Muons in liquid argon (Ar)

Z	A [g/mol]	ρ [g/cm^3]	I [eV]	a	$k = m_s$	x_0	x_1	$\overline{C}$	δ_0
18 (Ar)	39.948 (1)	1.396	188.0	0.19559	3.0000	0.2000	3.0000	5.2146	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	5.687				5.687	9.833×10^{-1}
14.0 MeV	5.616×10^1	4.461				4.461	1.786×10^0
20.0 MeV	6.802×10^1	3.502				3.502	3.321×10^0
30.0 MeV	8.509×10^1	2.731				2.731	6.598×10^0
40.0 MeV	1.003×10^2	2.340				2.340	1.058×10^1
80.0 MeV	1.527×10^2	1.771				1.771	3.084×10^1
100. MeV	1.764×10^2	1.669				1.670	4.250×10^1
140. MeV	2.218×10^2	1.570				1.570	6.732×10^1
200. MeV	2.868×10^2	1.518				1.519	1.063×10^2
266. MeV	3.567×10^2	1.508			0.000	1.508	*Minimum ionization*
300. MeV	3.917×10^2	1.509			0.000	1.510	1.725×10^2
400. MeV	4.945×10^2	1.526	0.000		0.000	1.526	2.385×10^2
800. MeV	8.995×10^2	1.610	0.000		0.000	1.610	4.934×10^2
1.00 GeV	1.101×10^3	1.644	0.000		0.000	1.645	6.163×10^2
1.40 GeV	1.502×10^3	1.699	0.001	0.000	0.001	1.700	8.552×10^2
2.00 GeV	2.103×10^3	1.758	0.001	0.001	0.001	1.761	1.202×10^3
3.00 GeV	3.104×10^3	1.825	0.002	0.001	0.001	1.829	1.758×10^3
4.00 GeV	4.104×10^3	1.870	0.003	0.002	0.002	1.877	2.297×10^3
8.00 GeV	8.105×10^3	1.973	0.007	0.007	0.004	1.991	4.359×10^3
10.0 GeV	1.011×10^4	2.003	0.010	0.010	0.004	2.028	5.354×10^3
14.0 GeV	1.411×10^4	2.047	0.015	0.016	0.006	2.084	7.298×10^3
20.0 GeV	2.011×10^4	2.091	0.023	0.026	0.008	2.149	1.013×10^4
30.0 GeV	3.011×10^4	2.137	0.037	0.046	0.012	2.232	1.469×10^4
40.0 GeV	4.011×10^4	2.167	0.052	0.067	0.016	2.304	1.910×10^4
80.0 GeV	8.011×10^4	2.236	0.118	0.161	0.032	2.548	3.558×10^4
100. GeV	1.001×10^5	2.258	0.153	0.212	0.039	2.663	4.326×10^4
140. GeV	1.401×10^5	2.289	0.225	0.318	0.055	2.888	5.768×10^4
200. GeV	2.001×10^5	2.322	0.338	0.485	0.078	3.224	7.734×10^4
300. GeV	3.001×10^5	2.360	0.532	0.766	0.117	3.774	1.060×10^5
400. GeV	4.001×10^5	2.386	0.732	1.058	0.156	4.332	1.307×10^5
484. GeV	4.846×10^5	2.404	0.905	1.311	0.188	4.808	*Muon critical energy*
800. GeV	8.001×10^5	2.451	1.561	2.258	0.314	6.585	2.051×10^5
1.00 TeV	1.000×10^6	2.472	1.989	2.874	0.395	7.730	2.331×10^5
1.40 TeV	1.400×10^6	2.503	2.847	4.104	0.560	10.015	2.784×10^5
2.00 TeV	2.000×10^6	2.538	4.161	5.985	0.810	13.494	3.299×10^5
3.00 TeV	3.000×10^6	2.577	6.360	9.110	1.240	19.288	3.915×10^5
4.00 TeV	4.000×10^6	2.606	8.592	12.272	1.677	25.147	4.368×10^5
8.00 TeV	8.000×10^6	2.676	17.605	24.995	3.493	48.769	5.490×10^5
10.0 TeV	1.000×10^7	2.698	22.154	31.395	4.427	60.675	5.857×10^5
14.0 TeV	1.400×10^7	2.734	31.236	44.156	6.347	84.472	6.413×10^5
20.0 TeV	2.000×10^7	2.771	44.956	63.386	9.292	120.406	7.005×10^5
30.0 TeV	3.000×10^7	2.815	67.769	95.400	14.391	180.375	7.679×10^5
40.0 TeV	4.000×10^7	2.847	90.675	127.504	19.616	240.642	8.158×10^5
80.0 TeV	8.000×10^7	2.924	182.502	256.012	41.480	482.918	9.308×10^5
100. TeV	1.000×10^8	2.950	228.520	320.330	52.790	604.590	9.678×10^5