

Benchmark #4

1MeV Xe on UO2

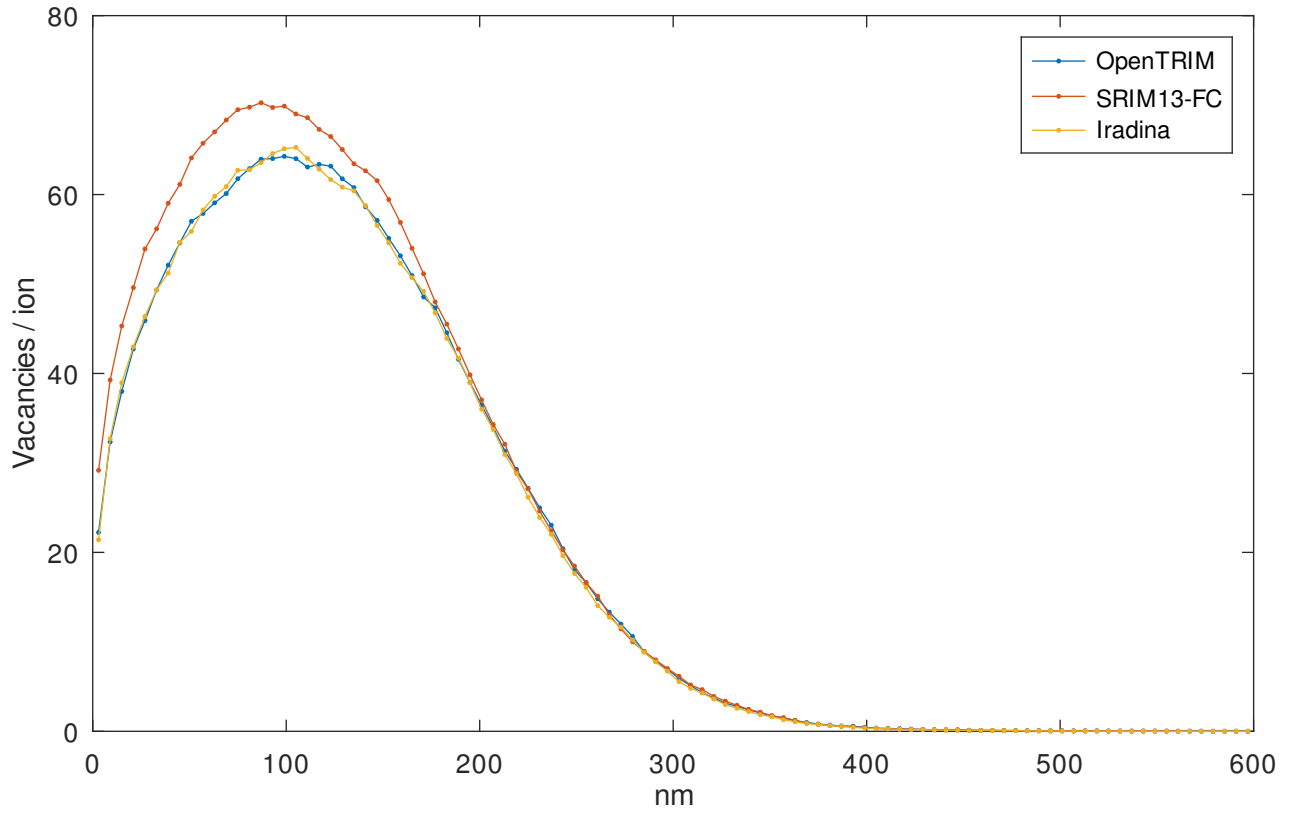
Ion energy $E_0 = 1\text{e}+06$ eV

Target depth = 600 nm

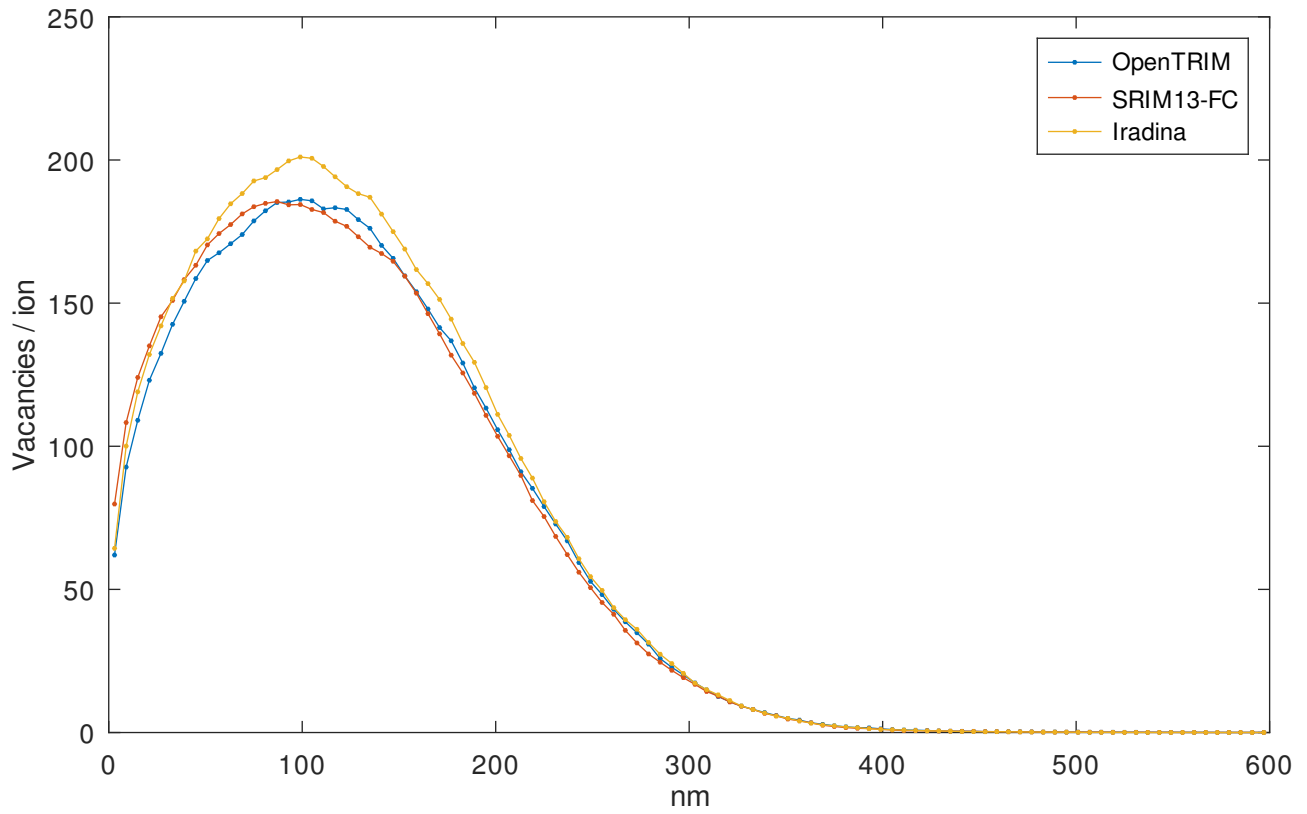
Summary Table

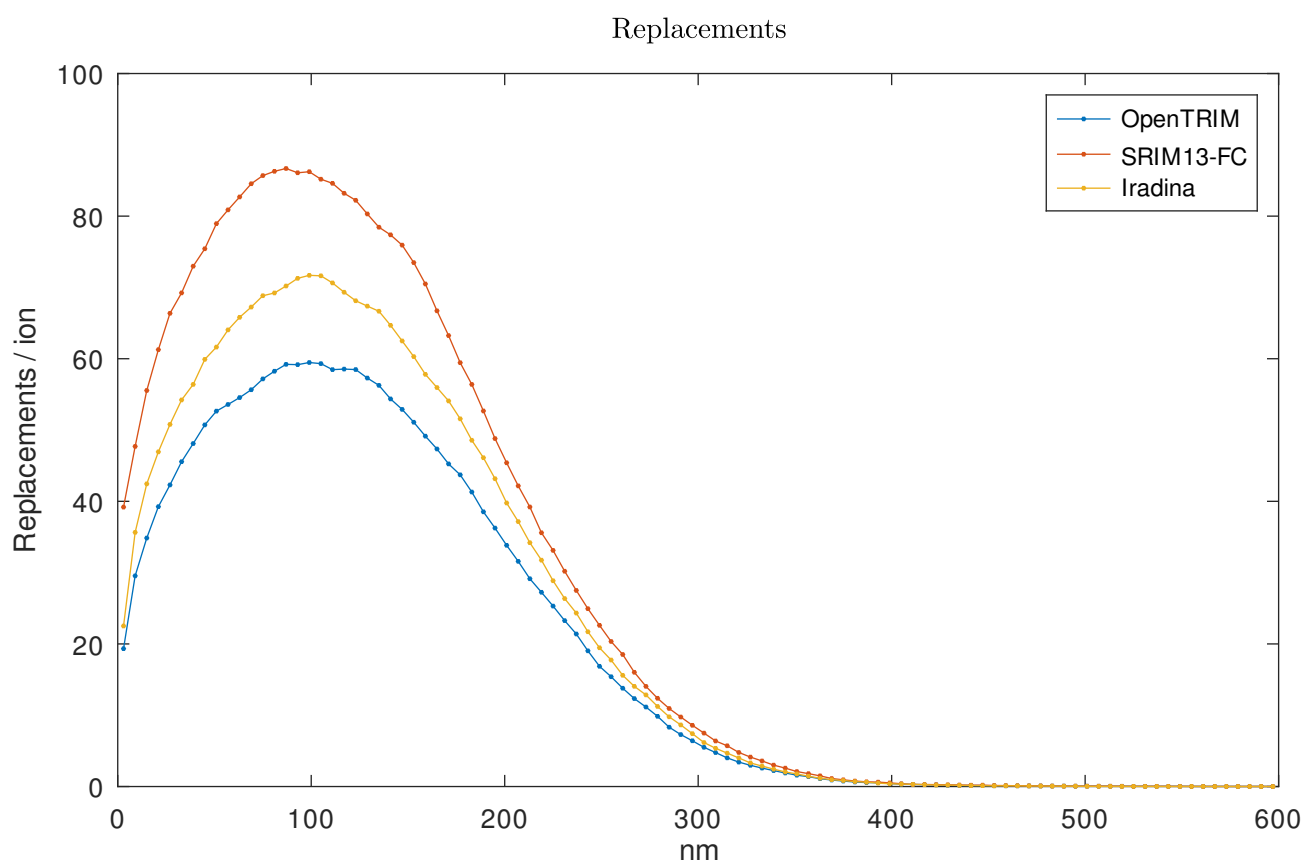
