Stack 60MeV p on natFe

Projectile Data		
Name	Z-number	Mass
H	1	1.008

Beam Energy	Precision
60	100

Target Stack Data

No.	Target Name	Z_{target} or Compond ID	Thickness	Specified Thickness	Specified Density	Listed Density	Calculated Thickness	Incident Energy	Exit Energy	Energy Loss	Stopping Power	
			[mm]	[mg/cm2]	[g/cm3]	[g/cm3]	[mg/cm2]	[MeV]	[MeV]	[MeV]	MeV/(g/cm2)	
1	**316 SS**	103	**0.130**	**100.48**		7.930	100.5	60.000	59.247	0.753	7.49	SS 3
2	**Kapton**	105	**0.0250**			1.420	3.6	59.247	59.213	0.034	9.67	
3	**Silicone**	108	**0.0430**			1.110	4.8	59.213	59.163	0.050	10.42	
4	**La**	57	**0.0250**			6.174	15.4	59.163	59.070	0.093	6.04	La01
5	**Silicone**	108	**0.0430**			1.110	4.8	59.070	59.020	0.050	10.44	
6	**Kapton**	105	**0.0250**			1.420	3.6	59.020	58.986	0.034	9.70	
7	**Air**	107	**1.4355**			0.000	0.0	58.986	58.986	0.000	9.61	
8	**Kapton**	105	**0.0250**			1.420	3.6	58.986	58.951	0.034	9.70	
9	**Silicone**	108	**0.0430**			1.110	4.8	58.951	58.901	0.050	10.45	
10	**Al**	13	**0.0250**			2.698	6.7	58.901	58.844	0.057	8.52	Al01
11	**Silicone**	108	**0.0430**			1.110	4.8	58.844	58.794	0.050	10.47	
12	**Kapton**	105	**0.0250**			1.420	3.6	58.794	58.759	0.035	9.73	
13	**Air**	107	**1.4355**			0.000	0.0	58.759	58.759	0.000	9.64	
14	**Kapton**	105	**0.0250**			1.420	3.6	58.759	58.725	0.035	9.73	
15	**Silicone**	108	**0.0430**			1.110	4.8	58.725	58.675	0.050	10.49	
16	**Cu**	29	**0.0250**	22.327		8.949	22.3	58.675	58.513	0.162	7.25	Cu01
17	**Silicone**	108	**0.0430**			1.110	4.8	58.513	58.463	0.050	10.52	
18	**Kapton**	105	**0.0250**			1.420	3.6	58.463	58.428	0.035	9.77	
19	**Air**	107	**1.4355**			0.000	0.0	58.428	58.428	0.000	9.68	
20	**Al**	13	**0.2540**			2.698	68.5	58.428	57.839	0.589	8.60	E1
21	**Kapton**	105	**0.0250**			1.420	3.6	57.839	57.804	0.035	9.85	
22	**Silicone**	108	**0.0430**			1.110	4.8	57.804	57.753	0.051	10.62	
23	**La**	57	**0.0250**			6.174	15.4	57.753	57.658	0.095	6.15	La02
24	**Silicone**	108	**0.0430**			1.110	4.8	57.658	57.607	0.051	10.64	
25	**Kapton**	105	**0.0250**			1.420	3.6	57.607	57.572	0.035	9.88	
26	**Air**	107	**1.4355**			0.000	0.0	57.572	57.572	0.000	9.79	
27	**Kapton**	105	**0.0250**			1.420	3.6	57.572	57.537	0.035	9.89	
28	**Silicone**	108	**0.0430**			1.110	4.8	57.537	57.486	0.051	10.66	
29	**Al**	13	**0.0250**			2.698	6.7	57.486	57.428	0.059	8.68	Al02
30	**Silicone**	108	**0.0430**			1.110	4.8	57.428	57.377	0.051	10.67	
31	**Kapton**	105	**0.0250**			1.420	3.6	57.377	57.342	0.035	9.91	
32	**Air**	107	**1.4355**			0.000	0.0	57.342	57.342	0.000	9.82	
