	.992	.994	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
10	.928	.968	.987	.990	.992	.994	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
15	.796	.903	.967	.977	.984	.990	.994	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996
20	.640	.799	.927	.951	.967	.984	.992	.993	.994	.995	.996	.996	.996	.996	.996	.995	.996	.996	.996	.996
30	.397	.573	.792	.853	.901	.956	.983	.988	.990	.993	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996
40	.256	.401	.635	.719	.796	.903	.967	.977	.984	.990	.994	.995	.995	.996	.996	.996	.996	.996	.996	.996
50	.176	.288	.499	.587	.678	.828	.939	.959	.972	.986	.992	.993	.994	.995	.996	.996	.996	.996	.996	.996
75	.084	.145	.281	.350	.434	.613	.822	.875	.917	.963	.985	.989	.991	.994	.995	.995	.996	.996	.996	.996
100	.048	.085	.173	.222	.285	.438	.675	.754	.825	.919	.972	.980	.986	.991	.994	.995	.995	.996	.996	.996
125	.031	.056	.116	.151	.197	.319	.539	.627	.716	.853	.949	.965	.976	.987	.993	.994	.994	.995	.996	.996
150	.022	.039	.083	.108	.143	.238	.430	.515	.609	.775	.915	.943	.962	.982	.991	.992	.994	.995	.996	.996
200	.012	.022	.048	.063	.084	.145	.282	.351	.434	.613	.821	.875	.916	.963	.985	.989	.991	.993	.995	.995
250	.008	.014	.031	.041	.055	.096	.195	.248	.315	.477	.711	.785	.849	.931	.975	.982	.987	.992	.994	.995
300	.006	.010	.022	.029	.039	.068	.141	.182	.236	.373	.603	.688	.769	.886	.960	.972	.981	.989	.993	.994
350	.004	.007	.016	.021	.029	.051	.106	.138	.181	.296	.509	.596	.686	.832	.939	.958	.972	.985	.992	.993
400	.003	.006	.012	.016	.022	.039	.083	.108	.143	.238	.429	.514	.607	.771	.912	.940	.960	.980	.990	.992
450	.002	.004	.010	.013	.017	.031	.066	.087	.115	.195	.364	.444	.534	.709	.879	.917	.945	.974	.988	.991
500	.002	.004	.008	.010	.014	.025	.054	.071	.095	.163	.311	.384	.470	.648	.842	.889	.926	.966	.986	.989
600	.001	.003	.005	.007	.010	.018	.038	.050	.067	.117	.232	.292	.367	.537	.760	.824	.878	.944	.978	.984

20Q8

20Q9

Ground-burst

20Q9																										
KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00						
Adj VN	33.1	32.2	30.9	30.5	30.0	29.0	27.8	27.3	26.9	25.9	24.7	24.2	23.8	22.9	21.7	21.3	20.8	20.0	19.0	18.6						
psi	5137	3634	2301	1946	1629	1153	732	619	519	369	236	200	169	121	79	68	58	43	29	26						
HOB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
WR	16	22	33	39	46	63	95	111	130	178	270	314	369	504	760	882	1034	1402	2087	2411						
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD						
0	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996						
5	.956	.980	.991	.993	.994	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996						
10	.740	.876	.960	.973	.982	.990	.994	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996						
15	.500	.691	.880	.920	.949	.978	.990	.992	.993	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996						
20	.338	.517	.761	.831	.888	.953	.983	.988	.991	.994	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996						
30	.174	.294	.524	.618	.713	.859	.954	.970	.980	.989	.994	.994	.995	.995	.996	.996	.996	.996	.996	.996						
40	.103	.183	.358	.443	.541	.728	.899	.934	.958	.981	.991	.993	.994	.995	.996	.996	.996	.996	.996	.996						
50	.068	.123	.253	.322	.408	.597	.822	.879	.922	.967	.987	.990	.992	.994	.995	.996	.996	.996	.996	.996						
75	.031	.057	.125	.165	.218	.359	.604	.695	.781	.899	.968	.978	.985	.991	.994	.995	.995	.996	.996	.996						
100	.018	.033	.073	.098	.132	.228	.430	.521	.621	.793	.929	.953	.970	.985	.992	.994	.994	.995	.996	.996						
125	.011	.021	.048	.064	.087	.155	.312	.391	.484	.675	.870	.914	.945	.976	.990	.992	.993	.995	.995	.996						
150	.008	.015	.033	.045	.062	.112	.233	.298	.379	.565	.798	.860	.908	.961	.985	.989	.991	.994	.995	.995						
200	.004	.008	.019	.026	.035	.065	.141	.185	.243	.394	.642	.730	.809	.914	.972	.980	.986	.992	.994	.995						
250	.003	.005	.012	.017	.023	.042	.094	.124	.166	.282	.506	.599	.695	.846	.949	.966	.977	.988	.993	.994						
300	.002	.004	.009	.012	.016	.030	.066	.089	.120	.209	.399	.488	.586	.765	.915	.944	.964	.983	.991	.993						
350	.001	.003	.006	.008	.012	.022	.049	.066	.090	.160	.319	.398	.492	.681	.872	.914	.945	.975	.989	.991						
400	.001	.002	.005	.007	.009	.017	.038	.051	.070	.126	.258	.328	.413	.601	.822	.877	.920	.965	.986	.989						
450	.001	.002	.004	.005	.007	.013	.030	.041	.056	.101	.212	.273	.350	.529	.767	.835	.890	.952	.983	.987						
500	.001	.001	.003	.004	.006	.011	.025	.033	.046	.083	.177	.230	.298	.465	.711	.789	.855	.936	.978	.984						
600		.001	.002	.003	.004	.008	.017	.023	.032	.059	.128	.168	.221	.362	.604	.693	.777	.895	.965	.976						

