

## Benchmark #4 1MeV Xe on UO<sub>2</sub>

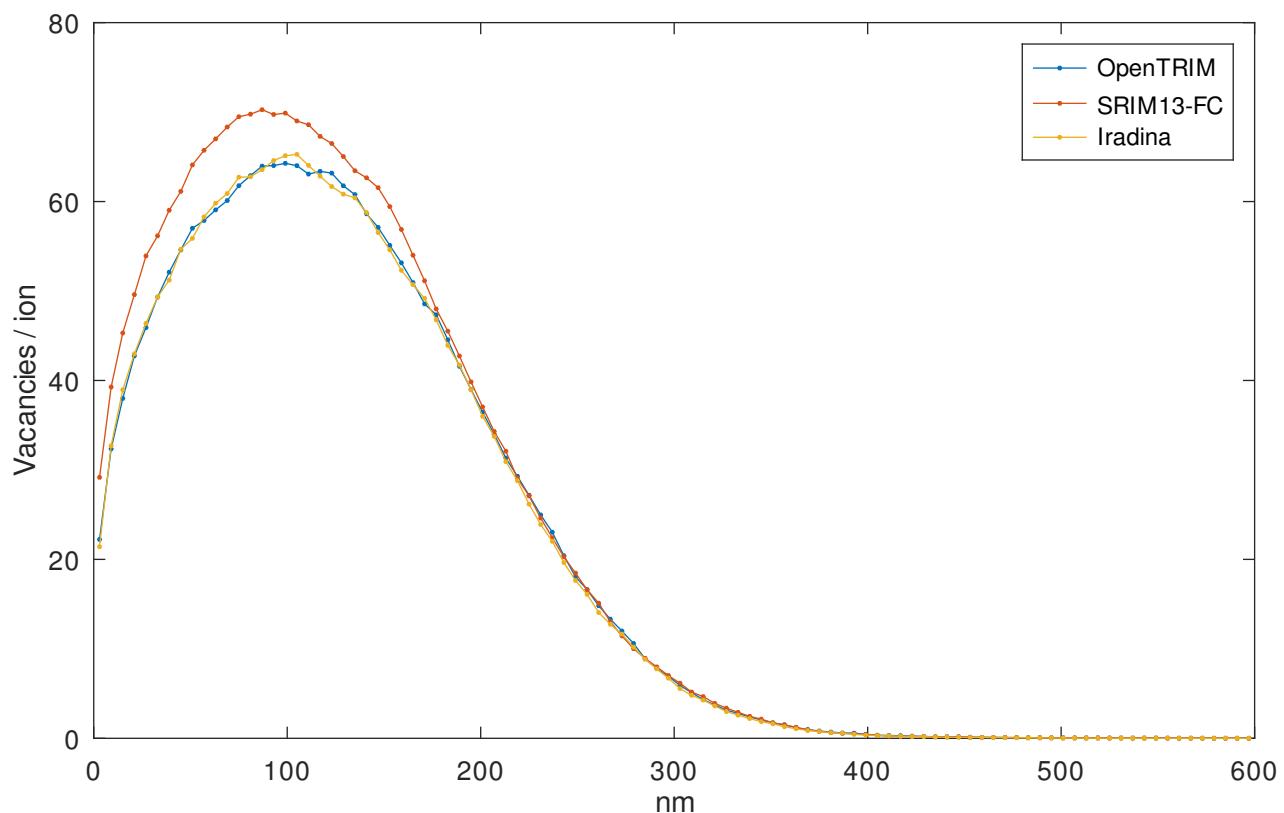
Ion energy E0 = 1e+06 eV