33	**Kapton**	105	**0.0250**			1.420	3.6	57.342	57.306	0.035	9.92	
34	**Silicone**	108	**0.0430**			1.110	4.8	57.306	57.255	0.051	10.69	
35	**Cu**	29	**0.0250**	22.327		8.949	22.3	57.255	57.090	0.165	7.39	Cu02
36	**Silicone**	108	**0.0430**			1.110	4.8	57.090	57.039	0.051	10.72	
37	**Kapton**	105	**0.0250**			1.420	3.6	57.039	57.004	0.035	9.96	
38	**Air**	107	**1.4355**			0.000	0.0	57.004	57.004	0.000	9.87	
39	**Al**	13	**0.2540**			2.698	68.5	57.004	56.403	0.601	8.77	E2
40	**Kapton**	105	**0.0250**			1.420	3.6	56.403	56.367	0.036	10.05	
41	**Silicone**	108	**0.0430**			1.110	4.8	56.367	56.316	0.052	10.83	
42	**La**	57	**0.0250**			6.174	15.4	56.316	56.219	0.097	6.27	La03
43	**Silicone**	108	**0.0430**			1.110	4.8	56.219	56.167	0.052	10.85	
44	**Kapton**	105	**0.0250**			1.420	3.6	56.167	56.131	0.036	10.08	
45	**Air**	107	**1.4355**			0.000	0.0	56.131	56.131	0.000	9.99	
46	**Kapton**	105	**0.0250**			1.420	3.6	56.131	56.096	0.036	10.09	
47	**Silicone**	108	**0.0430**			1.110	4.8	56.096	56.044	0.052	10.87	
48	**Al**	13	**0.0250**			2.698	6.7	56.044	55.984	0.060	8.85	Al03
49	**Silicone**	108	**0.0430**			1.110	4.8	55.984	55.932	0.052	10.89	
50	**Kapton**	105	**0.0250**			1.420	3.6	55.932	55.896	0.036	10.12	
51	**Air**	107	**1.4355**			0.000	0.0	55.896	55.896	0.000	10.02	
52	**Kapton**	105	**0.0250**			1.420	3.6	55.896	55.860	0.036	10.12	
53	**Silicone**	108	**0.0430**			1.110	4.8	55.860	55.808	0.052	10.91	
54	**Cu**	29	**0.0250**	22.327		8.949	22.3	55.808	55.640	0.168	7.54	Cu03

55	**Silicone**	108	**0.0430**			1.110	4.8	55.640	55.588	0.052	10.94	
56	**Kapton**	105	**0.0250**			1.420	3.6	55.588	55.552	0.036	10.16	
57	**Air**	107	**1.4355**			0.000	0.0	55.552	55.552	0.000	10.07	
58	**Al**	13	**0.2540**			2.698	68.5	55.552	54.938	0.613	8.95	E3
59	**Kapton**	105	**0.0250**			1.420	3.6	54.938	54.902	0.036	10.26	
60	**Silicone**	108	**0.0430**			1.110	4.8	54.902	54.849	0.053	11.06	
61	**La**	57	**0.0250**			6.174	15.4	54.849	54.751	0.099	6.39	La04
62	**Silicone**	108	**0.0430**			1.110	4.8	54.751	54.698	0.053	11.08	
63	**Kapton**	105	**0.0250**			1.420	3.6	54.698	54.661	0.037	10.30	
64	**Air**	107	**1.4355**			0.000	0.0	54.661	54.661	0.000	10.20	
65	**Kapton**	105	**0.0250**			1.420	3.6	54.661	54.625	0.037	10.30	
66	**Silicone**	108	**0.0430**			1.110	4.8	54.625	54.572	0.053	11.10	
67	**Al**	13	**0.0250**			2.698	6.7	54.572	54.511	0.061	9.04	Al04
68	**Silicone**	108	**0.0430**			1.110	4.8	54.511	54.458	0.053	11.12	
69	**Kapton**	105	**0.0250**			1.420	3.6	54.458	54.421	0.037	10.33	
70	**Air**	107	**1.4355**			0.000	0.0	54.421	54.421	0.000	10.23	
