

Time (min)	L	B/B ₀	>155MeV	>160MeV	>165MeV	>170MeV	>175MeV	>180MeV	>185MeV	>190MeV	>195MeV	>200MeV (rad)	>225MeV	>250MeV (rad)	TOTAL RADS
5	1.44168	2.14962	7.625E+01 (0.05043rad, 0.00303rad)	7.195E+01 (0.04912rad, 0.00295rad)	6.789E+01 (0.04779rad, 0.00287rad)	6.405E+01 (0.04646rad, 0.00279rad)	6.044E+01 (0.04513rad, 0.00271rad)	5.703E+01 (0.04380rad, 0.00263rad)	5.381E+01 (0.04247rad, 0.00255rad)	5.077E+01 (0.04116rad, 0.00247rad)	4.791E+01 (0.03986rad, 0.00239rad)	4.520E+01 (0.03857rad, 0.00231rad)	3.272E+01 (0.03141rad, 0.00188rad)	2.368E+01 (0.02526rad, 0.00152rad)	0.50146rad, 0.03010rad
6	1.51254	2.50334	9.355E+01 (0.06187rad, 0.00371rad)	8.742E+01 (0.05968rad, 0.00358rad)	8.169E+01 (0.05751rad, 0.00345rad)	7.634E+01 (0.05537rad, 0.00332rad)	7.113E+01 (0.05311rad, 0.00319rad)	6.666E+01 (0.05119rad, 0.00307rad)	6.229E+01 (0.04917rad, 0.00295rad)	5.821E+01 (0.04719rad, 0.00283rad)	5.439E+01 (0.04525rad, 0.00272rad)	5.083E+01 (0.04337rad, 0.00260rad)	3.527E+01 (0.03386rad, 0.00203rad)	2.448E+01 (0.02611rad, 0.00157rad)	0.58368rad, 0.03502rad
7	1.62236	2.90373	1.140E+02 (0.07539rad, 0.00452rad)	1.044E+02 (0.07127rad, 0.00428rad)	9.558E+01 (0.06729rad, 0.00404rad)	8.753E+01 (0.06349rad, 0.00381rad)	8.016E+01 (0.05985rad, 0.00359rad)	7.342E+01 (0.05639rad, 0.00338rad)	6.723E+01 (0.05307rad, 0.00318rad)	6.157E+01 (0.04991rad, 0.00299rad)	5.639E+01 (0.04716rad, 0.00281rad)	5.164E+01 (0.04407rad, 0.00264rad)	3.367E+01 (0.03232rad, 0.00193rad)	2.195E+01 (0.02341rad, 0.00140rad)	0.64362rad, 0.03857rad
8	1.73976	3.34539	4.356E+01 (0.02881rad, 0.00173rad)	3.887E+01 (0.02654rad, 0.00159rad)	3.468E+01 (0.02441rad, 0.00146rad)	3.094E+01 (0.02244rad, 0.00135rad)	2.761E+01 (0.02062rad, 0.00124rad)	2.463E+01 (0.01892rad, 0.00113rad)	2.198E+01 (0.01735rad, 0.00104rad)	1.961E+01 (0.01590rad, 0.00095rad)	1.749E+01 (0.01455rad, 0.00087rad)	1.561E+01 (0.01332rad, 0.00079rad)	8.825E+00 (0.00847rad, 0.00051rad)	4.990E+00 (0.00532rad, 0.00032rad)	0.21665rad, 0.01298rad
9	1.86325	3.82043	1.857E+01 (0.01228rad, 0.00074rad)	1.637E+01 (0.01118rad, 0.00067rad)	1.444E+01 (0.01017rad, 0.00061rad)	1.273E+01 (0.00923rad, 0.00055rad)	1.123E+01 (0.00839rad, 0.00050rad)	9.900E+00 (0.00803rad, 0.00046rad)	8.729E+00 (0.00689rad, 0.00041rad)	7.698E+00 (0.00624rad, 0.00037rad)	6.788E+00 (0.00565rad, 0.00034rad)	5.985E+00 (0.00511rad, 0.00031rad)	3.191E+00 (0.00306rad, 0.00018rad)	1.701E+00 (0.00181rad, 0.00011rad)	0.08804rad, 0.00525rad
10	1.99131	4.31882	1.260E+01 (0.00833rad, 0.00050rad)	1.128E+01 (0.00770rad, 0.00046rad)	1.010E+01 (0.00711rad, 0.00043rad)	9.050E+00 (0.00656rad, 0.00039rad)	8.105E+00 (0.00605rad, 0.00036rad)	7.259E+00 (0.00557rad, 0.00033rad)	6.502E+00 (0.00513rad, 0.00031rad)	5.823E+00 (0.00472rad, 0.00028rad)	5.215E+00 (0.00434rad, 0.00026rad)	4.671E+00 (0.00399rad, 0.00024rad)	2.695E+00 (0.00259rad, 0.00016rad)	1.551E+00 (0.00165rad, 0.00010rad)	0.06374rad, 0.00382rad
11	2.12248	4.82912	4.017E+00 (0.00266rad, 0.00016rad)	3.563E+00 (0.00243rad, 0.00015rad)	3.161E+00 (0.00223rad, 0.00013rad)	2.804E+00 (0.00203rad, 0.00012rad)	2.487E+00 (0.00186rad, 0.00011rad)	2.206E+00 (0.00169rad, 0.00010rad)	1.957E+00 (0.00154rad, 0.00009rad)	1.736E+00 (0.00141rad, 0.00008rad)	1.540E+00 (0.00128rad, 0.00008rad)	1.366E+00 (0.00117rad, 0.00007rad)	0.00E+00 (0rad)	0.000E+00 (0rad)	0.01830rad, 0.00109rad
TOTALS															2.11549rad, 0.12683rad

Skin dose Calculations

$(\text{Protons/cm}^2/\text{s}) * (100^2\text{cm}^2) * (3600\text{s/hr}) = \text{Protons/m}^2/\text{hr}$
 $(\text{Protons/m}^2/\text{hr}) * 2\text{m}^2 = \text{Protons/hr}$
 $\text{Protons/hr} * (\text{E MeV/Proton}) = \text{E MeV/hr}$
 $(\text{E MeV/hr}) * (1.6 * 10^{-13}/\text{MeV}) = \text{Joules/hr}$
 $(\text{Joules/hr}) / 4.5\text{kg} = \text{Gray/hr}$
 $(\text{Gray/hr}) * 100\text{rad/hr} = \text{rad/hr}$
 $\text{Rad/hr} * 1/60 = \text{rad/min}$

Depth dose Calculations

$(\text{Protons/cm}^2/\text{s}) * (100^2\text{cm}^2) * (3600\text{s/hr}) = \text{Protons/m}^2/\text{hr}$
 $(\text{Protons/m}^2/\text{hr}) * 2\text{m}^2 = \text{Protons/hr}$
 $\text{Protons/hr} * (\text{E MeV/Proton}) = \text{E MeV/hr}$
 $(\text{E MeV/hr}) * (1.6 * 10^{-13}/\text{MeV}) = \text{Joules/hr}$
 $(\text{Joules/hr}) / 75\text{kg} = \text{Gray/hr}$
 $(\text{Gray/hr}) * 100\text{rad/hr} = \text{rad/hr}$

$$\text{Rad/hr} \cdot \frac{1}{60} = \text{rad/min}$$