Air-burst

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00						
Adj VN	33.1	32.2	30.9	30.5	30.0	29.0	27.8	27.3	26.9	25.9	24.7	24.2	23.8	22.9	21.7	21.3	20.8	20.0	19.0	18.6						
psi	5137	3634	2301	1946	1629	1153	732	619	519	369	236	200	169	121	79	68	58	43	29	26						
HOB	19	24	34	39	44	57	79	90	102	132	194	208	237	304	424	478	544	697	966	1088						
WR	26	35	52	60	69	93	138	159	186	250	369	426	496	667	983	1133	1317	1769	2573	2953						
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD						
0	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996						
5	.986	.992	.994	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996						
10	.921	.965	.986	.989	.991	.994	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996						
15	.781	.894	.954	.975	.982	.990	.994	.995	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996						
20	.620	.794	.920	.946	.964	.983	.991	.993	.994	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996						
30	.379	.553	.777	.840	.892	.952	.982	.987	.990	.993	.995	.995	.995	.996	.996	.996	.996	.996	.996	.996						
40	.243	.383	.616	.701	.781	.894	.964	.975	.983	.990	.994	.994	.995	.995	.996	.996	.996	.996	.996	.996						
50	.166	.273	.479	.567	.659	.814	.933	.955	.970	.985	.992	.993	.994	.995	.996	.996	.996	.996	.996	.996						
75	.079	.136	.267	.334	.415	.593	.808	.865	.910	.960	.985	.988	.991	.994	.995	.995	.996	.996	.996	.996						
100	.045	.080	.164	.210	.270	.420	.656	.738	.812	.912	.970	.979	.985	.991	.994	.995	.995	.996	.996	.996						
125	.029	.052	.109	.142	.186	.303	.520	.608	.699	.842	.945	.963	.975	.987	.993	.994	.994	.995	.996	.996						
150	.021	.037	.078	.102	.135	.226	.412	.497	.590	.760	.909	.939	.960	.981	.991	.992	.993	.995	.996	.996						
200	.012	.021	.045	.059	.079	.137	.268	.335	.447	.595	.810	.866	.911	.960	.985	.988	.991	.993	.995	.995						
250	.007	.013	.029	.038	.052	.091	.184	.235	.301	.459	.696	.772	.840	.927	.974	.982	.987	.992	.994	.995						
300	.005	.009	.020	.027	.036	.064	.133	.172	.224	.357	.597	.673	.757	.880	.958	.972	.980	.989	.993	.994						
350	.004	.007	.015	.020	.027	.048	.100	.131	.172	.282	.492	.580	.672	.823	.936	.957	.971	.985	.992	.993						
400	.003	.005	.011	.015	.021	.037	.078	.102	.135	.227	.414	.498	.592	.761	.908	.938	.959	.980	.990	.992						
450	.002	.004	.009	.012	.016	.029	.062	.082	.109	.186	.350	.429	.519	.697	.874	.914	.943	.974	.988	.991						
500	.002	.003	.007	.010	.013	.024	.051	.067	.090	.154	.293	.370	.456	.635	.836	.886	.924	.966	.986	.989						
600	.001	.002	.005	.007	.009	.017	.036	.047	.064	.111	.222	.281	.354	.524	.752	.819	.876	.944	.979	.985						