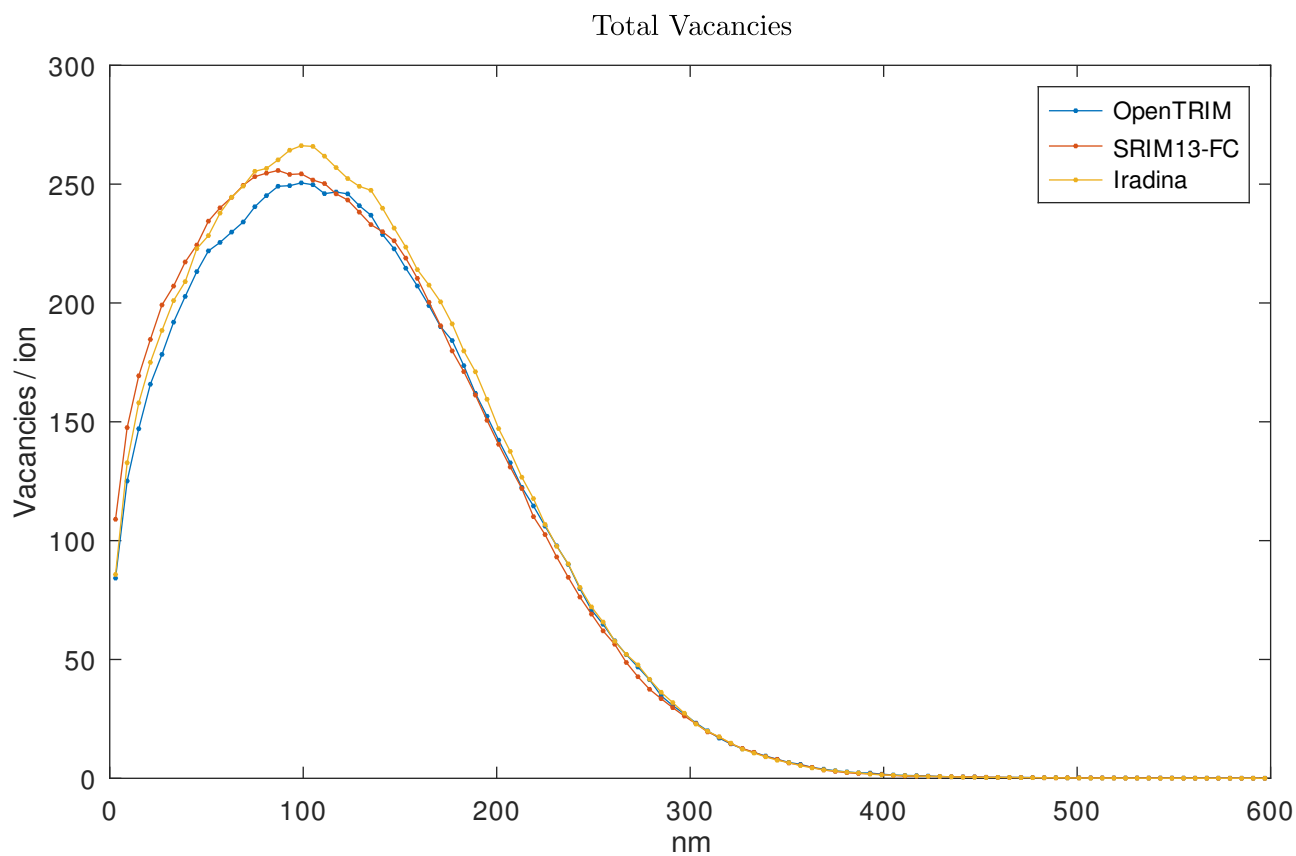
Quantity	OpenTRIM	SRIM13-FC	Iradina
V(U)	2.14e+03	2.31e+03	2.12e+03
V(O)	6.19e+03	6.21e+03	6.55e+03
V(tot)	8.33e+03	8.52e+03	8.68e+03
R(tot)	1.98e+03	2.85e+03	2.34e+03
I(Xe)	0.992	0.986	0.988
EI(Xe)/E0	0.162	0.16	0
EI(r)/E0	0.352	0.346	0
EI/E0	0.514	0.507	0.534
EPh(Xe)/E0	0.00252	0.00241	0
EPh(r)/E0	0.477	0.452	0
EPh(tot)/E0	0.479	0.455	0.458
1 - (EI+EPh)/E0	0.00682	0.0388	0.00728