Target depth = 600 nm

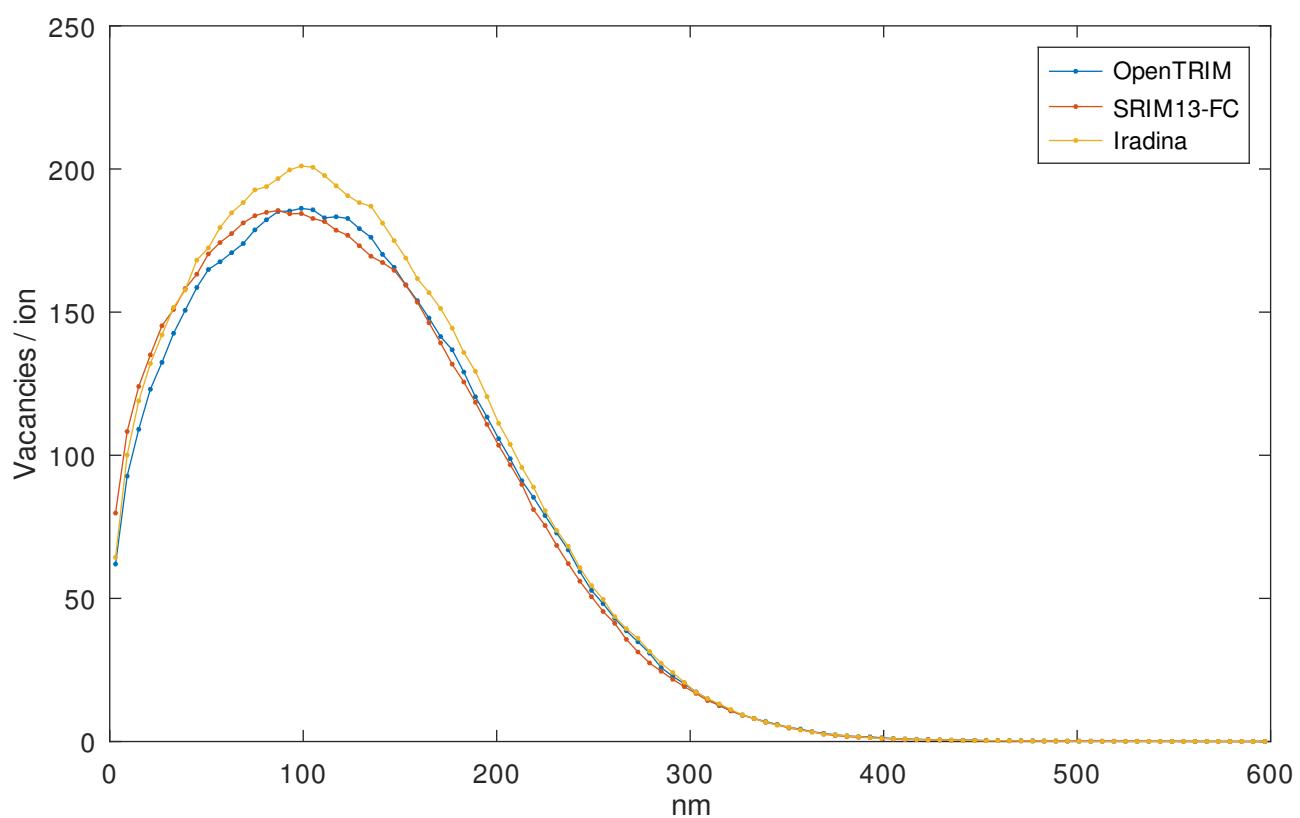
Summary Table

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