21Q9

Ground-burst

21Q9																										
KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00						
Adj YN	34.1	33.2	31.9	31.5	31.0	30.0	28.8	28.3	27.9	26.9	25.7	25.2	24.8	23.9	22.7	22.3	21.8	21.0	20.0	19.6						
psi	7397	5234	3314	2802	2346	1660	1053	892	748	531	340	298	243	174	114	97	83	61	42	37						
HOB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
WR	15	20	31	36	42	57	87	101	119	163	247	287	338	461	695	807	946	1283	1910	2206						
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD						
0	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996						
5	.944	.976	.990	.992	.993	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996						
10	.691	.845	.949	.967	.978	.989	.993	.994	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996						
15	.447	.638	.849	.899	.935	.972	.989	.991	.993	.994	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996						
20	.295	.463	.713	.792	.859	.940	.980	.985	.989	.993	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996						
30	.149	.255	.470	.563	.662	.824	.942	.962	.975	.987	.993	.994	.995	.995	.996	.996	.996	.996	.996	.996						
40	.088	.156	.313	.392	.486	.678	.872	.915	.946	.976	.990	.992	.993	.995	.996	.996	.996	.996	.996	.996						
50	.057	.104	.219	.281	.360	.543	.782	.848	.900	.958	.985	.989	.991	.994	.995	.995	.996	.996	.996	.996						
75	.026	.048	.106	.141	.187	.314	.549	.643	.735	.873	.959	.973	.981	.990	.994	.994	.995	.996	.996	.996						
100	.015	.027	.062	.083	.112	.196	.380	.468	.566	.749	.909	.940	.962	.982	.991	.993	.994	.995	.996	.996						
125	.009	.018	.040	.054	.074	.132	.271	.343	.432	.622	.838	.890	.929	.970	.988	.991	.992	.994	.995	.996						
150	.007	.012	.028	.038	.052	.095	.200	.258	.333	.510	.754	.825	.884	.951	.982	.987	.990	.993	.995	.995						
200	.004	.007	.016	.022	.030	.055	.120	.158	.210	.347	.588	.680	.767	.891	.965	.976	.983	.990	.994	.995						
250	.002	.004	.010	.014	.019	.036	.079	.105	.142	.244	.453	.545	.643	.809	.935	.957	.972	.986	.992	.994						
300	.002	.003	.007	.010	.013	.025	.056	.075	.102	.179	.351	.435	.531	.718	.892	.928	.954	.979	.990	.992						
350	.001	.002	.005	.007	.010	.018	.042	.056	.076	.136	.277	.350	.439	.628	.840	.891	.929	.969	.987	.990						
400	.001	.002	.004	.005	.008	.014	.032	.043	.059	.107	.223	.286	.365	.546	.781	.846	.898	.956	.984	.988						
450	.001	.001	.003	.004	.006	.011	.025	.034	.047	.086	.182	.236	.305	.475	.720	.796	.861	.939	.979	.984						
500	.001	.001	.003	.003	.005	.009	.021	.028	.038	.070	.151	.197	.258	.413	.660	.744	.820	.918	.972	.980						
600		.001	.002	.002	.003	.006	.014	.019	.027	.049	.109	.143	.190	.317	.549	.641	.731	.867	.955	.969						