Vacancies of U in Uranium oxide

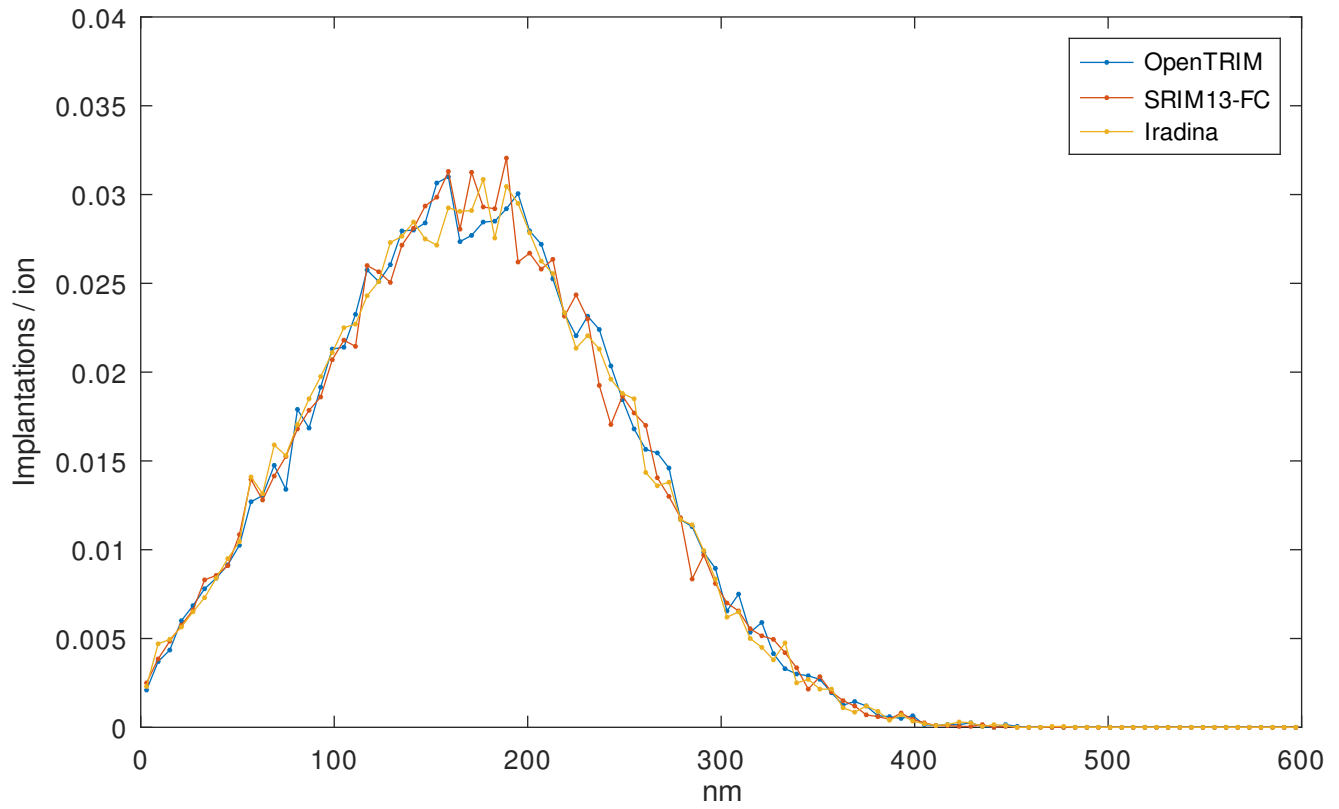


Vacancies of O in Uranium oxide

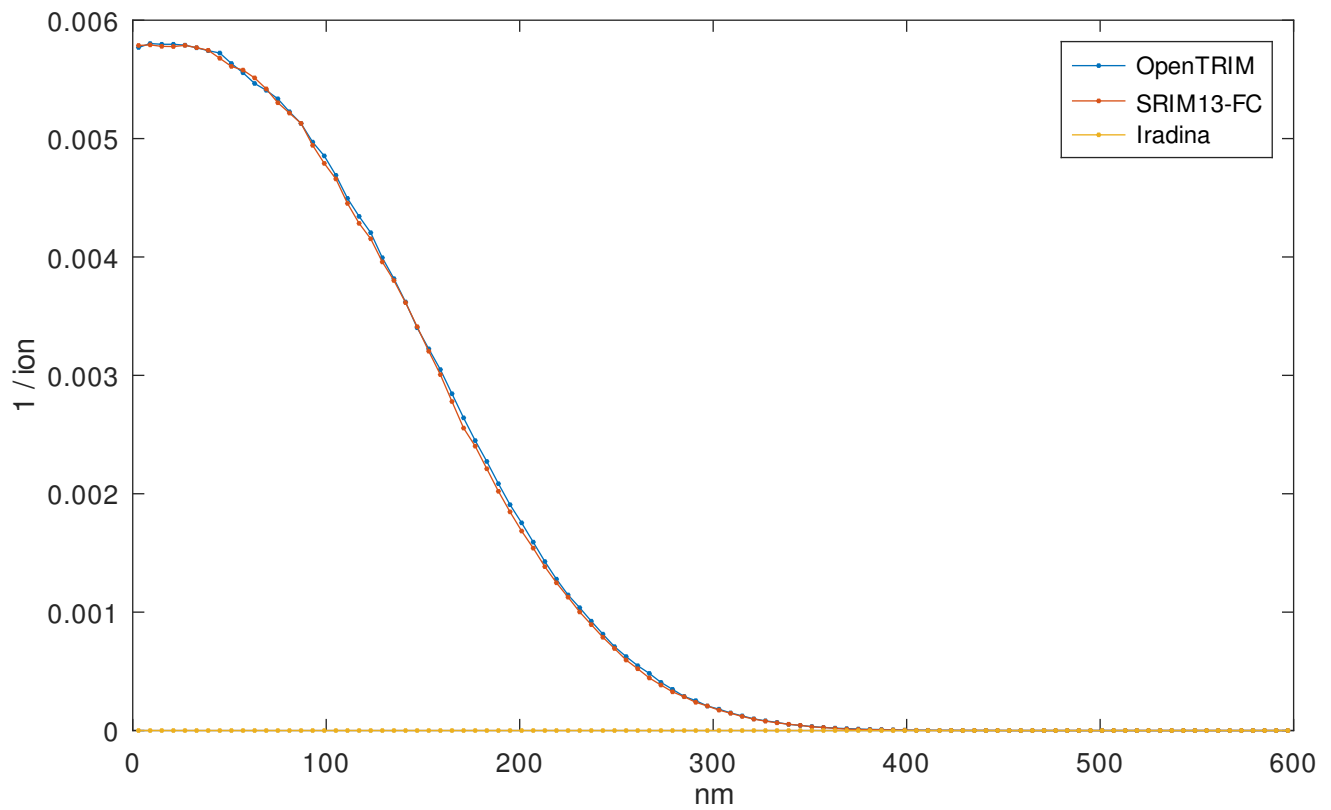