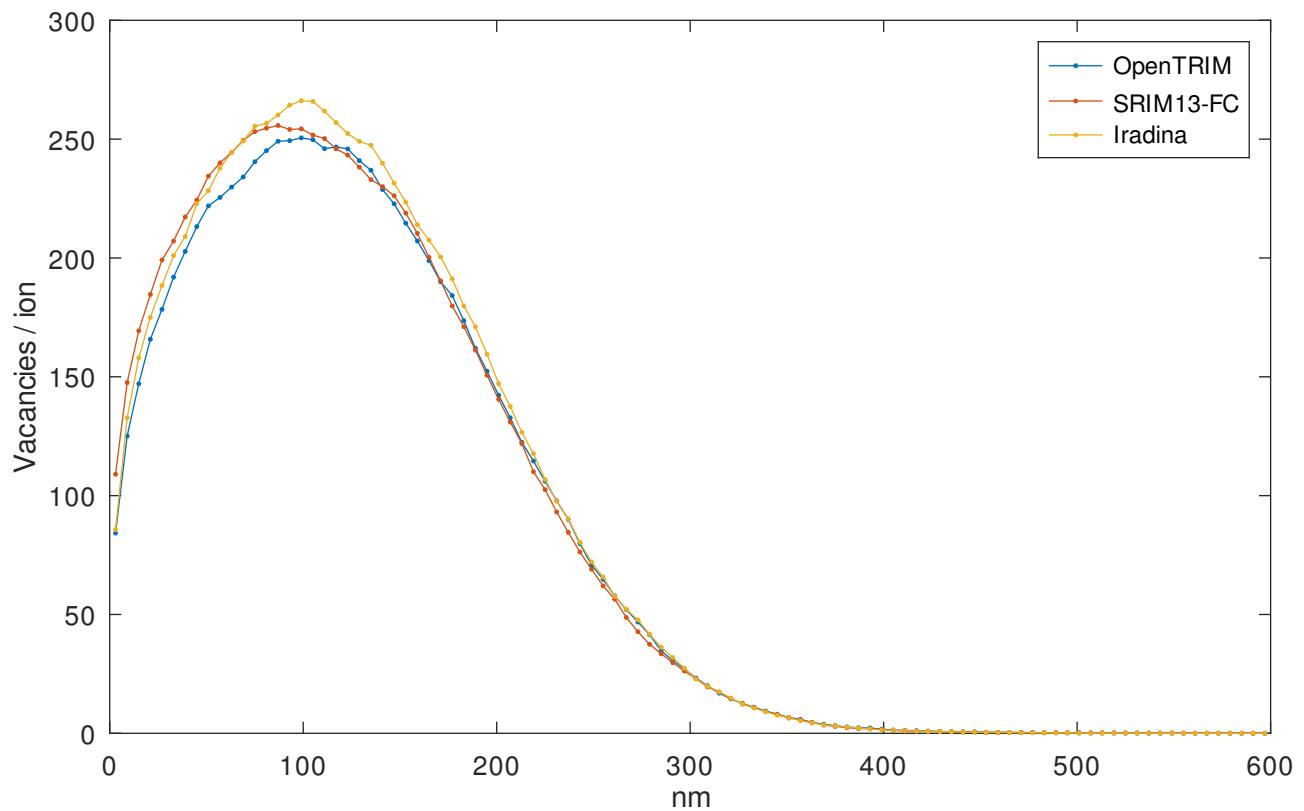
### Vacancies of U in Uranium oxide



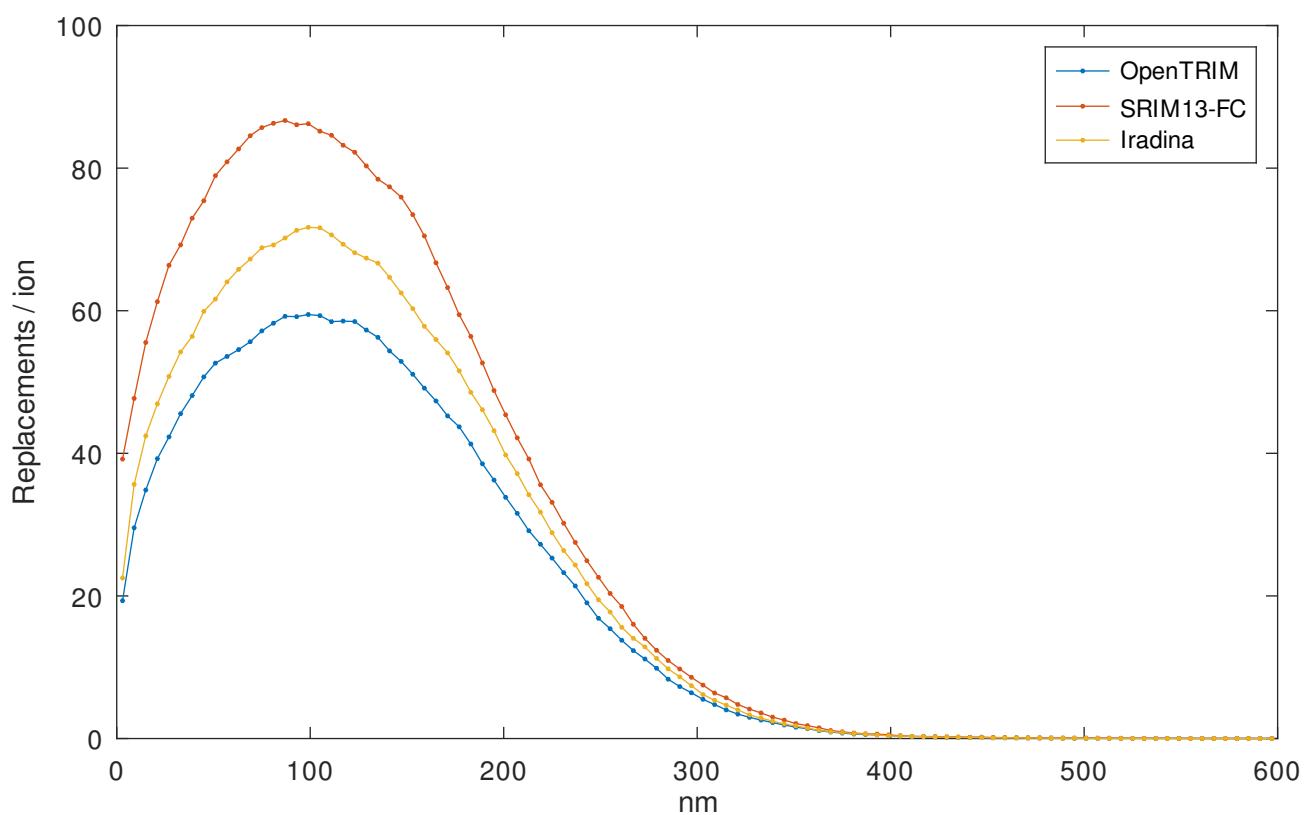
