Muons in skin (ICRP)

$\langle Z/A \rangle$	ρ [g/cm^3]	I [eV]	a	$k = m_s$	x_0	x_1	$\overline{C}$	δ_0
0.54932	1.100	72.7	0.09459	3.4643	0.2019	2.7526	3.3546	0.00

T	p [MeV/c]	Ionization	Brems	Pair prod	Photonucl	Total	CSDA range [g/cm^2]
		[MeV cm^2/g]					
10.0 MeV	4.704×10^1	7.914				7.914	6.982×10^{-1}
14.0 MeV	5.616×10^1	6.172				6.172	1.277×10^0
20.0 MeV	6.802×10^1	4.820				4.820	2.389×10^0
30.0 MeV	8.509×10^1	3.738				3.739	4.778×10^0
40.0 MeV	1.003×10^2	3.192				3.192	7.692×10^0
80.0 MeV	1.527×10^2	2.396				2.396	2.262×10^1
100. MeV	1.764×10^2	2.250				2.250	3.125×10^1
140. MeV	2.218×10^2	2.095				2.095	4.976×10^1
200. MeV	2.868×10^2	2.005				2.005	7.916×10^1
300. MeV	3.917×10^2	1.970			0.000	1.970	1.296×10^2
318. MeV	4.105×10^2	1.969			0.000	1.970	*Minimum ionization*
400. MeV	4.945×10^2	1.976			0.000	1.976	1.803×10^2
800. MeV	8.995×10^2	2.049	0.000		0.000	2.050	3.792×10^2
1.00 GeV	1.101×10^3	2.083	0.000		0.000	2.084	4.759×10^2
1.40 GeV	1.502×10^3	2.138	0.000		0.001	2.139	6.653×10^2
2.00 GeV	2.103×10^3	2.199	0.001	0.000	0.001	2.201	9.416×10^2
3.00 GeV	3.104×10^3	2.268	0.001	0.001	0.001	2.271	1.388×10^3
4.00 GeV	4.104×10^3	2.316	0.001	0.001	0.002	2.321	1.824×10^3
8.00 GeV	8.105×10^3	2.426	0.003	0.003	0.004	2.437	3.500×10^3
10.0 GeV	1.011×10^4	2.460	0.005	0.005	0.005	2.474	4.315×10^3
14.0 GeV	1.411×10^4	2.509	0.007	0.008	0.007	2.530	5.913×10^3
20.0 GeV	2.011×10^4	2.558	0.011	0.012	0.009	2.590	8.255×10^3
30.0 GeV	3.011×10^4	2.611	0.018	0.022	0.014	2.664	1.206×10^4
40.0 GeV	4.011×10^4	2.647	0.025	0.032	0.018	2.722	1.577×10^4
80.0 GeV	8.011×10^4	2.730	0.058	0.077	0.034	2.899	2.999×10^4
100. GeV	1.001×10^5	2.756	0.075	0.102	0.042	2.975	3.679×10^4
140. GeV	1.401×10^5	2.794	0.110	0.153	0.059	3.117	4.992×10^4
200. GeV	2.001×10^5	2.834	0.166	0.235	0.084	3.319	6.857×10^4
300. GeV	3.001×10^5	2.880	0.262	0.373	0.125	3.641	9.732×10^4
400. GeV	4.001×10^5	2.912	0.362	0.518	0.167	3.959	1.237×10^5
800. GeV	8.001×10^5	2.991	0.777	1.118	0.338	5.224	2.113×10^5
1.00 TeV	1.000×10^6	3.016	0.992	1.429	0.424	5.862	2.474×10^5
1.06 TeV	1.059×10^6	3.023	1.054	1.518	0.450	6.046	*Muon critical energy*
1.40 TeV	1.400×10^6	3.055	1.424	2.046	0.602	7.128	3.092×10^5
2.00 TeV	2.000×10^6	3.097	2.089	2.993	0.871	9.051	3.838×10^5
3.00 TeV	3.000×10^6	3.145	3.203	4.570	1.335	12.253	4.784×10^5
4.00 TeV	4.000×10^6	3.180	4.336	6.168	1.807	15.492	5.508×10^5
8.00 TeV	8.000×10^6	3.265	8.926	12.607	3.773	28.571	7.381×10^5
10.0 TeV	1.000×10^7	3.293	11.248	15.850	4.785	35.176	8.011×10^5
14.0 TeV	1.400×10^7	3.336	15.881	22.312	6.871	48.400	8.976×10^5
20.0 TeV	2.000×10^7	3.382	22.891	32.058	10.077	68.408	1.001×10^6
30.0 TeV	3.000×10^7	3.435	34.564	48.274	15.641	101.915	1.120×10^6
40.0 TeV	4.000×10^7	3.474	46.300	64.543	21.353	135.670	1.205×10^6
80.0 TeV	8.000×10^7	3.568	93.370	129.672	45.326	271.936	1.409×10^6
100. TeV	1.000×10^8	3.600	116.972	162.275	57.754	340.600	1.475×10^6