Muons in methane (CH_4)

$\langle Z/A \rangle$	ρ [g/cm^3]	I [eV]	a	$k = m_s$	x_0	x_1	$\overline{C}$	δ_0
0.62334	6.672×10^{-4}	41.7	0.09253	3.6257	1.6263	3.9716	9.5243	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	9.623				9.623	5.714×10^{-1}
14.0 MeV	5.616×10^1	7.487				7.487	1.048×10^0
20.0 MeV	6.802×10^1	5.832				5.832	1.966×10^0
30.0 MeV	8.509×10^1	4.513				4.513	3.943×10^0
40.0 MeV	1.003×10^2	3.847				3.847	6.359×10^0
80.0 MeV	1.527×10^2	2.876				2.876	1.877×10^1
100. MeV	1.764×10^2	2.702				2.702	2.597×10^1
140. MeV	2.218×10^2	2.528				2.529	4.134×10^1
200. MeV	2.868×10^2	2.438				2.438	6.560×10^1
270. MeV	3.608×10^2	2.417			0.000	2.417	*Minimum ionization*
300. MeV	3.917×10^2	2.420			0.000	2.420	1.069×10^2
400. MeV	4.945×10^2	2.446			0.000	2.447	1.480×10^2
800. MeV	8.995×10^2	2.597	0.000		0.000	2.597	3.066×10^2
1.00 GeV	1.101×10^3	2.661	0.000		0.000	2.662	3.826×10^2
1.40 GeV	1.502×10^3	2.767	0.000		0.001	2.768	5.299×10^2
2.00 GeV	2.103×10^3	2.887	0.000	0.000	0.001	2.889	7.418×10^2
3.00 GeV	3.104×10^3	3.028	0.001	0.000	0.002	3.031	1.079×10^3
4.00 GeV	4.104×10^3	3.130	0.001	0.001	0.002	3.134	1.403×10^3
8.00 GeV	8.105×10^3	3.328	0.003	0.002	0.004	3.338	2.634×10^3
10.0 GeV	1.011×10^4	3.385	0.003	0.003	0.005	3.397	3.228×10^3
14.0 GeV	1.411×10^4	3.464	0.005	0.006	0.007	3.482	4.390×10^3
20.0 GeV	2.011×10^4	3.540	0.008	0.010	0.010	3.568	6.091×10^3
30.0 GeV	3.011×10^4	3.619	0.014	0.017	0.014	3.664	8.854×10^3
40.0 GeV	4.011×10^4	3.671	0.020	0.025	0.018	3.734	1.156×10^4
80.0 GeV	8.011×10^4	3.782	0.045	0.060	0.035	3.923	2.199×10^4
100. GeV	1.001×10^5	3.815	0.058	0.079	0.044	3.997	2.704×10^4
140. GeV	1.401×10^5	3.862	0.086	0.120	0.061	4.129	3.688×10^4
200. GeV	2.001×10^5	3.911	0.130	0.184	0.086	4.311	5.110×10^4
300. GeV	3.001×10^5	3.964	0.206	0.293	0.129	4.592	7.357×10^4
400. GeV	4.001×10^5	4.001	0.285	0.407	0.172	4.865	9.472×10^4
800. GeV	8.001×10^5	4.091	0.616	0.883	0.346	5.936	1.690×10^5
1.00 TeV	1.000×10^6	4.120	0.787	1.130	0.435	6.473	2.013×10^5
1.40 TeV	1.400×10^6	4.164	1.133	1.622	0.617	7.537	2.585×10^5
1.72 TeV	1.716×10^6	4.191	1.411	2.017	0.762	8.382	*Muon critical energy*
2.00 TeV	2.000×10^6	4.211	1.665	2.378	0.894	9.148	3.306×10^5
3.00 TeV	3.000×10^6	4.266	2.560	3.636	1.370	11.832	4.265×10^5
4.00 TeV	4.000×10^6	4.305	3.472	4.914	1.855	14.546	5.026×10^5
8.00 TeV	8.000×10^6	4.402	7.172	10.064	3.875	25.513	7.076×10^5
10.0 TeV	1.000×10^7	4.434	9.048	12.659	4.916	31.057	7.786×10^5
14.0 TeV	1.400×10^7	4.482	12.792	17.828	7.065	42.168	8.887×10^5
20.0 TeV	2.000×10^7	4.535	18.464	25.629	10.368	58.996	1.008×10^6
30.0 TeV	3.000×10^7	4.595	27.914	38.604	16.107	87.219	1.147×10^6
40.0 TeV	4.000×10^7	4.639	37.423	51.623	22.001	115.686	1.246×10^6
80.0 TeV	8.000×10^7	4.746	75.570	103.746	46.779	230.841	1.486×10^6
100. TeV	1.000×10^8	4.781	94.703	129.840	59.637	288.962	1.564×10^6