71	**Kapton**	105	**0.0250**			1.420	3.6	54.421	54.384	0.037	10.34	
72	**Silicone**	108	**0.0430**			1.110	4.8	54.384	54.331	0.053	11.14	
73	**Cu**	29	**0.0250**	22.327		8.949	22.3	54.331	54.159	0.172	7.69	Cu04
74	**Silicone**	108	**0.0430**			1.110	4.8	54.159	54.106	0.053	11.18	
75	**Kapton**	105	**0.0250**			1.420	3.6	54.106	54.069	0.037	10.38	
76	**Air**	107	**1.4355**			0.000	0.0	54.069	54.069	0.000	10.29	
77	**Al**	13	**0.2540**			2.698	68.5	54.069	53.443	0.626	9.14	E4
78	**Kapton**	105	**0.0250**			1.420	3.6	53.443	53.406	0.037	10.49	
79	**Silicone**	108	**0.0430**			1.110	4.8	53.406	53.352	0.054	11.30	
80	**La**	57	**0.0250**			6.174	15.4	53.352	53.251	0.101	6.52	La05
81	**Silicone**	108	**0.0430**			1.110	4.8	53.251	53.197	0.054	11.33	
82	**Kapton**	105	**0.0250**			1.420	3.6	53.197	53.160	0.037	10.52	
83	**Air**	107	**1.4355**			0.000	0.0	53.160	53.160	0.000	10.43	
84	**Kapton**	105	**0.0250**			1.420	3.6	53.160	53.122	0.037	10.53	
85	**Silicone**	108	**0.0430**			1.110	4.8	53.122	53.068	0.054	11.35	
86	**Al**	13	**0.0250**			2.698	6.7	53.068	53.006	0.062	9.23	Al05
87	**Silicone**	108	**0.0430**			1.110	4.8	53.006	52.952	0.054	11.37	
88	**Kapton**	105	**0.0250**			1.420	3.6	52.952	52.914	0.037	10.56	
89	**Air**	107	**1.4355**			0.000	0.0	52.914	52.914	0.000	10.46	
90	**Kapton**	105	**0.0250**			1.420	3.6	52.914	52.877	0.038	10.57	
91	**Silicone**	108	**0.0430**			1.110	4.8	52.877	52.822	0.054	11.39	
92	**Cu**	29	**0.0250**	22.327		8.949	22.3	52.822	52.647	0.175	7.86	Cu05
93	**Silicone**	108	**0.0430**			1.110	4.8	52.647	52.592	0.055	11.43	
94	**Kapton**	105	**0.0250**			1.420	3.6	52.592	52.555	0.038	10.62	
95	**Air**	107	**1.4355**			0.000	0.0	52.555	52.555	0.000	10.52	
96	**Al**	13	**0.2540**			2.698	68.5	52.555	51.914	0.640	9.34	E5
97	**Kapton**	105	**0.0250**			1.420	3.6	51.914	51.876	0.038	10.73	
98	**Silicone**	108	**0.0430**			1.110	4.8	51.876	51.821	0.055	11.56	
99	**La**	57	**0.0250**			6.174	15.4	51.821	51.718	0.103	6.67	La06
100	**Silicone**	108	**0.0430**			1.110	4.8	51.718	51.663	0.055	11.59	
101	**Kapton**	105	**0.0250**			1.420	3.6	51.663	51.624	0.038	10.77	
102	**Air**	107	**1.4355**			0.000	0.0	51.624	51.624	0.000	10.67	
103	**Kapton**	105	**0.0250**			1.420	3.6	51.624	51.586	0.038	10.78	
104	**Silicone**	108	**0.0430**			1.110	4.8	51.586	51.531	0.055	11.61	
105	**Al**	13	**0.0250**			2.698	6.7	51.531	51.467	0.064	9.45	Al06
106	**Silicone**	108	**0.0430**			1.110	4.8	51.467	51.412	0.056	11.64	
107	**Kapton**	105	**0.0250**			1.420	3.6	51.412	51.373	0.038	10.81	