### Vacancies of O in Uranium oxide

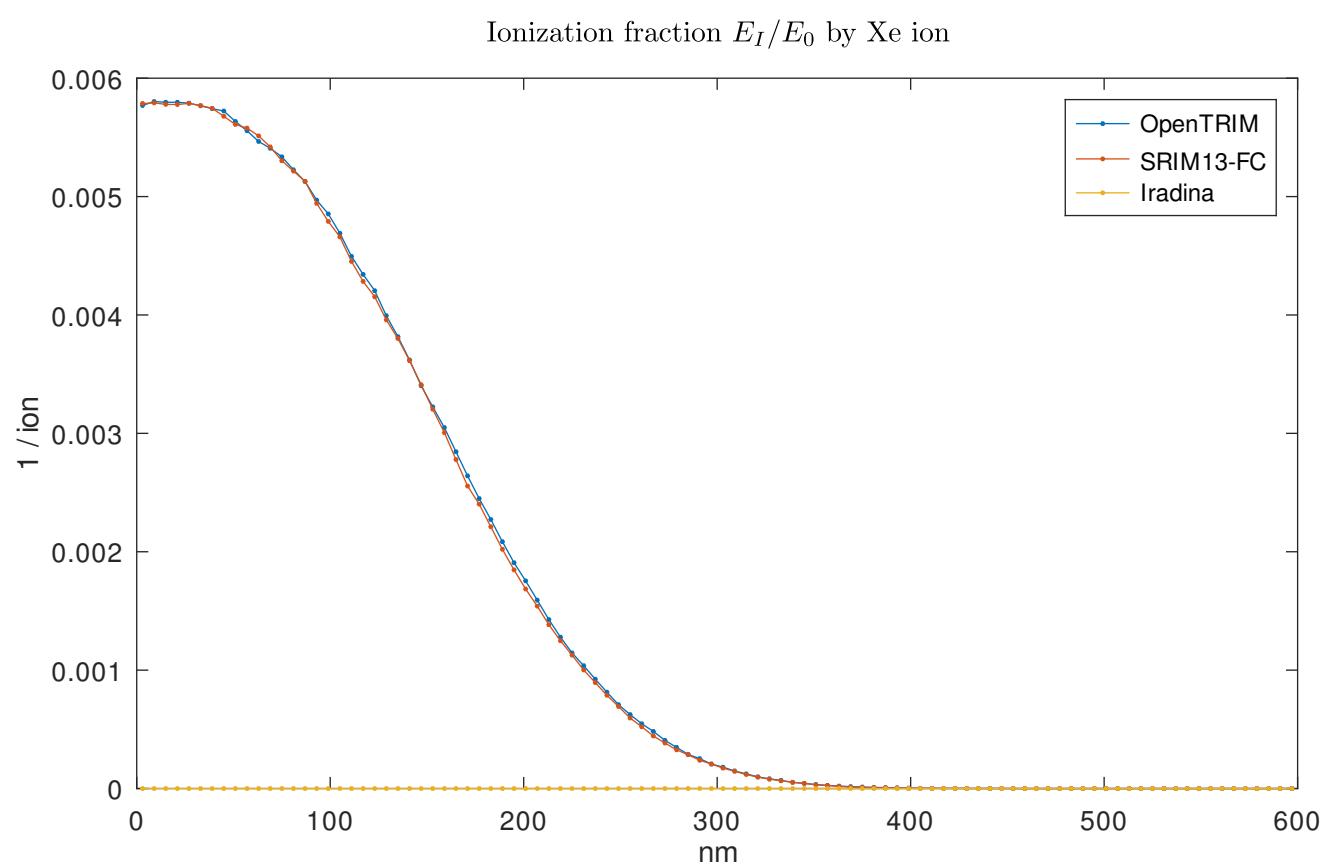
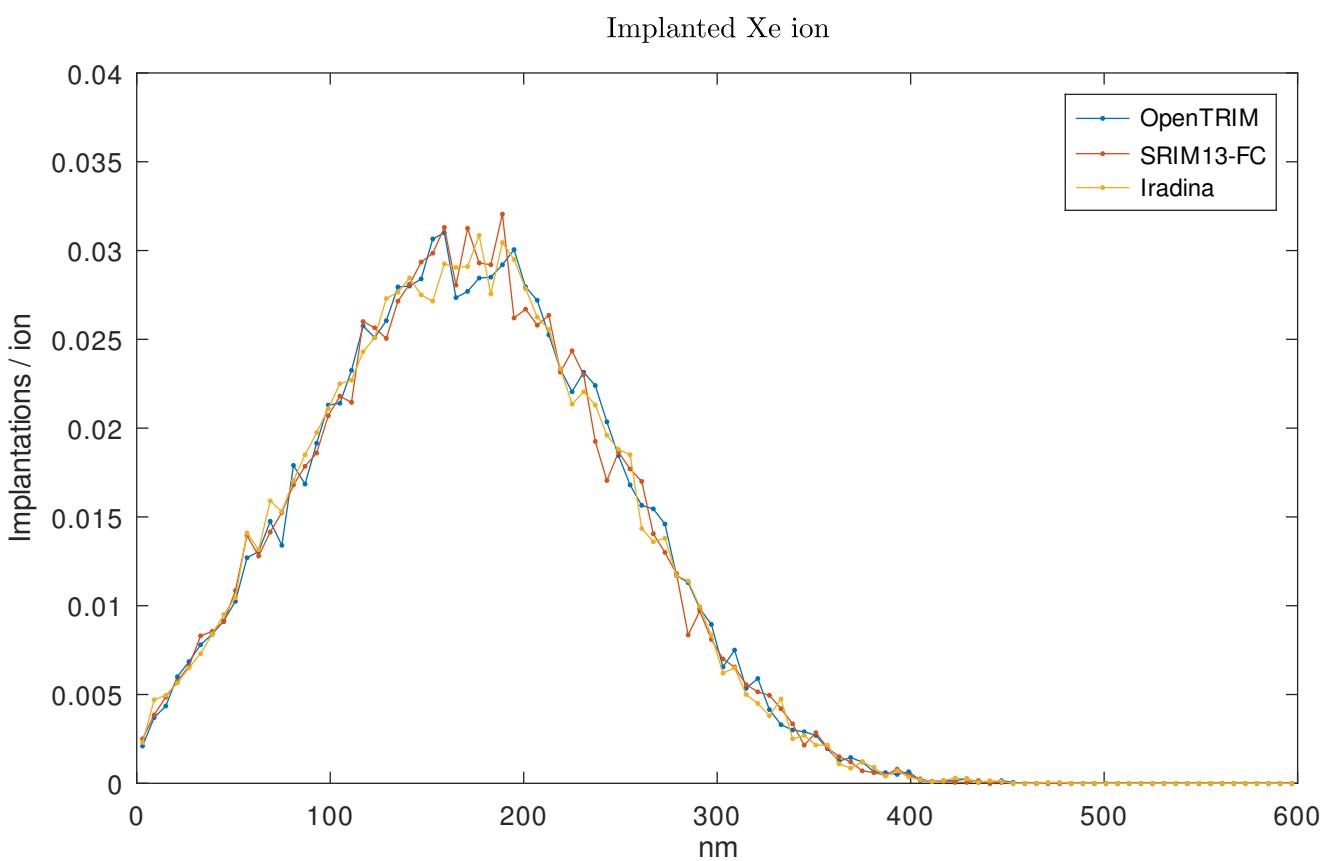


