

Ion Implantation System Depth Tables

Ion	B (Mass = 11)				
Target	Si(100 %)				
Density	2.321 g/cm ³				
Stopping	Units = eV / Angstrom				
Ion Energy (keV)	dE/dx Elec.	dE/dx Nuclear	Projected Range (A)	Longitudinal Stragglng (A)	Lateral Stragglng(A)
5	8.35E+00	8.77E+00	197	121	90
6	8.94E+00	8.62E+00	233	139	103
7	9.47E+00	8.45E+00	268	156	116
8	9.95E+00	8.28E+00	303	172	128
9	1.04E+01	8.10E+00	338	188	141
10	1.08E+01	7.93E+00	374	203	153
11	1.12E+01	7.77E+00	409	218	164
12	1.16E+01	7.61E+00	444	233	176
13	1.19E+01	7.45E+00	480	247	188
14	1.23E+01	7.30E+00	515	261	199
15	1.26E+01	7.16E+00	551	275	210
16	1.29E+01	7.02E+00	586	288	221
17	1.32E+01	6.89E+00	621	301	232
18	1.35E+01	6.76E+00	657	314	243
20	1.40E+01	6.52E+00	728	339	264
22	1.46E+01	6.30E+00	799	363	284
24	1.50E+01	6.09E+00	869	386	305
26	1.55E+01	5.90E+00	940	408	324
28	1.59E+01	5.73E+00	1011	430	344
30	1.63E+01	5.56E+00	1081	450	363
33	1.69E+01	5.34E+00	1186	480	391
36	1.75E+01	5.13E+00	1290	509	418
40	1.82E+01	4.89E+00	1429	545	453
45	1.90E+01	4.61E+00	1601	587	495
50	1.98E+01	4.37E+00	1771	627	536
55	2.05E+01	4.16E+00	1940	665	575
60	2.12E+01	3.97E+00	2106	700	612
65	2.18E+01	3.81E+00	2272	733	649
70	2.25E+01	3.65E+00	2435	765	683
80	2.36E+01	3.38E+00	2758	824	750

90	2.47E+01	3.16E+00	3074	877	812
100	2.57E+01	2.97E+00	3384	926	871
110	2.66E+01	2.80E+00	3688	971	926
120	2.75E+01	2.65E+00	3988	1013	979
130	2.83E+01	2.52E+00	4282	1052	1029
140	2.91E+01	2.40E+00	4571	1089	1076
150	2.99E+01	2.30E+00	4856	1123	1122
160	3.11E+01	2.20E+00	5135	1154	1165
170	3.26E+01	2.12E+00	5404	1184	1206
180	3.41E+01	2.04E+00	5663	1210	1244
200	3.70E+01	1.90E+00	6156	1258	1314
220	3.98E+01	1.78E+00	6619	1299	1377
240	4.26E+01	1.68E+00	7056	1334	1433
260	4.53E+01	1.58E+00	7469	1365	1484

Ion	P (Mass = 31)				
Target	Si(100 %)				
Density	2.321 g/cm ³				
Stopping	Units = eV / Angstrom				
Ion Energy (keV)	dE/dx Elec.	dE/dx Nuclear	Projected Range (A)	Longitudinal Stragglng (A)	Lateral Stragglng(A)
5	9.14E+00	3.98E+01	96	49	35
6	9.79E+00	4.09E+01	110	55	40
7	1.04E+01	4.18E+01	123	60	44
8	1.09E+01	4.25E+01	136	66	48
9	1.14E+01	4.30E+01	149	72	52
10	1.19E+01	4.34E+01	162	77	56
11	1.23E+01	4.37E+01	175	82	60
12	1.27E+01	4.39E+01	188	88	64
13	1.31E+01	4.40E+01	201	93	67
14	1.34E+01	4.41E+01	213	98	71
15	1.38E+01	4.42E+01	226	103	75
16	1.41E+01	4.42E+01	239	108	78
17	1.45E+01	4.42E+01	251	113	82
18	1.48E+01	4.42E+01	264	118	85
20	1.54E+01	4.41E+01	289	128	92
22	1.59E+01	4.39E+01	314	137	99
24	1.65E+01	4.37E+01	339	147	105
26	1.70E+01	4.34E+01	364	156	112

28	1.74E+01	4.31E+01	389	165	118
30	1.79E+01	4.28E+01	414	175	125
33	1.85E+01	4.24E+01	452	188	134
36	1.92E+01	4.19E+01	490	202	144
40	1.99E+01	4.12E+01	541	220	156
45	2.08E+01	4.04E+01	606	242	172
50	2.17E+01	3.95E+01	670	263	187
55	2.25E+01	3.87E+01	735	284	202
60	2.32E+01	3.79E+01	801	305	218
65	2.39E+01	3.71E+01	867	326	233
70	2.46E+01	3.64E+01	933	347	248
80	2.59E+01	3.50E+01	1067	387	278
90	2.70E+01	3.37E+01	1202	426	308
100	2.81E+01	3.26E+01	1338	464	338
110	2.91E+01	3.15E+01	1475	502	367
120	3.01E+01	3.05E+01	1614	538	397
130	3.10E+01	2.95E+01	1753	574	426
140	3.19E+01	2.87E+01	1892	609	455
150	3.27E+01	2.78E+01	2033	644	485
160	3.35E+01	2.71E+01	2174	677	514
170	3.43E+01	2.64E+01	2315	710	542
180	3.50E+01	2.57E+01	2457	742	571
200	3.64E+01	2.45E+01	2741	805	628
220	3.78E+01	2.34E+01	3026	866	684
240	3.90E+01	2.24E+01	3311	924	739
260	4.02E+01	2.15E+01	3597	980	793