Air-burst

KT	.001	.002	.005	.007	.010	.020	.05	.07	.10	.20	.500	.700	1.000	2.000	5.000	7.000	10.00	20.00	50.00	70.00						
Adj YN	34.1	33.2	31.9	31.5	31.0	30.0	28.8	28.3	27.9	26.9	25.7	25.2	24.8	23.9	22.7	22.3	21.8	21.0	20.0	19.6						
psi	7397	5234	3314	2802	2346	1660	1053	892	748	531	340	298	243	174	114	97	83	61	42	37						
HOB	18	24	33	43	55	78	88	100	129	173	233	130	303	232	298	415	468	532	683	947	1067					
WR	24	33	49	56	65	87	129	149	173	233	344	398	463	621	816	1056	1227	1640	2396	2750						
CEP	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD	PD						
0	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996						
5	.984	.991	.994	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996						
10	.906	.958	.984	.988	.991	.993	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996						
15	.747	.873	.956	.970	.980	.989	.993	.994	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996						
20	.580	.750	.903	.935	.957	.980	.991	.992	.993	.995	.996	.996	.996	.996	.996	.996	.996	.996	.996	.996						
30	.344	.511	.742	.812	.871	.942	.979	.985	.989	.993	.995	.995	.996	.996	.996	.996	.996	.996	.996	.996						
40	.218	.348	.574	.661	.746	.873	.956	.970	.980	.989	.993	.994	.995	.995	.996	.996	.996	.996	.996	.996						
50	.147	.245	.439	.525	.618	.783	.919	.946	.964	.983	.991	.993	.994	.995	.996	.996	.996	.996	.996	.996						
75	.070	.121	.239	.301	.377	.551	.776	.839	.891	.952	.982	.987	.990	.993	.995	.995	.996	.996	.996	.996						
100	.040	.070	.145	.187	.242	.382	.615	.699	.780	.894	.964	.975	.982	.990	.994	.994	.995	.996	.996	.996						
125	.026	.046	.096	.126	.165	.272	.478	.566	.658	.813	.933	.955	.970	.985	.992	.993	.994	.995	.996	.996						
150	.019	.032	.068	.090	.119	.201	.374	.455	.547	.723	.890	.925	.951	.977	.990	.992	.993	.995	.995	.996						
200	.010	.018	.039	.052	.069	.121	.239	.301	.379	.553	.777	.840	.892	.952	.982	.987	.990	.993	.995	.995						
250	.007	.012	.025	.034	.045	.080	.163	.210	.270	.419	.655	.736	.811	.911	.960	.978	.985	.991	.994	.995						
300	.005	.009	.018	.024	.032	.056	.118	.152	.199	.322	.544	.601	.720	.856	.950	.966	.977	.987	.993	.994						
350	.003	.006	.013	.017	.023	.042	.088	.115	.152	.252	.451	.537	.630	.792	.923	.948	.965	.983	.991	.993						
400	.003	.005	.010	.013	.018	.032	.069	.090	.119	.202	.375	.456	.548	.734	.880	.925	.950	.977	.989	.991						
450	.002	.004	.008	.011	.014	.026	.055	.072	.096	.164	.315	.389	.477	.656	.850	.896	.931	.959	.984	.990						
500	.002	.003	.006	.009	.012	.021	.045	.059	.079	.136	.267	.334	.415	.579	.806	.863	.903	.939	.975	.984						
600	.001	.002	.004	.006	.009	.014	.031	.041	.056	.097	.197	.251	.319	.481	.714	.787	.851	.931	.975	.982						

