

## Muons in lutetium silicon oxide ( $\text{Lu}_2\text{SiO}_5$ )

	$\langle Z/A \rangle$	$\rho$ [g/cm <sup>3</sup> ]	$I$ [eV]	$a$	$k = m_s$	$x_0$	$x_1$	$\bar{C}$	$\delta_0$
	0.42793	7.400	472.0	0.20623	3.0000	0.2732	3.0000	5.4394	0.00
$T$	$p$ [MeV/c]	Ionization	Brems	Pair prod	Photonucl	Total	CSDA range [g/cm <sup>2</sup> ]		
				[MeV cm <sup>2</sup> /g]					
10.0 MeV	$4.704 \times 10^1$	4.679				4.679		$1.209 \times 10^0$	
14.0 MeV	$5.616 \times 10^1$	3.692				3.693		$2.181 \times 10^0$	
20.0 MeV	$6.802 \times 10^1$	2.916				2.916		$4.029 \times 10^0$	
30.0 MeV	$8.509 \times 10^1$	2.287				2.287		$7.953 \times 10^0$	
40.0 MeV	$1.003 \times 10^2$	1.968				1.968		$1.270 \times 10^1$	
80.0 MeV	$1.527 \times 10^2$	1.503				1.503		$3.666 \times 10^1$	
100. MeV	$1.764 \times 10^2$	1.421				1.422		$5.038 \times 10^1$	
140. MeV	$2.218 \times 10^2$	1.344				1.344		$7.944 \times 10^1$	
200. MeV	$2.868 \times 10^2$	1.308				1.308		$1.248 \times 10^2$	
242. MeV	$3.316 \times 10^2$	1.304				1.304			<i>Minimum ionization</i>
300. MeV	$3.917 \times 10^2$	1.309	0.000		0.000	1.309		$2.014 \times 10^2$	
400. MeV	$4.945 \times 10^2$	1.329	0.000		0.000	1.329		$2.773 \times 10^2$	
800. MeV	$8.995 \times 10^2$	1.415	0.001		0.000	1.416		$5.684 \times 10^2$	
1.00 GeV	$1.101 \times 10^3$	1.449	0.001		0.000	1.450		$7.080 \times 10^2$	
1.40 GeV	$1.502 \times 10^3$	1.502	0.002	0.000	0.001	1.505		$9.785 \times 10^2$	
2.00 GeV	$2.103 \times 10^3$	1.560	0.003	0.001	0.001	1.565		$1.369 \times 10^3$	
3.00 GeV	$3.104 \times 10^3$	1.624	0.005	0.003	0.001	1.633		$1.994 \times 10^3$	
4.00 GeV	$4.104 \times 10^3$	1.668	0.007	0.005	0.002	1.682		$2.596 \times 10^3$	
8.00 GeV	$8.105 \times 10^3$	1.766	0.018	0.017	0.003	1.805		$4.883 \times 10^3$	
10.0 GeV	$1.011 \times 10^4$	1.796	0.024	0.024	0.004	1.848		$5.978 \times 10^3$	
14.0 GeV	$1.411 \times 10^4$	1.838	0.037	0.039	0.006	1.919		$8.100 \times 10^3$	
20.0 GeV	$2.011 \times 10^4$	1.879	0.058	0.063	0.008	2.009		$1.115 \times 10^4$	
30.0 GeV	$3.011 \times 10^4$	1.923	0.094	0.111	0.011	2.141		$1.597 \times 10^4$	
40.0 GeV	$4.011 \times 10^4$	1.952	0.133	0.163	0.015	2.265		$2.051 \times 10^4$	
80.0 GeV	$8.011 \times 10^4$	2.018	0.302	0.394	0.029	2.744		$3.653 \times 10^4$	
100. GeV	$1.001 \times 10^5$	2.038	0.391	0.518	0.036	2.984		$4.352 \times 10^4$	
140. GeV	$1.401 \times 10^5$	2.068	0.574	0.774	0.051	3.468		$5.594 \times 10^4$	
199. GeV	$1.990 \times 10^5$	2.099	0.855	1.172	0.072	4.199			<i>Muon critical energy</i>
200. GeV	$2.001 \times 10^5$	2.099	0.860	1.180	0.072	4.212		$7.163 \times 10^4$	
300. GeV	$3.001 \times 10^5$	2.135	1.349	1.857	0.108	5.451		$9.245 \times 10^4$	
400. GeV	$4.001 \times 10^5$	2.160	1.855	2.560	0.144	6.720		$1.089 \times 10^5$	
800. GeV	$8.001 \times 10^5$	2.221	3.941	5.442	0.292	11.896		$1.531 \times 10^5$	
1.00 TeV	$1.000 \times 10^6$	2.241	5.012	6.916	0.366	14.537		$1.683 \times 10^5$	
1.40 TeV	$1.400 \times 10^6$	2.271	7.159	9.857	0.519	19.808		$1.918 \times 10^5$	
2.00 TeV	$2.000 \times 10^6$	2.304	10.443	14.344	0.751	27.844		$2.172 \times 10^5$	
3.00 TeV	$3.000 \times 10^6$	2.341	15.924	21.801	1.149	41.217		$2.466 \times 10^5$	
4.00 TeV	$4.000 \times 10^6$	2.368	21.478	29.338	1.553	54.738		$2.676 \times 10^5$	
8.00 TeV	$8.000 \times 10^6$	2.435	43.866	59.634	3.228	109.164		$3.183 \times 10^5$	
10.0 TeV	$1.000 \times 10^7$	2.457	55.146	74.862	4.089	136.555		$3.346 \times 10^5$	
14.0 TeV	$1.400 \times 10^7$	2.490	77.646	105.247	5.856	191.241		$3.593 \times 10^5$	
20.0 TeV	$2.000 \times 10^7$	2.526	111.592	151.018	8.565	273.703		$3.854 \times 10^5$	
30.0 TeV	$3.000 \times 10^7$	2.567	168.101	227.174	13.250	411.094		$4.150 \times 10^5$	
40.0 TeV	$4.000 \times 10^7$	2.597	224.810	303.511	18.047	548.966		$4.360 \times 10^5$	
80.0 TeV	$8.000 \times 10^7$	2.671	451.972	609.067	38.091	1101.802		$4.864 \times 10^5$	
100. TeV	$1.000 \times 10^8$	2.695	565.740	761.984	48.449	1378.869		$5.026 \times 10^5$	