Ion	As (Mass = 75)				
Target	Si(100 %)				
Density	2.321 g/cm ³				
Stopping	Units = eV / Angstrom				
Ion Energy (keV)	dE/dx Elec.	dE/dx Nuclear	Projected Range (A)	Longitudinal Stragglng (A)	Lateral Stragglng(A)
5	6.67E+00	7.74E+01	79	31	23
6	7.27E+00	8.19E+01	88	34	26
7	7.82E+00	8.57E+01	97	37	28
8	8.32E+00	8.89E+01	105	40	30
9	8.80E+00	9.18E+01	113	43	32
10	9.24E+00	9.43E+01	121	45	34

11	9.67E+00	9.65E+01	129	47	36
12	1.01E+01	9.85E+01	136	50	38
13	1.05E+01	1.00E+02	143	52	40
14	1.08E+01	1.02E+02	151	54	41
15	1.12E+01	1.04E+02	158	56	43
16	1.15E+01	1.05E+02	165	58	45
17	1.19E+01	1.06E+02	172	60	46
18	1.22E+01	1.07E+02	178	63	48
20	1.28E+01	1.09E+02	192	67	51
22	1.34E+01	1.11E+02	205	70	54
24	1.40E+01	1.13E+02	218	74	57
26	1.45E+01	1.14E+02	231	78	60
28	1.50E+01	1.15E+02	244	82	63
30	1.55E+01	1.16E+02	256	85	66
33	1.62E+01	1.18E+02	275	91	70
36	1.69E+01	1.19E+02	293	96	74
40	1.77E+01	1.20E+02	318	103	80
45	1.87E+01	1.21E+02	348	111	86
50	1.97E+01	1.22E+02	378	119	93
55	2.06E+01	1.22E+02	408	127	99
60	2.15E+01	1.22E+02	437	135	105
65	2.23E+01	1.23E+02	466	143	111
70	2.31E+01	1.23E+02	496	151	117
80	2.46E+01	1.22E+02	554	166	129
90	2.60E+01	1.22E+02	612	181	140
100	2.73E+01	1.21E+02	670	196	152
110	2.85E+01	1.20E+02	728	210	163
120	2.97E+01	1.19E+02	786	225	174
130	3.09E+01	1.18E+02	844	239	185
140	3.20E+01	1.17E+02	903	253	195
150	3.30E+01	1.16E+02	961	267	206
160	3.40E+01	1.15E+02	1020	281	217
170	3.50E+01	1.14E+02	1079	295	227
180	3.60E+01	1.13E+02	1138	308	238
200	3.78E+01	1.11E+02	1256	335	259
220	3.95E+01	1.09E+02	1376	362	280
240	4.12E+01	1.07E+02	1496	389	301
260	4.27E+01	1.04E+02	1616	415	321

Ion	BF₂ (Mass = 49)			
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Target	Si(100 %)				
Density	2.321	g/cm3			
Stopping	Units =	eV / Angstrom			
Ion Energy (keV)	dE/dx Elec.	dE/dx Nuclear	Projected Range (A)	Longitudinal Stragglng (A)	Lateral Stragglng(A)
5			44	27	20
6			52	31	23
7			60	35	26
8			68	39	29
9			76	42	32
10			84	46	34
11			92	49	37
12			100	52	40
13			108	55	42
14			116	59	45
15			124	62	47
16			132	65	50
17			139	68	52
18			147	70	55
20			163	76	59
22			179	81	64
24			195	87	68
26			211	92	73
28			227	97	77
30			243	101	81
33			266	108	88
36			290	114	94
40			321	122	102
45			359	132	111
50			398	141	120
55			436	149	129
60			473	157	137
65			510	165	146
70			547	172	153
80			619	185	168
90			690	197	182
100			760	208	196
110			828	218	208
120			895	227	220

130			961	236	231
140			1026	244	242
150			1090	252	252
160			1153	259	262
170			1213	266	271
180			1271	272	279
200			1382	282	295
220			1486	292	309
240			1584	299	322
260			1677	306	333

