

## Muons in krypton gas (Kr)

Z	A [g/mol]	$\rho$ [g/cm <sup>3</sup> ]	I [eV]	$a$	$k = m_s$	$x_0$	$x_1$	$\bar{C}$	$\delta_0$
36 (Kr)	83.798(2)	$3.486 \times 10^{-3}$	352.0	0.07446	3.4051	1.7153	5.0743	12.5094	0.00

  

T	p	Ionization	Brems	Pair prod	Photonucl	Total	CSDA range
	[MeV/c]			[MeV cm <sup>2</sup> /g]			[g/cm <sup>2</sup> ]
10.0 MeV	$4.704 \times 10^1$	4.909				4.909	$1.152 \times 10^0$
14.0 MeV	$5.616 \times 10^1$	3.870				3.870	$2.079 \times 10^0$
20.0 MeV	$6.802 \times 10^1$	3.053				3.053	$3.844 \times 10^0$
30.0 MeV	$8.509 \times 10^1$	2.392				2.392	$7.594 \times 10^0$
40.0 MeV	$1.003 \times 10^2$	2.055				2.055	$1.213 \times 10^1$
80.0 MeV	$1.527 \times 10^2$	1.565				1.565	$3.512 \times 10^1$
100. MeV	$1.764 \times 10^2$	1.479				1.479	$4.829 \times 10^1$
140. MeV	$2.218 \times 10^2$	1.397				1.397	$7.624 \times 10^1$
200. MeV	$2.868 \times 10^2$	1.360				1.360	$1.199 \times 10^2$
232. MeV	$3.210 \times 10^2$	1.357				1.357	<i>Minimum ionization</i>
300. MeV	$3.917 \times 10^2$	1.366	0.000		0.000	1.366	$1.934 \times 10^2$
400. MeV	$4.945 \times 10^2$	1.392	0.000		0.000	1.392	$2.660 \times 10^2$
800. MeV	$8.995 \times 10^2$	1.504	0.001		0.000	1.505	$5.419 \times 10^2$
1.00 GeV	$1.101 \times 10^3$	1.550	0.001		0.000	1.552	$6.727 \times 10^2$
1.40 GeV	$1.502 \times 10^3$	1.624	0.001	0.000	0.001	1.627	$9.242 \times 10^2$
2.00 GeV	$2.103 \times 10^3$	1.708	0.002	0.001	0.001	1.712	$1.283 \times 10^3$
3.00 GeV	$3.104 \times 10^3$	1.805	0.004	0.002	0.001	1.813	$1.850 \times 10^3$
4.00 GeV	$4.104 \times 10^3$	1.875	0.005	0.004	0.002	1.887	$2.390 \times 10^3$
8.00 GeV	$8.105 \times 10^3$	2.042	0.013	0.013	0.003	2.072	$4.402 \times 10^3$
10.0 GeV	$1.011 \times 10^4$	2.092	0.017	0.018	0.004	2.132	$5.353 \times 10^3$
14.0 GeV	$1.411 \times 10^4$	2.164	0.026	0.029	0.006	2.225	$7.188 \times 10^3$
20.0 GeV	$2.011 \times 10^4$	2.234	0.041	0.047	0.008	2.330	$9.820 \times 10^3$
30.0 GeV	$3.011 \times 10^4$	2.307	0.066	0.082	0.012	2.468	$1.399 \times 10^4$
40.0 GeV	$4.011 \times 10^4$	2.355	0.094	0.120	0.015	2.585	$1.794 \times 10^4$
80.0 GeV	$8.011 \times 10^4$	2.459	0.211	0.288	0.030	2.990	$3.229 \times 10^4$
100. GeV	$1.001 \times 10^5$	2.490	0.274	0.379	0.037	3.180	$3.878 \times 10^4$
140. GeV	$1.401 \times 10^5$	2.533	0.402	0.566	0.052	3.554	$5.067 \times 10^4$
200. GeV	$2.001 \times 10^5$	2.576	0.603	0.861	0.074	4.115	$6.635 \times 10^4$
300. GeV	$3.001 \times 10^5$	2.623	0.946	1.356	0.110	5.037	$8.828 \times 10^4$
324. GeV	$3.244 \times 10^5$	2.631	1.032	1.480	0.119	5.263	<i>Muon critical energy</i>
400. GeV	$4.001 \times 10^5$	2.654	1.302	1.870	0.147	5.973	$1.065 \times 10^5$
800. GeV	$8.001 \times 10^5$	2.726	2.769	3.976	0.298	9.770	$1.584 \times 10^5$
1.00 TeV	$1.000 \times 10^6$	2.748	3.524	5.054	0.374	11.701	$1.770 \times 10^5$
1.40 TeV	$1.400 \times 10^6$	2.781	5.038	7.205	0.530	15.556	$2.066 \times 10^5$
2.00 TeV	$2.000 \times 10^6$	2.816	7.355	10.490	0.767	21.429	$2.393 \times 10^5$
3.00 TeV	$3.000 \times 10^6$	2.855	11.225	15.949	1.173	31.203	$2.778 \times 10^5$
4.00 TeV	$4.000 \times 10^6$	2.882	15.150	21.468	1.585	41.086	$3.056 \times 10^5$
8.00 TeV	$8.000 \times 10^6$	2.949	30.981	43.658	3.297	80.886	$3.737 \times 10^5$
10.0 TeV	$1.000 \times 10^7$	2.971	38.962	54.815	4.176	100.925	$3.958 \times 10^5$
14.0 TeV	$1.400 \times 10^7$	3.005	54.882	77.074	5.981	140.943	$4.292 \times 10^5$
20.0 TeV	$2.000 \times 10^7$	3.041	78.910	110.610	8.748	201.310	$4.647 \times 10^5$
30.0 TeV	$3.000 \times 10^7$	3.082	118.912	166.409	13.532	301.936	$5.049 \times 10^5$
40.0 TeV	$4.000 \times 10^7$	3.112	159.067	222.346	18.431	402.957	$5.335 \times 10^5$
80.0 TeV	$8.000 \times 10^7$	3.186	319.956	446.262	38.896	808.302	$6.022 \times 10^5$
100. TeV	$1.000 \times 10^8$	3.211	400.550	558.330	49.470	1011.562	$6.243 \times 10^5$