

## Muons in osmium (Os)

Z	A [g/mol]	$\rho$ [g/cm <sup>3</sup> ]	I [eV]	$a$	$k = m_s$	$x_0$	$x_1$	$\bar{C}$	$\delta_0$
76 (Os)	190.23 (3)	22.570	746.0	0.12751	2.9608	0.0891	3.5414	5.3083	0.10
$T$	$p$ [MeV/c]	Ionization	Brems	Pair prod [MeV cm <sup>2</sup> /g]	Photonucl	Total	CSDA range [g/cm <sup>2</sup> ]		
10.0 MeV	$4.704 \times 10^1$	3.946				3.946	$1.468 \times 10^0$		
14.0 MeV	$5.616 \times 10^1$	3.144				3.144	$2.614 \times 10^0$		
20.0 MeV	$6.802 \times 10^1$	2.502				2.502	$4.775 \times 10^0$		
30.0 MeV	$8.509 \times 10^1$	1.975				1.975	$9.331 \times 10^0$		
40.0 MeV	$1.003 \times 10^2$	1.704				1.704	$1.481 \times 10^1$		
80.0 MeV	$1.527 \times 10^2$	1.306				1.306	$4.242 \times 10^1$		
100. MeV	$1.764 \times 10^2$	1.236				1.236	$5.820 \times 10^1$		
140. MeV	$2.218 \times 10^2$	1.168				1.168	$9.164 \times 10^1$		
200. MeV	$2.868 \times 10^2$	1.136				1.136	$1.439 \times 10^2$		
243. MeV	$3.325 \times 10^2$	1.132	0.000			1.132	<i>Minimum ionization</i>		
300. MeV	$3.917 \times 10^2$	1.137	0.000		0.000	1.137	$2.321 \times 10^2$		
400. MeV	$4.945 \times 10^2$	1.155	0.000		0.000	1.155	$3.194 \times 10^2$		
800. MeV	$8.995 \times 10^2$	1.233	0.001		0.000	1.235	$6.539 \times 10^2$		
1.00 GeV	$1.101 \times 10^3$	1.265	0.001		0.000	1.267	$8.137 \times 10^2$		
1.40 GeV	$1.502 \times 10^3$	1.315	0.002		0.001	1.318	$1.123 \times 10^3$		
2.00 GeV	$2.103 \times 10^3$	1.369	0.004	0.001	0.001	1.374	$1.568 \times 10^3$		
3.00 GeV	$3.104 \times 10^3$	1.430	0.007	0.003	0.001	1.441	$2.278 \times 10^3$		
4.00 GeV	$4.104 \times 10^3$	1.472	0.010	0.006	0.002	1.490	$2.960 \times 10^3$		
8.00 GeV	$8.105 \times 10^3$	1.568	0.024	0.021	0.003	1.616	$5.528 \times 10^3$		
10.0 GeV	$1.011 \times 10^4$	1.596	0.031	0.030	0.004	1.662	$6.747 \times 10^3$		
14.0 GeV	$1.411 \times 10^4$	1.638	0.048	0.049	0.005	1.741	$9.097 \times 10^3$		
20.0 GeV	$2.011 \times 10^4$	1.679	0.074	0.080	0.007	1.842	$1.245 \times 10^4$		
30.0 GeV	$3.011 \times 10^4$	1.723	0.122	0.141	0.011	1.998	$1.765 \times 10^4$		
40.0 GeV	$4.011 \times 10^4$	1.752	0.172	0.208	0.014	2.148	$2.248 \times 10^4$		
80.0 GeV	$8.011 \times 10^4$	1.817	0.390	0.503	0.028	2.739	$3.893 \times 10^4$		
100. GeV	$1.001 \times 10^5$	1.837	0.505	0.662	0.035	3.039	$4.586 \times 10^4$		
140. GeV	$1.401 \times 10^5$	1.866	0.741	0.989	0.048	3.645	$5.787 \times 10^4$		
146. GeV	$1.463 \times 10^5$	1.869	0.778	1.041	0.050	3.740	<i>Muon critical energy</i>		
200. GeV	$2.001 \times 10^5$	1.895	1.110	1.507	0.069	4.582	$7.253 \times 10^4$		
300. GeV	$3.001 \times 10^5$	1.929	1.740	2.372	0.103	6.145	$9.132 \times 10^4$		
400. GeV	$4.001 \times 10^5$	1.952	2.392	3.268	0.138	7.751	$1.058 \times 10^5$		
800. GeV	$8.001 \times 10^5$	2.009	5.079	6.942	0.278	14.309	$1.432 \times 10^5$		
1.00 TeV	$1.000 \times 10^6$	2.028	6.458	8.821	0.349	17.657	$1.558 \times 10^5$		
1.40 TeV	$1.400 \times 10^6$	2.056	9.222	12.568	0.494	24.342	$1.750 \times 10^5$		
2.00 TeV	$2.000 \times 10^6$	2.087	13.447	18.285	0.715	34.535	$1.956 \times 10^5$		
3.00 TeV	$3.000 \times 10^6$	2.122	20.498	27.785	1.093	51.499	$2.192 \times 10^5$		
4.00 TeV	$4.000 \times 10^6$	2.147	27.640	37.384	1.476	68.649	$2.359 \times 10^5$		
8.00 TeV	$8.000 \times 10^6$	2.209	56.422	75.967	3.065	137.665	$2.763 \times 10^5$		
10.0 TeV	$1.000 \times 10^7$	2.229	70.920	95.359	3.881	172.391	$2.892 \times 10^5$		
14.0 TeV	$1.400 \times 10^7$	2.260	99.837	134.054	5.554	241.708	$3.087 \times 10^5$		
20.0 TeV	$2.000 \times 10^7$	2.294	143.456	192.342	8.118	346.212	$3.293 \times 10^5$		
30.0 TeV	$3.000 \times 10^7$	2.333	216.072	289.314	12.545	520.265	$3.528 \times 10^5$		
40.0 TeV	$4.000 \times 10^7$	2.361	288.936	386.509	17.074	694.881	$3.693 \times 10^5$		
80.0 TeV	$8.000 \times 10^7$	2.429	580.787	775.554	35.974	1394.746	$4.091 \times 10^5$		
100. TeV	$1.000 \times 10^8$	2.452	726.940	970.250	45.730	1745.374	$4.219 \times 10^5$		