Appendix A

JOSS PROGRAM LISTING

JOSS Item VNTK

```
1.1 Line.
1.2 Do step 1.98 for o=3(1)10.
1.21 Line.
1.22 Set Y=0.
1.24 Demand j as "VW.TK            j".
1.28 Demand y as "Yield, KT        y".
1.32 Demand c as "CEP              c".
1.34 Demand t as "Tgt radius       t".
1.36 Demand d as "DGZ offset       d".
1.5 Type "::  Do part 4.   Delete step 1.7 to loop thru parts 1,4. ::".
1.51 Delete step 1.5,step 1.51.
1.6 Do step 9.2 for o=1.2,1.21,1.98,11.1,1.6.
1.66 Line.
1.7 Done.
1.8 Do part 4.
1.9 To part 1.
1.98 Type form o.

2.2 Set r=B*W**(1/3).
2.4 Set O=0.
2.41 Set G=0.
2.48 Do part 5.
2.48 Set B(1,t)=W.
2.49 Set B(2,t)=v.
2.5 Set B(3,t)=min[z,99999].
2.51 Set B(4,t)=h*W.
2.52 Set B(5,t)=min[r,99999].
2.54 Set B(u,t)=P.

3.1 Set a=(20/W)**(1/3)*K/10.
3.3 Set k=1.
3.4 Set f=k.
3.5 Set k=[a*k+1-K/10]**[1/(T+2)].
3.6 To step 3.4 if |k/f-1|>.001.
3.7 Set v=V+log[k**(T+2)]/log[1.2**(T+1)].

4.03 Line if Y=0.
4.04 Type form 1 if $<=2 or fp[Y/10]=0.
4.05 Set C=c/e.
4.06 Set J=1.
4.07 Set W=y.
4.08 Do step 9 for B=30.11(.01)30.14.
4.09 Set J=0.
4.10 Set O=d/e.
4.14 Do part 3.
4.2 Do step 9 for B=6.31,6.32.
4.3 Do part 37.
4.32 Do step 2.2.
4.33 Do part [t=0:5;7].
4.36 Do step 4.5.
4.37 Set u=P.
4.38 Set U=r.
4.4 Do part 38.
4.44 Do step 2.2.
4.45 Do step 4.33.
4.5 * Do part 10.  (for gaussian distribution of points in a circle).
4.51 Set z=min[z,99999].
4.52 Set U=min[U,99999].
4.53 Set r=min[r,99999].
4.7 Type v,y,c,t,d,z,O,U*e,u,h*W**(1/3)*e,r*e,P in form [y>999:2;11].
4.8 Set Y=Y+1.

5 Set s=sqrt((T+2)/10*r)**2+(C/1.1774)**2+(J/2.448)**2).
5.01 To step 5.05 if O/s<r/s+3.
5.02 Set P=0.
5.03 Done.
5.05 Set o(3)=exp[-(r/s)**2/2].
5.06 To step 5.96 if O=0.
5.07 Set o(4)=(O/s)**2/2.
5.08 Set o(5)=0.
5.1 Set o(6)=o(3).
5.2 Set o(7)=-log(o(3)).
5.3 Set o(8)=exp(-o(4)).
5.4 Set o(9)=1-o(6).
5.45 Set o(3)=1-o(9)*o(8).
5.5 Set o(5)=o(5)+1.
5.6 Set o(6)=o(6)*o(7)/o(5).
5.7 Set o(9)=o(9)-o(6).
5.8 Set o(8)=o(8)*o(4)/o(5).
5.9 Set o(3)=o(3)-o(8)*o(9).
5.95 To step 5.5 if o(5)**2<2*o(7)*o(4) or o(9)*o(8)>.001.
5.96 Set P=1-o(3).

6.03 Set w=W**(1/3).
6.04 To part 2 if C¬=B(6) or [W¬=F(1) and K=0].
6.3 Do part 3.
6.31 Set n=0.
6.32 Set z=[T=0:1.1216*1.2**v*exp[.297*n];.02893*1.44**v*exp[1.042*n]].
6.54 Do part 38.
6.56 To part 2.
6.6 Do part 37.
6.7 To part 2.

7 Set p=0.
7.1 Do part 8 for i=1(1)6.
7.2 Set P=p/24.

8.1 Set O=sqrt[(d/e-t/e*X[2,i])**2+(t/e*X[3,i])**2].
8.2 Do part 5.
8.3 Set p=p+P*X[1,i].

9 Do step 8.
9.1 Delete part o.
9.2 Delete step o.

10.2 Set O=d.
10.3 Do part 5 for J=t if t>0.

11.1 Do step 1.6.
11.2 To part 1.

12.1 Set e=[e=1:.3048;1].
12.2 Type " :: Distance in feet ::" if e=1.
12.3 Type " :: Distance in meters ::" if e¬=1.

20.1 Type "Enter 20 values for CEP in ft:".
20.2 Do step 22.1 for t=6(1)25.

21.1 Type "Enter 20 values for Yield in KT:".
21.2 Do step 22.2 for t=1(1)20.
```

```
22.1 Demand E(t).
22.2 Demand F(t).

30 Type "This is mode 2.  For mode 1 recall program from file.".
30.01 Type "If ground-burst type '6.5 To step 6.6.' otherwise '30.'".
30.02 Stop.
30.03 Delete X.
30.04 Do step 9.1 for o=1,4,7,8,10,11,12.
30.05 Do step 9.2 for o=30(.01)30.05.
30.06 Demand J as "  VN.TK ".
30.08 Type _,_,_.
30.11 Set o=J.
30.12 Set V=ip[o].
30.13 Set T=ip[10*fp[o]].
30.14 Set K=10*fp[10*fp[o]].
30.3 Do part 35 for t=1(1)12.
30.32 File B in file J0008.A1682 replacing #vntk1.
30.36 Delete B.
30.38 Do part 35 for t=11(1)20.
30.4 File B in file J0008.A1682 replacing #vntk2.