108	**Air**	107	**1.4355**			0.000	0.0	51.373	51.373	0.000	10.71	
109	**Kapton**	105	**0.0250**			1.420	3.6	51.373	51.335	0.038	10.82	
110	**Silicone**	108	**0.0430**			1.110	4.8	51.335	51.279	0.056	11.66	
111	**Cu**	29	**0.0250**	22.327		8.949	22.3	51.279	51.100	0.179	8.04	Cu06
112	**Silicone**	108	**0.0430**			1.110	4.8	51.100	51.044	0.056	11.70	
113	**Kapton**	105	**0.0250**			1.420	3.6	51.044	51.005	0.039	10.87	
114	**Air**	107	**1.4355**			0.000	0.0	51.005	51.005	0.000	10.77	
115	**Al**	13	**0.5080**			2.698	137.1	51.005	49.690	1.316	9.60	E6+E7
116	**Kapton**	105	**0.0250**			1.420	3.6	49.690	49.650	0.039	11.10	
117	**Silicone**	108	**0.0430**			1.110	4.8	49.650	49.593	0.057	11.95	
118	**La**	57	**0.0250**			6.174	15.4	49.593	49.489	0.104	6.74	La07
119	**Silicone**	108	**0.0430**			1.110	4.8	49.489	49.432	0.057	11.98	
120	**Kapton**	105	**0.0250**			1.420	3.6	49.432	49.392	0.040	11.14	

121	**Air**	107	**1.4355**			0.000	0.0	49.392	49.392	0.000	11.04	
122	**Kapton**	105	**0.0250**			1.420	3.6	49.392	49.353	0.040	11.15	
123	**Silicone**	108	**0.0430**			1.110	4.8	49.353	49.295	0.057	12.01	
124	**Al**	13	**0.0250**			2.698	6.7	49.295	49.230	0.066	9.75	Al07
125	**Silicone**	108	**0.0430**			1.110	4.8	49.230	49.172	0.057	12.03	
126	**Kapton**	105	**0.0250**			1.420	3.6	49.172	49.133	0.040	11.19	
127	**Air**	107	**1.4355**			0.000	0.0	49.133	49.133	0.000	11.09	
128	**Kapton**	105	**0.0250**			1.420	3.6	49.133	49.093	0.040	11.20	
129	**Silicone**	108	**0.0430**			1.110	4.8	49.093	49.035	0.058	12.06	
130	**Cu**	29	**0.0250**	22.327		8.949	22.3	49.035	48.852	0.184	8.23	Cu07
131	**Silicone**	108	**0.0430**			1.110	4.8	48.852	48.794	0.058	12.11	
132	**Kapton**	105	**0.0250**			1.420	3.6	48.794	48.754	0.040	11.26	
133	**Air**	107	**1.4355**			0.000	0.0	48.754	48.754	0.000	11.15	
134	**Al**	13	**0.5080**			2.698	137.1	48.754	47.392	1.362	9.93	E8+E9
135	**Kapton**	105	**0.0250**			1.420	3.6	47.392	47.351	0.041	11.52	
136	**Silicone**	108	**0.0430**			1.110	4.8	47.351	47.292	0.059	12.41	
137	**La**	57	**0.0250**			6.174	15.4	47.292	47.184	0.108	6.98	La08
138	**Silicone**	108	**0.0430**			1.110	4.8	47.184	47.125	0.059	12.45	
139	**Kapton**	105	**0.0250**			1.420	3.6	47.125	47.084	0.041	11.57	
140	**Air**	107	**1.4355**			0.000	0.0	47.084	47.084	0.000	11.47	
141	**Kapton**	105	**0.0250**			1.420	3.6	47.084	47.043	0.041	11.58	
142	**Silicone**	108	**0.0430**			1.110	4.8	47.043	46.983	0.060	12.48	
143	**Al**	13	**0.0250**			2.698	6.7	46.983	46.915	0.068	10.12	Al08
144	**Silicone**	108	**0.0430**			1.110	4.8	46.915	46.855	0.060	12.50	