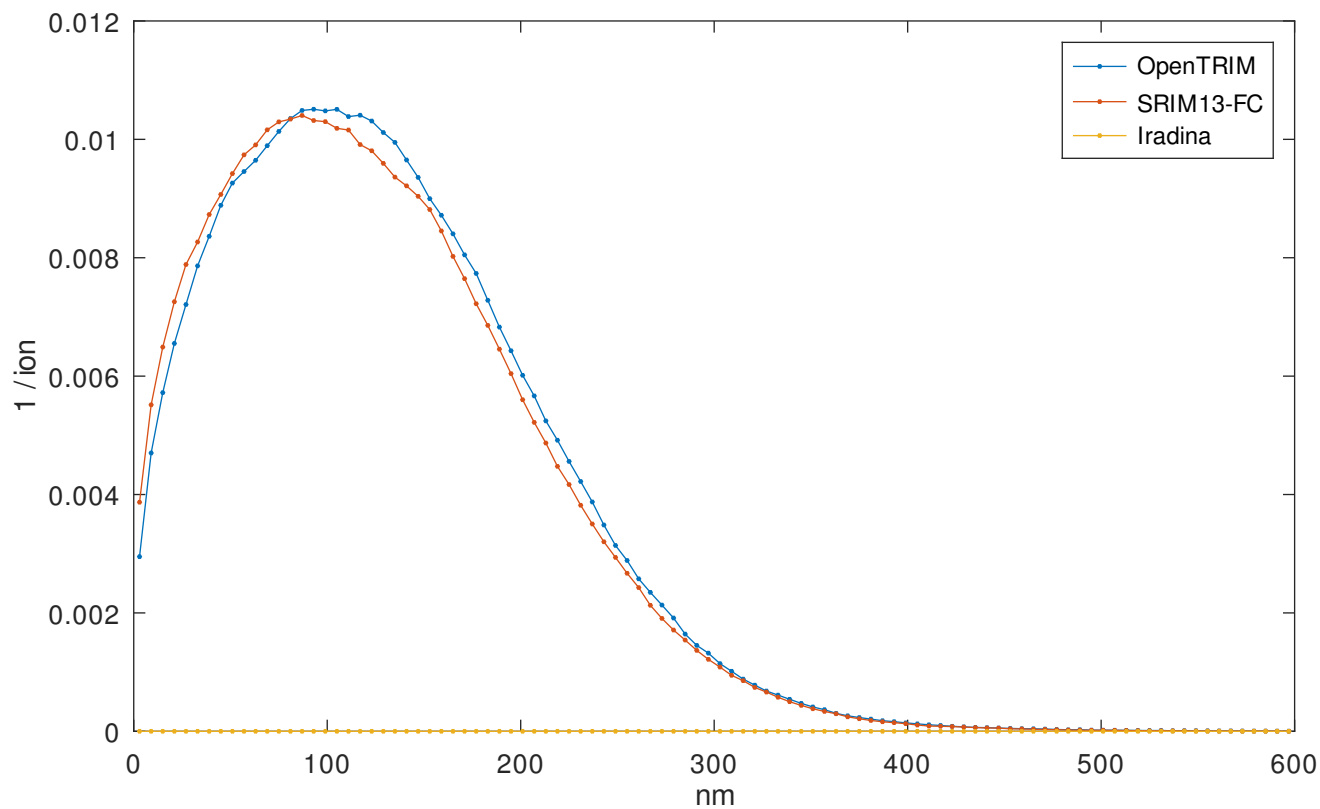
Implanted Xe ion



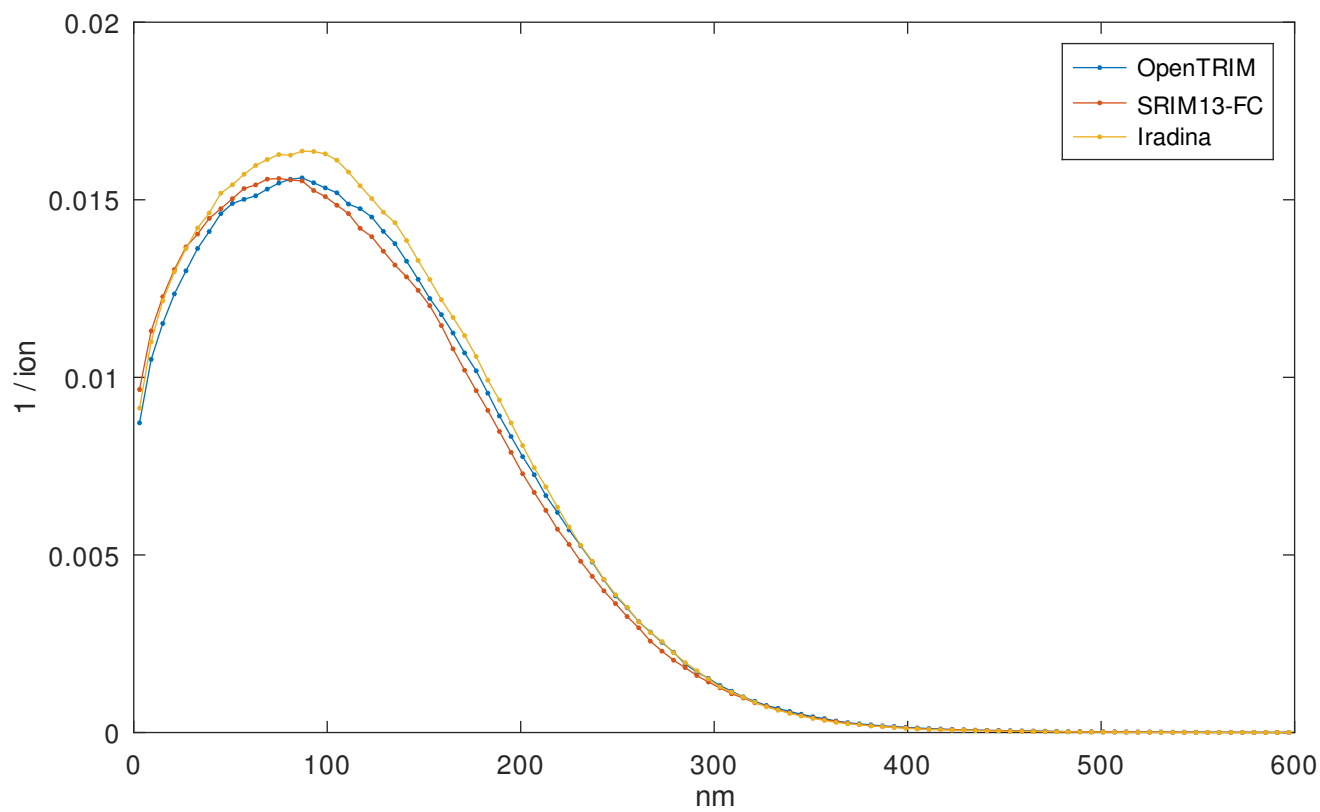
Ionization fraction E_I/E_0 by Xe ion