30.42 Delete B.
30.5 Do part 80.
30.6 Do step 9 for B=30.32,30.4.
30.9 To step 30.06.

35.1 Set W=F(t).
35.2 Do part 36 for u=6(1)25.

36.1 Set C=E(u).
36.2 Do part 6.

37.1 Set h=0.
37.12 To step 37.8 if T=1.
37.2 Set R=[v<=19:179+3523.6*.8888**v;61.95+2680.7*.91411**v].
37.3 Set R=[36.5<=v<=40:104656*v** (-2.437);v>40:.07+1513.34*.9404**v;R].
37.7 Done.
37.8 Set R=[v<14:.405+4104*.8959**v;v<16:29767*v**(-1.333);.1928+3067*.9148**v].

38.1 To step 38.7 if T=1.
38.3 Set h=[v<=11:1404.66*.949**v;1618-86.74*v+.9848*v**2].
38.4 Set h=2440.2-175.5*v+3.3777*v**2 if 18<v<22.
38.5 Set h=[(v-16.36)/5743.17]**[-.7739] if v>=22.
38.52 Set R=[v<19.5:6383.35*.8836**v;v<=21.9:185627*v**(-1.948);1900.05*.9368**v].
38.6 Done.
38.7 Set h=[v<=9:900;v<15:3726-442*v+14.2*v**2;362-5.263*v].
38.8 Set R=[v<=15:6561*.87919**v;v<17:35012*v**(-1.333);23.42+2736.9*.92883**v].

80.03 Recall #vntk1 from file j0008.a1682.
80.05 Recall vntkform from file j0008.a1682.
80.06 Set m=0.
80.1 Set o=0.
80.12 Type V,K in form [T=0:15;16].
80.13 Line.
80.2 Do part 82 for u=1(1)25.
80.22 Delete B.
80.24 Recall #vntk2 from file j0008.a1682.
80.3 Page.
80.34 Do step 80.12.
80.35 Line.
80.4 Do step 80.2 for o=10.
80.5 Page.
80.6 Delete B,all formulas,all forms.

82.10 Let X(n)=[u<6:n;[.0005<n<.9995:n;_]].
82.20 Let a=X[B(u,1+o)].
82.22 Let b=X[B(u,2+o)].
82.24 Let c=X[B(u,3+o)].
82.26 Let d=X[B(u,4+o)].
82.28 Let e=X[B(u,5+o)].
82.30 Let f=X[B(u,6+o)].
82.31 Let g=X[B(u,7+o)].
82.32 Let h=X[B(u,8+o)].
82.33 Let i=X[B(u,9+o)].
82.34 Let j=X[B(u,10+o)].
82.35 Let k=_.
82.36 Let l=_.
82.4 To step 82.7 if u>=6.
82.5 Type a,b,c,d,e,f,g,h,i,j,k,l in form u+m.
82.56 Type _,form [m=0:6;13] if u=5.
82.58 Done.
82.7 Type E(u),a,b,c,d,e,f,g,h,i,j,k,l in form 7 if m=0.
82.72 Type a,b,c,d,e,f,g,h,i,j,k,l,E(u) in form 14 if m=7.
82.74 Line if disj[u=10,u=15,u=20].

Form 1:
AdjVN Yield    CEP     t     d   psi   HOB  WR    PD     HOB   WR  MaxPD

Form 2:
--*- ------ ------ ----- ----- -----   -- ----- -*---  ----- ----- -*---

Form 3:
  VNTK   JOSS file J0008.A1682   Rand R-1168   D. C. Kephart  11/74

Form 4:
This is Mode 1.  For Mode 2 see R-1168.  (Data items are store(1) and store(2)).

Form 5:
Vuln Number is VN.TK    PVN: T=0    QVN: T=1    K-factor = K

Form 6:
Entry for VN = 2107 is VN.TK = 21.17    HOB = Height of burst

Form 7:
WR = Weapon radius    PD = Probability of damage    Distance in feet

Form 8:
To switch to meters and vice versa:  Do part 12.

Form 9:
To omit this preamble start with: Do part 11.    To loop:  Delete step 1.7.

Form 10:
Parts 37,38 updated 11/74.  Results may vary slightly from R-1168.

Form 11:
--*- ---*--- ----- ----- ----- -----   -- ----- -*---  ----- ----- -*---

e = 1

E(6) = 400
E(7) = 600
```

```
E(8) = 800
E(9) = 1000
E(10) = 1200
E(11) = 1400
E(12) = 1600
E(13) = 1800
E(14) = 2000
E(15) = 2500
E(16) = 3000
E(17) = 3500
E(18) = 4000
E(19) = 4500
E(20) = 5000
E(21) = 6000
E(22) = 7000
E(23) = 8000
E(24) = 9000
E(25) = 10000
F(1) = 20
F(2) = 40
F(3) = 70
F(4) = 100
F(5) = 140
F(6) = 170
F(7) = 200
F(8) = 300
F(9) = 400
F(10) = 600
F(11) = 800
F(12) = 1000
F(13) = 1200
F(14) = 1500
F(15) = 2000
F(16) = 2500
F(17) = 3000
F(18) = 4000
F(19) = 5000
F(20) = 7000
F(21) = 9000
F(22) = 12000
F(23) = 18000
F(24) = 25000

X(1,1) = 4
X(1,2) = 1
X(1,3) = 1
X(1,4) = 8
X(1,5) = 8
X(1,6) = 2
X(2,2) = 1
X(2,3) = -1
X(2,4) = .5
X(2,5) = -.5
X(3,4) = .5
X(3,5) = .5
X(3,6) = 1
Let X be sparse.
```