Total Vacancies

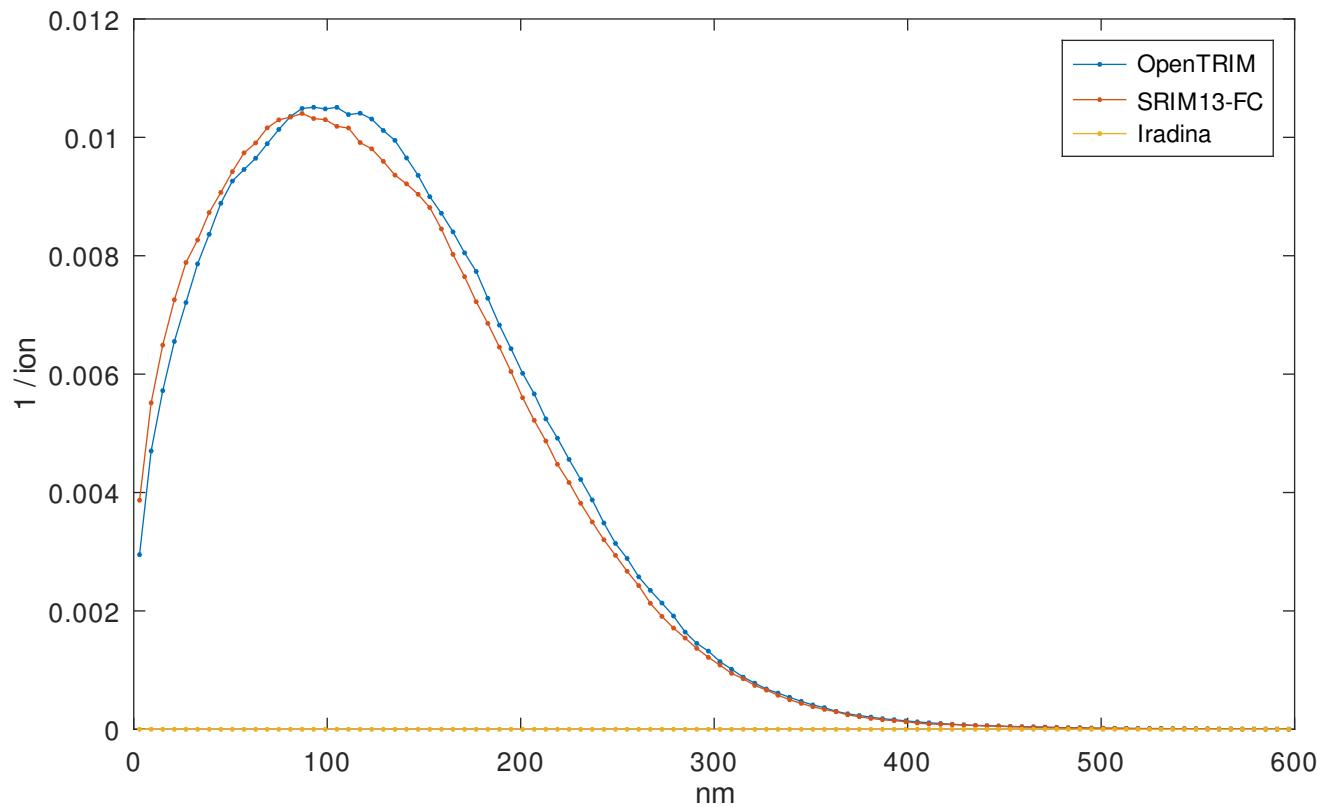


Replacements

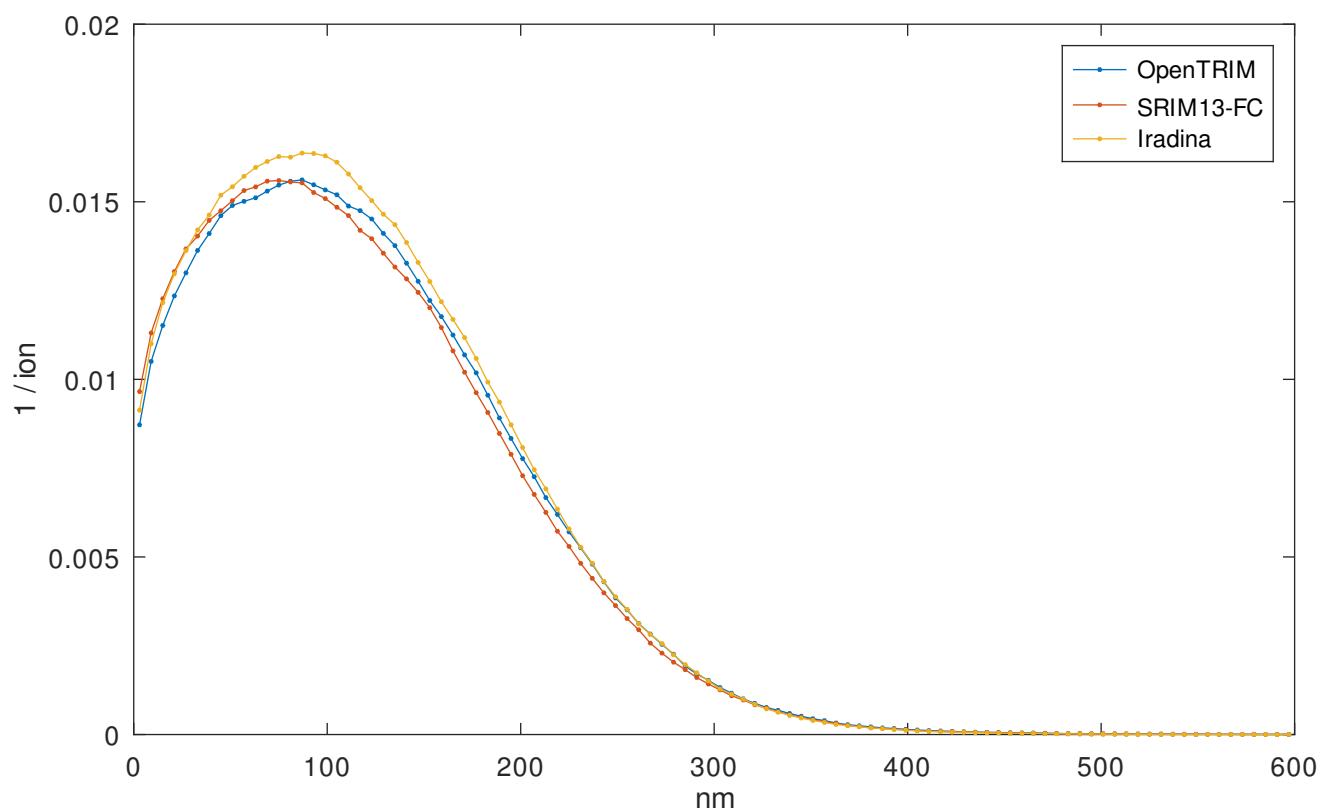