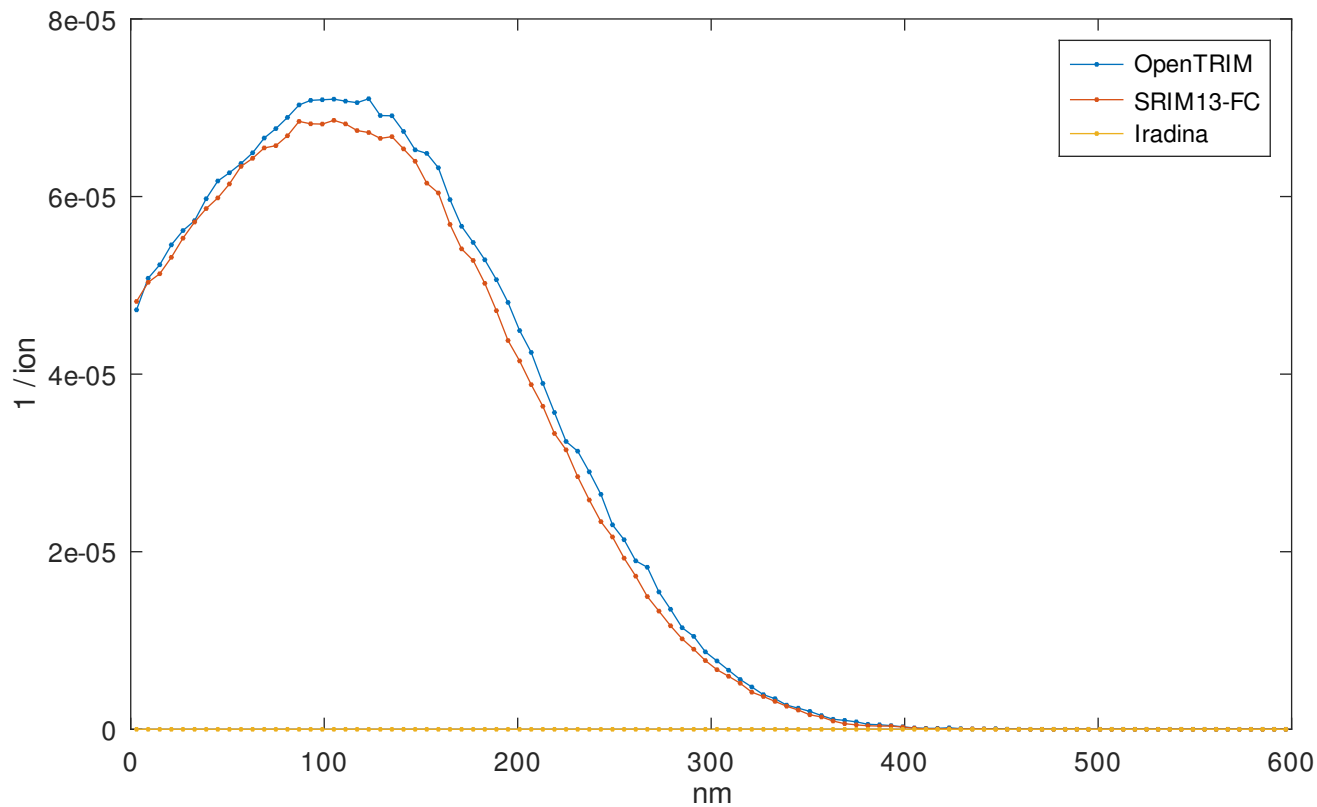
Ionization fraction E_I/E_0 by recoils



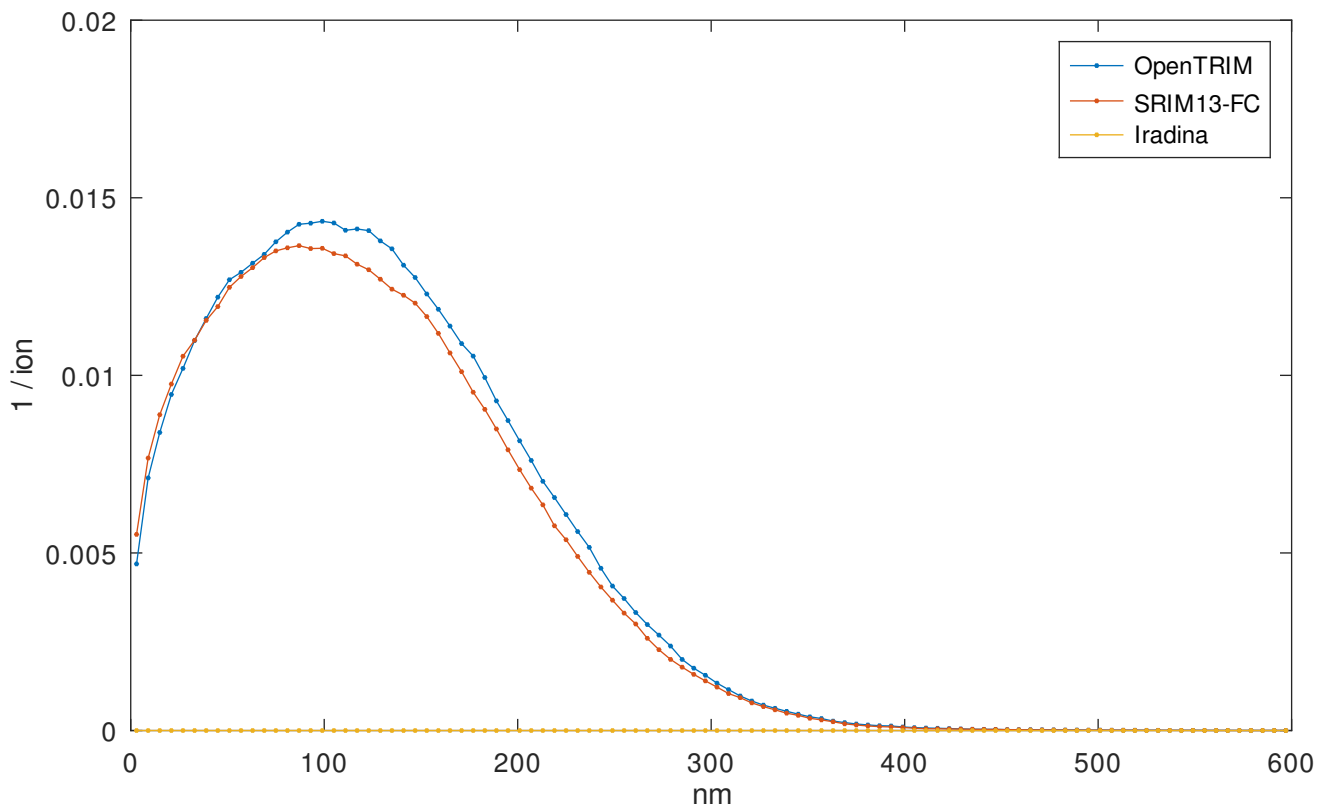