JOSS Item VNTKFORM

```
Form 1:
   KT  ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- -----

Form 2:
Adj VN __.__ __.__ __.__ __.__ __.__ __.__ __.__ __.__ __.__ __.__ __.__ __.__

Form 3:
  psi  ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- -----

Form 4:
  HOB  ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- -----

Form 5:
   WR  ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- -----

Form 6:
  CEP   PD    PD    PD    PD    PD    PD    PD    PD    PD    PD

Form 7:
----- -.---- -.---- -.---- -.---- -.---- -.---- -.---- -.---- -.---- -.---- -.----

Form 8:
----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- -----  KT

Form 9:
 __.__ __.__ __.__ __.__ __.__ __.__ __.__ __.__ __.__ __.__ __.__ __.__ Adj VN

Form 10:
----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- -----  psi

Form 11:
----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- -----  HOB

Form 12:
----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- -----  WR

Form 13:
  PD    PD    PD    PD    PD    PD    PD    PD    PD    PD    PD    PD   CEP

Form 14:
-.---- -.---- -.---- -.---- -.---- -.---- -.---- -.---- -.---- -.---- -.---- -----

Form 15:
     __P_

Form 16:
     __0_
```

Appendix B
SUMMARY OF JOSS LANGUAGE

JOSS

RAND COMPUTATION CENTER

1700 MAIN STREET
SANTA MONICA, CA. 90406
393-0411 EXT. 403

VERBS

Set — Assigns a value. Set may be omitted on direct commands.
```
Set x = 3.
Set a(5,x) = y + 3*z - x**2.
```

Let — Defines a formula of up to ten parameters.
```
Let f(x,y) = x**2 + 10*x - 6*y.
Let h = (b - a)/2.
Let D(f,x) = [f(x+d) - f(x)]/d.
```
Indicates a sparse array.
```
Let A be sparse.
```

Type — Types quoted text, blank lines (_), values, parts, steps, etc.
```
Type "The quick brown fox".
Type x+3, D(sin,0), _, all steps.
Type all.
```

Demand — Types identification and equals sign, then waits for user to input value. Blank input lines are treated as interruptions.
```
Demand a(3,i).
Demand t as "Temperature".
```

File — Stores an item* in the user's file.
```
File part 3, x, z as testdata.
File all replacing inverter.
```

Recall — Retrieves an item* from library or a private file**.
```
Recall database(27).
Recall blackjac from library.
Recall plot from file M1234.A9876.
```

Discard — Erases an item* from the user's file.
```
Discard olddata.
```

Show — Produces a list of items in library or private file**.
```
Show items.
Show items in library.
Show items in file M1234.A9876.
```

Delete — Erases values, parts, steps, forms, formulas.
```
Delete x, part 3, all forms.
Delete all values.
Delete all.
```

Do — Initiates execution of a step or part (step by step, beginning at the first step of part), repeatedly if modified by a for or a times phrase.
```
Do part 6 for x=.1,2(2)10, 100*a+b.
```

(Do ...) — Interprets direct Do as a stored Do (i.e., does not cancel before execution), but returns to user when done.
```
(Do part 3.)
```

Done — Terminates execution of current Do for current iteration.

Quit — Terminates execution of current Do for all iterations.

Cancel — Terminates execution of all Do's.

(Cancel.) — Terminates execution of last (Do ...).

To — Alters step-by-step sequencing. Continues at indicated part or step.
```
To step 3.5.
```

Stop — Suspends step-by-step execution to await instructions from user.

Go — Continues execution after interrupt (pressing the interrupt key on terminal), error message, or Stop command.

End — Terminates session by logging user off from JOSS, WYLBUR and MILTEN.

Head — Types page heading on next line.

Page — Advances paper to next page and types page heading on next line.

Line — Types a blank line.

Form — Identifies (by an integer) and stores the form typed on the next input line.
```
Form 3:
x = ___.__  y = _____  z = .....
```

Reset — Reinitializes value of timer or cpu to zero.
```
Reset timer.
Reset cpu.
```

MODIFIERS

if — Modifies any command. JOSS carries out the command if condition holds.
```
Type x if 0<=x<5.
Set y=3 if x<=10 and x*y=10.
```

for — Modifies Do only. JOSS executes part or step repeatedly for specified set of values.
```
Do part 3 for x=1(1)10(10)100,1000.
Do step 1.2 for x=.01, .03, .1(a)b.
```

times — Modifies Do only. JOSS executes part or step specified number of times.
```
Do part 4, 43 times.
Do step 7.3, n+1 times.
```

in form — Modifies Type only. JOSS types values in fields of specified form.
```
Type x, y, z**2 in form 3.
```

sparse — Modifies JOSS' treatment of missing array elements. JOSS treats them as zeros and they require no storage.
```
Let A be sparse.
```

NOUNS

time — Time of day at Computation Center.
```
Type time.
```

users — Number of terminals being serviced by JOSS at the moment.
```
Type users.
```

size — Number of storage units currently occupied by user's program and data; about 1550 are available.

timer — Time in minutes and hundredths since logon or last Reset timer command.

cpu — Processor time in seconds and hundredths since logon or last Reset cpu command.