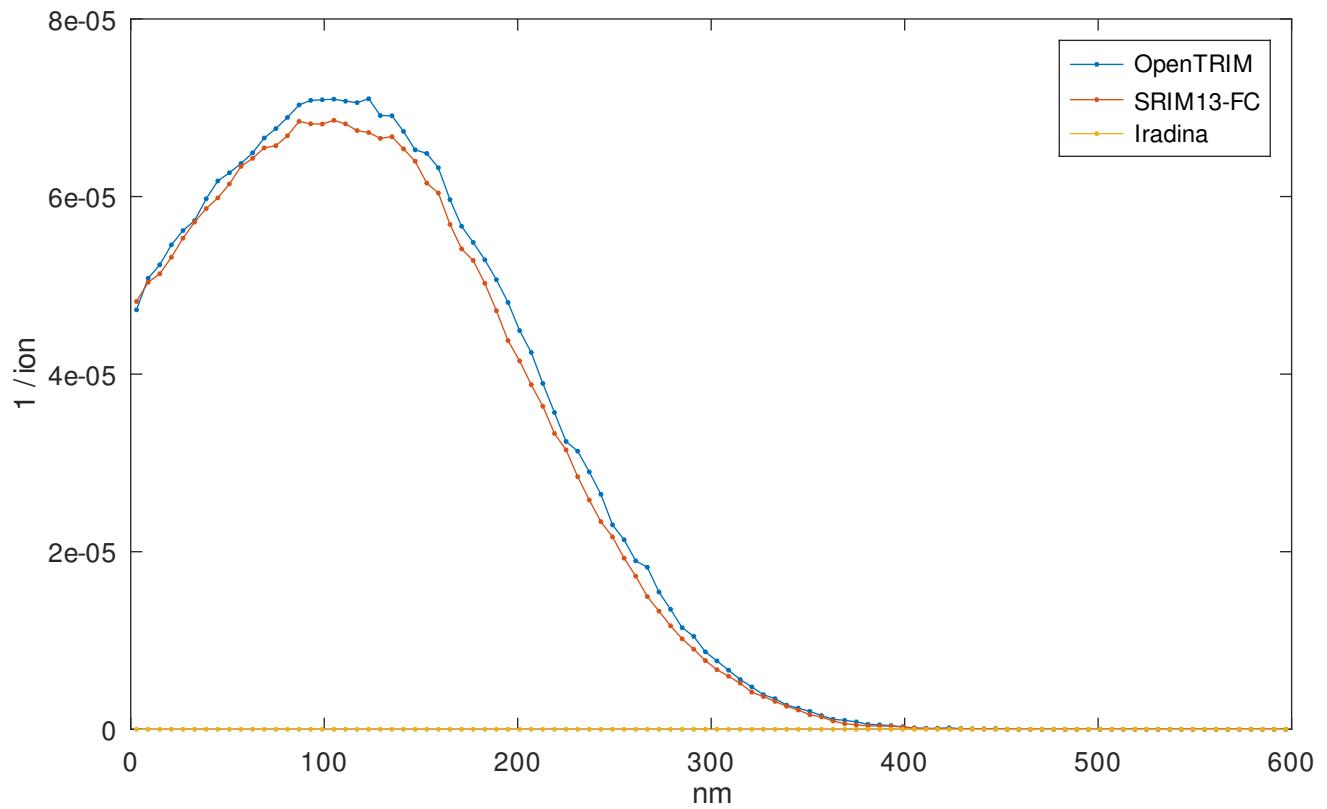
Ionization fraction  $E_I/E_0$  by recoils



