

Table 2. Summary of the results of TRIM/SRIM calculations.

	E(MeV)	Alpha particles						Recoil nuclei						
		Diopside		Calcite		Uranothorianite		Diopside		Calcite		Uranothorianite		
		dist	dam	dist	dam	dist	dam	dist	dam	dist	dam	dist	dam	
²³⁸U														
²³⁸ U=> ²³⁴ U	4.20	12.3	228	14.6	172	9.7	184	71	27	1231	33	983	16	971
²³⁴ U=> ²³⁰ Th	4.78	14.8	225	17.5	186	11.5	190	83	29	1414	36	1129	16	1124
²³⁰ Th=> ²²⁶ Ra	4.69	14.4	221	17.1	178	11.2	198	83	29	1381	36	1117	17	1113
²²⁶ Ra=> ²²² Rn	4.79	14.7	224	17.5	179	11.5	190	86	29	1447	36	1145	18	1141
²²² Rn=> ²¹⁸ Po	5.49	18.0	238	21.4	184	14.0	203	90	31	1485	41	1315	19	1312
²¹⁸ Po=> ²¹⁴ Pb	6.00	20.5	236	24.4	193	15.9	206	112	35	1826	43	1456	22	1467
²¹⁴ Po=> ²¹⁰ Pb	7.69	30.0	251	35.7	197	22.9	224	146	42	2300	53	1830	24	1836
²¹⁰ Po=> ²⁰⁶ Pb	5.31	17.1	236	20.4	185	17.1	209	103	34	1694	42	1357	20	1341
²³²Th														
²³² Th=> ²²⁸ Ra	4.01	11.8	219	14.0	173	9.0	136	69	27	1191	32	937	15	927
²²⁸ Th=> ²²⁴ Ra	5.42	18.1	232	21.4	186	13.7	194	95	31	1577	38	1247	19	1224
²²⁴ Ra=> ²²⁰ Rn	5.69	19.4	231	23.0	177	14.6	210	102	32	1647	40	1329	19	1310
²²⁰ Rn=> ²¹⁶ Po	6.29	22.5	233	26.7	189	16.9	203	114	35	1848	43	1459	21	1443
²¹⁶ Po=> ²¹² Pb	6.78	25.2	252	29.9	193	18.8	213	126	38	2032	46	1607	23	1595
²¹² Bi=> ²⁰⁸ Tl (36%)	6.09	21.5	231	25.5	194	16.1	203	115	34	1863	43	1470	21	1450
²¹² Po=> ²⁰⁸ Pb (64%)	8.79	37.8	268	44.7	201	27.7	225	166	45	2592	55	2029	44	2038
²³⁵U														
²³⁵ U=> ²³¹ Th	4.69	14.3	221	17.1	178	10.9	192	81	29	1386	35	1095	16	1057
²³¹ Pa=> ²²⁷ Ac	5.06	16.0	231	19.0	181	12.1	192	89	30	1497	36	1194	18	1179
²²⁷ Th=> ²²³ Ra	6.04	20.8	239	24.7	190	15.6	206	108	34	1754	42	1406	21	1382
²²³ Ra=> ²¹⁹ Rn	5.87	19.9	235	23.7	180	15.0	199	107	35	1742	42	1400	21	1376
²¹⁹ Rn=> ²¹⁵ Po	6.82	24.9	243	29.6	191	18.6	214	127	37	2035	47	1623	24	1597
²¹⁵ Po=> ²¹¹ Pb	7.39	28.2	245	33.5	197	21.0	204	140	41	2244	50	1785	26	1750
²¹¹ Bi=> ²⁰⁷ Tl	6.62	23.8	241	28.3	185	17.8	207	128	38	2055	47	1634	26	1604
Fission														
⁹⁰ Y (100 MeV)	15.8 μm	39000 vac/ion						9.10 μm	43500 vac/ion					
¹⁴⁰ Ce (100 MeV)	17.5 μm	81000 vac/ion						8.50 μm	95700 vac/ion					

E: Energy of the particle, in MeV (alpha) or in keV (recoil);dist: average distance done by the particle in μm (alpha) or in nm (recoil); dam: damage in vacancies/ion