Total Ionization fraction E_I/E_0



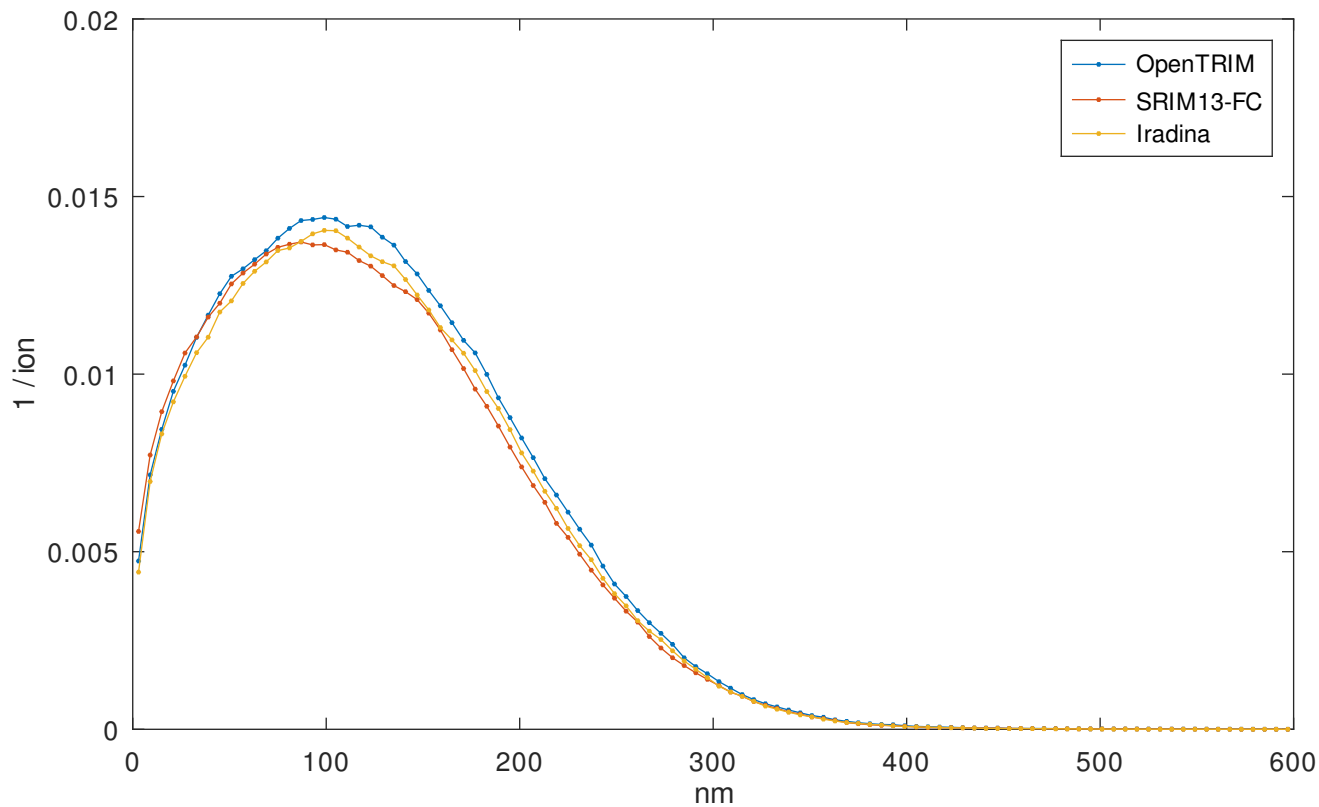
Phonon energy fraction E_{Ph}/E_0 by Xe ion



Phonon energy fraction E_{Ph}/E_0 by recoils



Total Phonon energy fraction E_{Ph}/E_0



Total fractional energy deposition $(E_I + E_{Ph})/E_0$