Ion	Ar (Mass = 40)				
Target	Si(100 %)				
Density	2.321 g/cm ³				
Stopping	Units = eV / Angstrom				
Ion Energy (keV)	dE/dx Elec.	dE/dx Nuclear	Projected Range (A)	Longitudinal Stragglng (A)	Lateral Stragglng(A)
5	6.97E+00	4.90E+01	92	44	32
6	7.60E+00	5.08E+01	104	49	36
7	8.17E+00	5.23E+01	116	54	40
8	8.69E+00	5.34E+01	128	59	43
9	9.19E+00	5.43E+01	139	63	47
10	9.66E+00	5.51E+01	151	68	50
11	1.01E+01	5.57E+01	162	72	53
12	1.05E+01	5.62E+01	173	76	56
13	1.09E+01	5.66E+01	184	81	60
14	1.13E+01	5.70E+01	195	85	63
15	1.17E+01	5.73E+01	206	89	66
16	1.20E+01	5.75E+01	217	93	68
17	1.24E+01	5.77E+01	228	97	71
18	1.27E+01	5.79E+01	239	101	74
20	1.34E+01	5.81E+01	260	109	80
22	1.40E+01	5.82E+01	281	116	85
24	1.46E+01	5.82E+01	302	124	91
26	1.51E+01	5.81E+01	324	131	96
28	1.57E+01	5.80E+01	345	139	102
30	1.62E+01	5.78E+01	366	146	107
33	1.69E+01	5.75E+01	397	157	114
36	1.76E+01	5.72E+01	429	168	122

40	1.85E+01	5.67E+01	471	182	132
45	1.96E+01	5.60E+01	524	199	145
50	2.06E+01	5.52E+01	577	216	157
55	2.15E+01	5.44E+01	630	233	169
60	2.24E+01	5.36E+01	683	250	181
65	2.33E+01	5.28E+01	737	266	193
70	2.41E+01	5.21E+01	791	283	205
80	2.57E+01	5.06E+01	899	314	228
90	2.71E+01	4.91E+01	1008	346	251
100	2.85E+01	4.77E+01	1117	376	274
110	2.98E+01	4.64E+01	1227	406	297
120	3.11E+01	4.52E+01	1338	435	320
130	3.22E+01	4.41E+01	1449	464	342
140	3.34E+01	4.30E+01	1561	492	365
150	3.45E+01	4.19E+01	1673	520	387
160	3.55E+01	4.10E+01	1785	547	409
170	3.66E+01	4.00E+01	1898	573	431
180	3.76E+01	3.91E+01	2011	599	453
200	3.95E+01	3.75E+01	2237	650	497
220	4.13E+01	3.60E+01	2463	699	540
240	4.30E+01	3.47E+01	2690	746	583
260	4.47E+01	3.35E+01	2916	792	624

Ion	N (Mass = 14)				
Target	Si(100 %)				
Density	2.321	g/cm3			
Stopping	Units =	eV / Angstrom			
Ion Energy (keV)	dE/dx Elec.	dE/dx Nuclear	Projected Range (A)	Longitudinal Stragglng (A)	Lateral Stragglng(A)
5	1.00E+01	1.42E+01	150	89	65
6	1.07E+01	1.42E+01	175	102	75
7	1.13E+01	1.41E+01	200	114	84
8	1.19E+01	1.40E+01	225	126	92
9	1.25E+01	1.38E+01	250	137	101
10	1.30E+01	1.37E+01	275	149	109
11	1.34E+01	1.35E+01	300	160	118
12	1.39E+01	1.33E+01	325	171	126
13	1.43E+01	1.31E+01	350	181	134
14	1.47E+01	1.30E+01	375	192	141

15	1.51E+01	1.28E+01	400	202	149
16	1.55E+01	1.26E+01	425	212	157
17	1.58E+01	1.24E+01	450	222	165
18	1.62E+01	1.23E+01	475	231	172
20	1.68E+01	1.19E+01	526	250	187
22	1.74E+01	1.16E+01	576	269	202
24	1.80E+01	1.14E+01	626	287	216
26	1.86E+01	1.11E+01	676	304	230
28	1.91E+01	1.08E+01	727	321	244
30	1.96E+01	1.06E+01	777	337	258
33	2.03E+01	1.02E+01	852	361	278
36	2.10E+01	9.88E+00	927	384	298
40	2.18E+01	9.49E+00	1027	414	325
45	2.28E+01	9.04E+00	1152	449	356
50	2.37E+01	8.64E+00	1276	483	387
55	2.46E+01	8.28E+00	1400	515	417
60	2.54E+01	7.95E+00	1523	545	446
65	2.62E+01	7.65E+00	1645	574	475
70	2.69E+01	7.38E+00	1766	602	502
80	2.83E+01	6.90E+00	2007	654	556
90	2.96E+01	6.49E+00	2245	703	607
100	3.08E+01	6.13E+00	2480	748	655
110	3.19E+01	5.81E+00	2712	790	701
120	3.29E+01	5.53E+00	2940	829	746
130	3.39E+01	5.28E+00	3166	866	788
140	3.49E+01	5.05E+00	3390	901	829
150	3.58E+01	4.85E+00	3610	934	869
160	3.67E+01	4.67E+00	3828	966	907
170	3.75E+01	4.50E+00	4043	995	944
180	3.83E+01	4.34E+00	4256	1024	979
200	4.03E+01	4.06E+00	4673	1077	1046
220	4.32E+01	3.82E+00	5073	1124	1109
240	4.60E+01	3.61E+00	5454	1165	1166
260	4.88E+01	3.43E+00	5817	1202	1219