

**Muons in cellulose nitrate [(C<sub>12</sub>H<sub>14</sub>O<sub>4</sub>(ONO<sub>2</sub>)<sub>6</sub>)<sub>n</sub>]**

$\langle Z/A \rangle$	$\rho$ [g/cm <sup>3</sup> ]	$I$ [eV]	$a$	$k = m_s$	$x_0$	$x_1$	$\bar{C}$	$\delta_0$
0.51424	1.490	87.0	0.11813	3.3237	0.1897	2.7253	3.4762	0.00
$T$	$p$ [MeV/c]	Ionization	Brems	Pair prod [MeV cm <sup>2</sup> /g]	Photonucl	Total	CSDA range [g/cm <sup>2</sup> ]	
10.0 MeV	$4.704 \times 10^1$	7.237				7.237	$7.647 \times 10^{-1}$	
14.0 MeV	$5.616 \times 10^1$	5.649				5.649	$1.397 \times 10^0$	
20.0 MeV	$6.802 \times 10^1$	4.415				4.415	$2.612 \times 10^0$	
30.0 MeV	$8.509 \times 10^1$	3.428				3.428	$5.219 \times 10^0$	
40.0 MeV	$1.003 \times 10^2$	2.928				2.928	$8.396 \times 10^0$	
80.0 MeV	$1.527 \times 10^2$	2.201				2.201	$2.465 \times 10^1$	
100. MeV	$1.764 \times 10^2$	2.066				2.067	$3.405 \times 10^1$	
140. MeV	$2.218 \times 10^2$	1.926				1.926	$5.420 \times 10^1$	
200. MeV	$2.868 \times 10^2$	1.845				1.845	$8.615 \times 10^1$	
300. MeV	$3.917 \times 10^2$	1.815			0.000	1.816	$1.410 \times 10^2$	
314. MeV	$4.065 \times 10^2$	1.815			0.000	1.815		<i>Minimum ionization</i>
400. MeV	$4.945 \times 10^2$	1.822			0.000	1.822	$1.960 \times 10^2$	
800. MeV	$8.995 \times 10^2$	1.894	0.000		0.000	1.894	$4.113 \times 10^2$	
1.00 GeV	$1.101 \times 10^3$	1.926	0.000		0.000	1.927	$5.160 \times 10^2$	
1.40 GeV	$1.502 \times 10^3$	1.979	0.000		0.001	1.980	$7.206 \times 10^2$	
2.00 GeV	$2.103 \times 10^3$	2.037	0.001	0.000	0.001	2.038	$1.019 \times 10^3$	
3.00 GeV	$3.104 \times 10^3$	2.102	0.001	0.001	0.001	2.105	$1.501 \times 10^3$	
4.00 GeV	$4.104 \times 10^3$	2.148	0.001	0.001	0.002	2.152	$1.971 \times 10^3$	
8.00 GeV	$8.105 \times 10^3$	2.252	0.004	0.003	0.004	2.263	$3.777 \times 10^3$	
10.0 GeV	$1.011 \times 10^4$	2.284	0.005	0.005	0.005	2.298	$4.654 \times 10^3$	
14.0 GeV	$1.411 \times 10^4$	2.329	0.007	0.008	0.007	2.351	$6.374 \times 10^3$	
20.0 GeV	$2.011 \times 10^4$	2.376	0.011	0.013	0.009	2.409	$8.894 \times 10^3$	
30.0 GeV	$3.011 \times 10^4$	2.425	0.018	0.022	0.013	2.479	$1.298 \times 10^4$	
40.0 GeV	$4.011 \times 10^4$	2.459	0.026	0.033	0.018	2.535	$1.697 \times 10^4$	
80.0 GeV	$8.011 \times 10^4$	2.537	0.059	0.079	0.034	2.709	$3.221 \times 10^4$	
100. GeV	$1.001 \times 10^5$	2.561	0.076	0.104	0.042	2.784	$3.949 \times 10^4$	
140. GeV	$1.401 \times 10^5$	2.597	0.112	0.156	0.059	2.924	$5.351 \times 10^4$	
200. GeV	$2.001 \times 10^5$	2.635	0.169	0.239	0.083	3.126	$7.334 \times 10^4$	
300. GeV	$3.001 \times 10^5$	2.677	0.267	0.380	0.125	3.449	$1.038 \times 10^5$	
400. GeV	$4.001 \times 10^5$	2.708	0.368	0.527	0.166	3.769	$1.315 \times 10^5$	
800. GeV	$8.001 \times 10^5$	2.781	0.790	1.137	0.335	5.044	$2.229 \times 10^5$	
974. GeV	$9.745 \times 10^5$	2.802	0.979	1.412	0.410	5.605		<i>Muon critical energy</i>
1.00 TeV	$1.000 \times 10^6$	2.805	1.008	1.453	0.421	5.687	$2.603 \times 10^5$	
1.40 TeV	$1.400 \times 10^6$	2.841	1.446	2.081	0.598	6.966	$3.237 \times 10^5$	
2.00 TeV	$2.000 \times 10^6$	2.881	2.120	3.043	0.865	8.909	$3.997 \times 10^5$	
3.00 TeV	$3.000 \times 10^6$	2.926	3.249	4.644	1.326	12.145	$4.955 \times 10^5$	
4.00 TeV	$4.000 \times 10^6$	2.958	4.397	6.267	1.794	15.417	$5.684 \times 10^5$	
8.00 TeV	$8.000 \times 10^6$	3.038	9.045	12.806	3.745	28.634	$7.559 \times 10^5$	
10.0 TeV	$1.000 \times 10^7$	3.064	11.395	16.099	4.750	35.308	$8.186 \times 10^5$	
14.0 TeV	$1.400 \times 10^7$	3.104	16.084	22.660	6.819	48.668	$9.148 \times 10^5$	
20.0 TeV	$2.000 \times 10^7$	3.147	23.176	32.556	9.998	68.878	$1.018 \times 10^6$	
30.0 TeV	$3.000 \times 10^7$	3.197	34.984	49.023	15.515	102.720	$1.136 \times 10^6$	
40.0 TeV	$4.000 \times 10^7$	3.233	46.854	65.542	21.177	136.807	$1.220 \times 10^6$	
80.0 TeV	$8.000 \times 10^7$	3.322	94.446	131.677	44.931	274.376	$1.423 \times 10^6$	
100. TeV	$1.000 \times 10^8$	3.351	118.305	164.783	57.241	343.680	$1.488 \times 10^6$	