$ — Number of lines remaining on the page or screen.

---

* Item names are 1-8 letters and/or digits, beginning with a letter. Names may be followed by integer-valued index in the range [-250,250].

** File names consist of user number and account, separated by ".A", e.g. M1234.A9876.

FUNCTIONS

MATHEMATICAL:

sqrt(x)	square root, x>= 0
sin(x)	x in radians, |x| < 100
cos(x)	x in radians, |x| < 100
log(x)	natural log, x > 0
exp(x)	e^x, exp(1) = e
arg(x,y)	central angle, in radians, from positive x axis to the point (x,y). arg(0,0)=0, arq(-1,0)= pi.

NUMBER DISSECTION:

sgn(x)	signum (or sign)	= -1 if x < 0 = 0 if x = 0 = +1 if x > 0
ip(x)	integer part	ip(100.5) = 100
fp(x)	fractional part	fp(100.5) = .5
dp(x)	digit part	dp(100.5) = 1.005
xp(x)	exponent part	xp(100.5) = 2
|x|	absolute value	for numeric values = 0 if x=false = 1 if x=true
tv(x)	translation value	= 1 if x=true = 0 if x=false = false if x=0 = true if x ¬=0

ITERATIVE:

sum[i=a(b)c: f(i)]	sum[x, y, z+10]
prod[i=a(b)c: f(i)]	prod[x, y, z+10]
min[i=a(b)c: f(i)]	min[x, y, z+10]
max[i=a(b)c: f(i)]	max[x, y, z+10]
conj[i=a(b)c: P(i)]	conj[x<y<=z, y>3, P]
disj[i=a(b)c: P(i)]	disj[x<y<=Z, y>3, P]

first[i=a(b)c: P(i)] gives first value of i for which P(i) is true

RULES OF FORM

One command per line, one line per command.

Each input line must be ended by pressing the Return key.

Before you type anything, make sure that JOSS is ready to receive input. It will indicate this by typing an underscore and, if available, ringing the bell.

Lines can be corrected by backspacing and retyping before pressing Return. Lines that begin or end with an asterisk, or end with an interrupt, are ignored.

Words and numerals may neither abut nor contain embedded spaces; spaces may not appear between an identifier (of any array, a formula, or a function) and its associated left grouper; otherwise, spaces may be used freely.

Except for the step number at the beginning of a stored command, anywhere a number may be used, an equivalent expression may also be used.

The not sign as used in "not equal" (¬=) may appear as a backslash or a tilde on some terminals. The underscore may appear as a left-pointing arrow.

STATEMENT FORMAT

Step Number	Verb	Arguments	Modifiers
1.23	Type	x,y,z+3	in form 3 if x+y>10.
1.4	Do	part 6	for x = 1(1)100, 500.

VOCABULARY

DIRECT COMMAND:	Step number not present; command is executed immediately.
STORED COMMAND:	Step number present; command is stored in order of step number.
STEP:	A stored command; step number is limited to 9-digit number>=1.
PART:	A group of steps whose step numbers have the same integer part.
FORM:	A pictorial specification of literal information and fields to be filled with values, used for formatted output. Fields are indicated by strings of underscores (with an optional decimal point) or strings of periods (for a tabular form of scientific notation).
NUMBERS:	Limited to 9 significant digits; 10^{-63} <= |value| <= $9.99999999*10^{63}$ or value = 0.
SYMBOLS:	Single-letter identifiers, upper or lower case. May identify decimal values, logical values (true, false), formulas, and arrays of values.
FORMULAS:	May have up to 10 formal parameters (distinct letters) or none (see Let, under Verbs).
ARRAYS:	May have up to 10 integer-valued indices in the range [-250, 250].
ARITHMETIC:	Addition (+), subtraction (-), multiplication (*), division (/), exponentiation (**), and square root (sqrt) give true results rounded to 9 significant digits. Zero is substituted on underflow.
RELATIONS:	< > <= >= = ¬= (extended relations allowed; e.g., a<b<=c).
LOGIC:	and or not
GROUPERS:	( ) [ ] used interchangeably, in pairs.
IMPLIED GROUPINGS:	3+1/2+1/4*5 = [3+(1/2)]+[(1/4)*5]

-2**3*4-5 = [-(2^3)*4]-5

2**3**4 = (2^3)^4

a or b and not c or d = a or [b and (not c)] or d