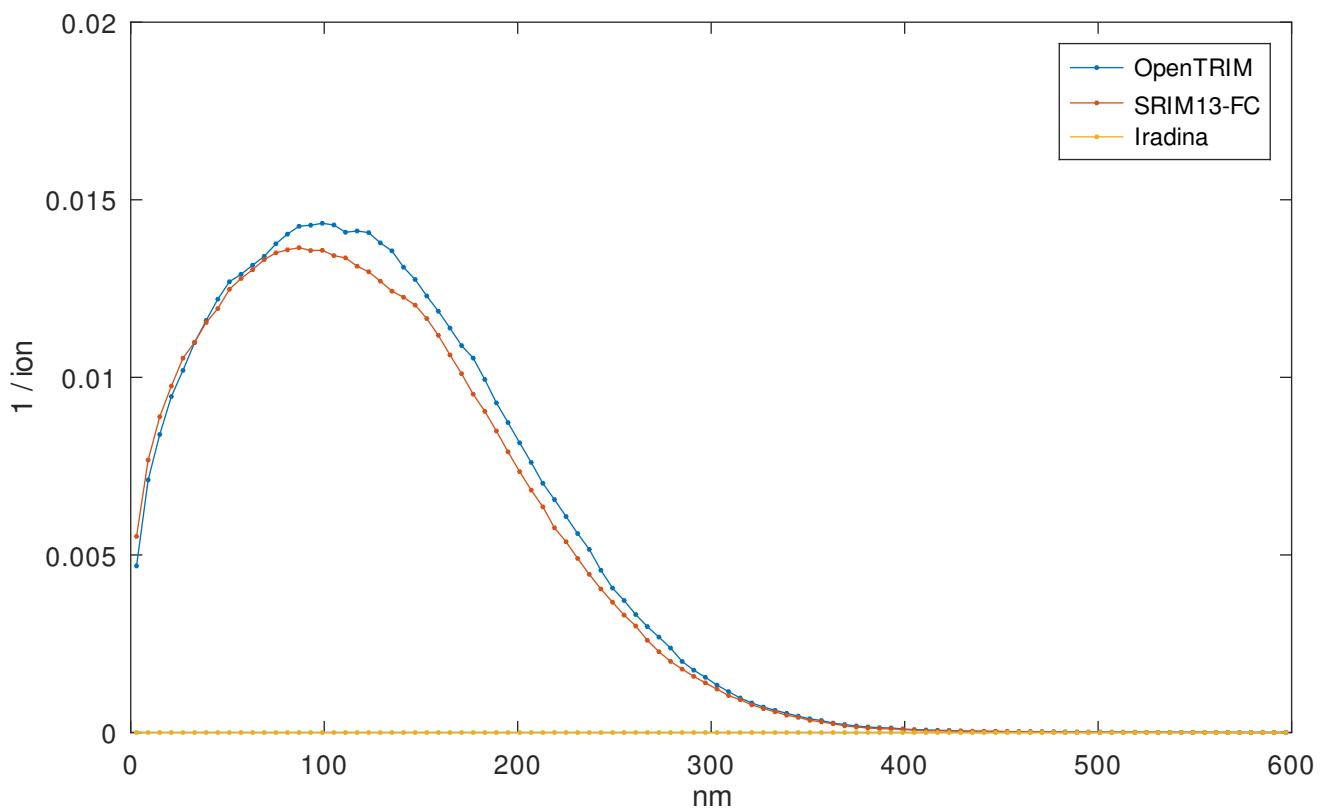
Total Ionization fraction  $E_I/E_0$



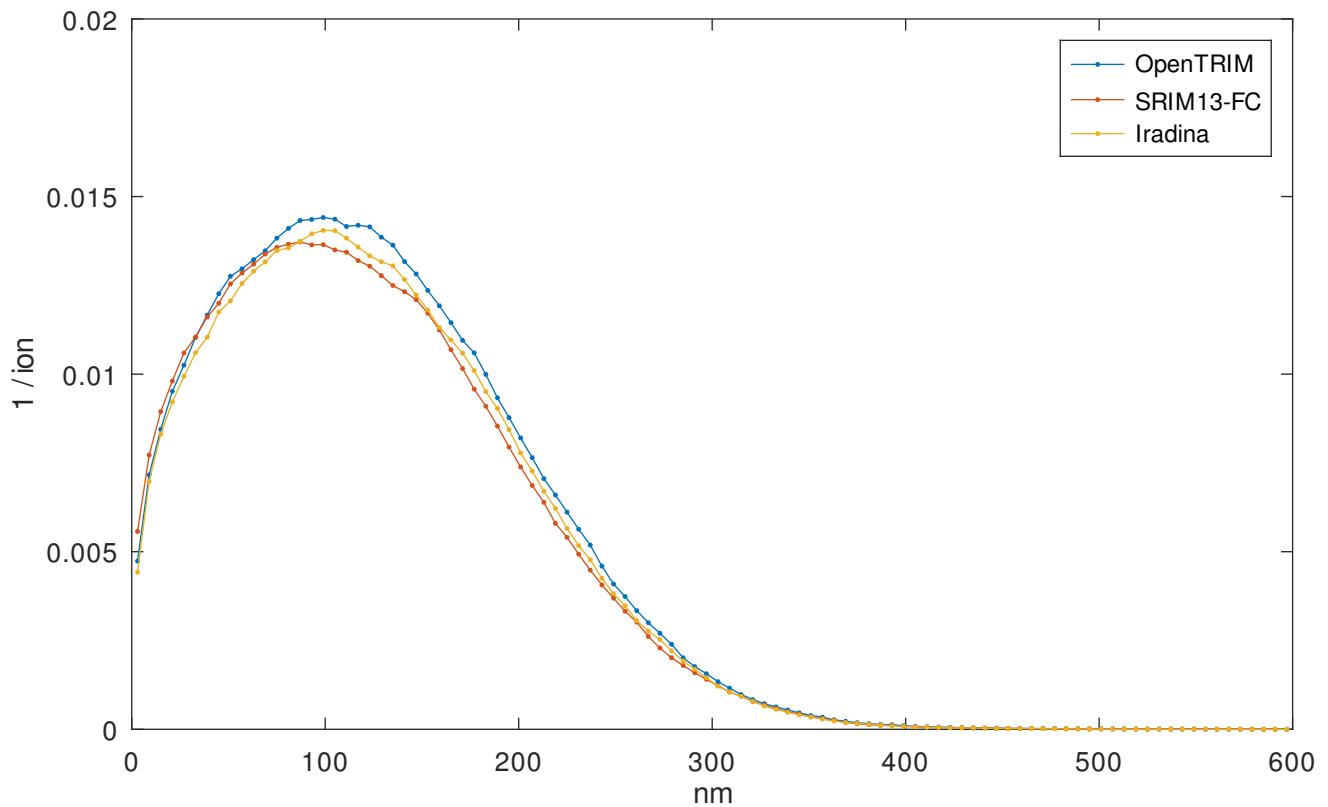
Phonon energy fraction  $E_{Ph}/E_0$  by Xe ion



Phonon energy fraction  $E_{Ph}/E_0$  by recoils



Total Phonon energy fraction  $E_{Ph}/E_0$



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