145	**Kapton**	105	**0.0250**			1.420	3.6	46.855	46.814	0.041	11.63	
146	**Air**	107	**1.4355**			0.000	0.0	46.814	46.814	0.000	11.52	
147	**Kapton**	105	**0.0250**			1.420	3.6	46.814	46.773	0.041	11.63	
148	**Silicone**	108	**0.0430**			1.110	4.8	46.773	46.713	0.060	12.53	
149	**Cu**	29	**0.0250**	22.327		8.949	22.3	46.713	46.522	0.191	8.53	Cu08
150	**Silicone**	108	**0.0430**			1.110	4.8	46.522	46.462	0.060	12.59	
151	**Kapton**	105	**0.0250**			1.420	3.6	46.462	46.421	0.042	11.70	
152	**Air**	107	**1.4355**			0.000	0.0	46.421	46.421	0.000	11.60	
153	**Al**	13	**0.5080**			2.698	137.1	46.421	45.005	1.416	10.33	E10+E11
154	**Kapton**	105	**0.0250**			1.420	3.6	45.005	44.962	0.043	12.01	
155	**Silicone**	108	**0.0430**			1.110	4.8	44.962	44.900	0.062	12.93	
156	**La**	57	**0.0250**			6.174	15.4	44.900	44.789	0.112	7.25	La09
157	**Silicone**	108	**0.0430**			1.110	4.8	44.789	44.727	0.062	12.97	
158	**Kapton**	105	**0.0250**			1.420	3.6	44.727	44.684	0.043	12.07	
159	**Air**	107	**1.4355**			0.000	0.0	44.684	44.684	0.000	11.95	
160	**Kapton**	105	**0.0250**			1.420	3.6	44.684	44.641	0.043	12.07	
161	**Silicone**	108	**0.0430**			1.110	4.8	44.641	44.579	0.062	13.01	
162	**Al**	13	**0.0250**			2.698	6.7	44.579	44.508	0.071	10.54	Al09
163	**Silicone**	108	**0.0430**			1.110	4.8	44.508	44.446	0.062	13.04	
164	**Kapton**	105	**0.0250**			1.420	3.6	44.446	44.403	0.043	12.13	
165	**Air**	107	**1.4355**			0.000	0.0	44.403	44.403	0.000	12.02	
166	**Kapton**	105	**0.0250**			1.420	3.6	44.403	44.359	0.043	12.14	
167	**Silicone**	108	**0.0430**			1.110	4.8	44.359	44.297	0.062	13.07	
168	**Cu**	29	**0.0250**	22.327		8.949	22.3	44.297	44.099	0.198	8.88	Cu09
169	**Silicone**	108	**0.0430**			1.110	4.8	44.099	44.036	0.063	13.13	
170	**Kapton**	105	**0.0250**			1.420	3.6	44.036	43.993	0.043	12.22	
171	**Air**	107	**1.4355**			0.000	0.0	43.993	43.993	0.000	12.11	
172	**Al**	13	**0.5080**			2.698	137.1	43.993	42.514	1.478	10.79	E12+E13
173	**Kapton**	105	**0.0250**			1.420	3.6	42.514	42.470	0.045	12.56	
174	**Silicone**	108	**0.0430**			1.110	4.8	42.470	42.405	0.065	13.53	
175	**La**	57	**0.0250**			6.174	15.4	42.405	42.289	0.117	7.56	La10
176	**Silicone**	108	**0.0430**			1.110	4.8	42.289	42.224	0.065	13.58	
177	**Kapton**	105	**0.0250**			1.420	3.6	42.224	42.179	0.045	12.63	
178	**Air**	107	**1.4355**			0.000	0.0	42.179	42.179	0.000	12.52	
179	**Kapton**	105	**0.0250**			1.420	3.6	42.179	42.134	0.045	12.64	
180	**Silicone**	108	**0.0430**			1.110	4.8	42.134	42.069	0.065	13.62	
181	**Al**	13	**0.0250**			2.698	6.7	42.069	41.995	0.074	11.03	Al10
182	**Silicone**	108	**0.0430**			1.110	4.8	41.995	41.929	0.065	13.66	
183	**Kapton**	105	**0.0250**			1.420	3.6	41.929	41.884	0.045	12.70	
184	**Air**	107	**1.4355**			0.000	0.0	41.884	41.884	0.000	12.59	
185	**Kapton**	105	**0.0250**			1.420	3.6	41.884	41.839	0.045	12.71	
186	**Silicone**	108	**0.0430**			1.110	4.8	41.839	41.774	0.065	13.70	

187	**Cu**	29	**0.0250**	22.327		8.949	22.3	41.774	41.566	0.207	9.29	Cu10
188	**Silicone**	108	**0.0430**			1.110	4.8	41.566	41.501	0.066	13.77	
189	**Kapton**	105	**0.0250**			1.420	3.6	41.501	41.455	0.045	12.81	
190	**Air**	107	**1.4355**			0.000	0.0	41.455	41.455	0.000	12.69	
191	**316 SS**	103	**0.1300**	**101.25**		7.930	101.3	41.455	40.453	1.003	9.90	SS4
192	**Tb**	65	**0.100**			8.277	82.8	40.453	39.833	0.620	7.49	
193	**Tb**	65	**0.100**			8.277	82.8	39.833	39.206	0.627	7.57	
194	**Tb**	65	**0.100**			8.277	82.8	39.206	38.572	0.634	7.66	
195	**Tb**	65	**0.100**			8.277	82.8	38.572	37.930	0.642	7.76	
196	**Tb**	65	**0.100**			8.277	82.8	37.930	37.280	0.650	7.85	
197	**Tb**										.95	
198	**Tb**										.06	
199	**Tb**										.17	
200	**Tb**										.28	
201	**Tb**										.40	
202	**Tb**										.53	
203	**Tb**										.66	
204	**Tb**										.80	
205	**Tb**										.95	
206	**Tb**										.10	
207	**Tb**										.27	
208	**Tb**										.45	
209	**Tb**										.64	
210	**Tb**										.84	
211	**Tb**										.06	
212	**Tb**										.29	
213	**Tb**										.54	
214	**Tb**										.82	
215	**Tb**										.12	
216	**Tb**										.45	
217	**Tb**										.82	
218	**Tb**										.23	
219	**Tb**										.69	
220	**Tb**										.22	
221	**Tb**	65	**0.100**			8.277	82.8	17.637	16.492	1.144	13.82	
222	**Tb**	65	**0.100**			8.277	82.8	16.492	15.289	1.203	14.54	
223	**Tb**										.39	
224	**Tb**										.43	
225	**Tb**										.75	
226	**Tb**										.52	
227	**Tb**										.07	
228	**Tb**										.26	
229	**Tb**										.88	
230	**Tb**										.00	
231	**Tb**										!	
232	**Tb**										!	
233	**Tb**										!	
234	**Tb**										!	
235	**Tb**										!	
236	**Tb**										!	
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238	**Tb**										!	
239	**Tb**										!	
240	**Tb**										!	
241	**Tb**										!	
242	**Tb**										!	
243	**Tb**										!	
244	**Tb**										!	
245	**Tb**										!	
246	**Tb**										!	
247	**Tb**	65	**0.100**			8.277	82.8	#VALUE!	#VALUE!	#VALUE!	#VALUE!	
248	**Tb**	65	**0.100**			8.277	82.8	#VALUE!	#VALUE!	#VALUE!	#VALUE!	
249	**Tb**	65	**0.100**			8.277	82.8	#VALUE!	#VALUE!	#VALUE!	#VALUE!