

Benchmark #3

3MeV Xe on UO₂

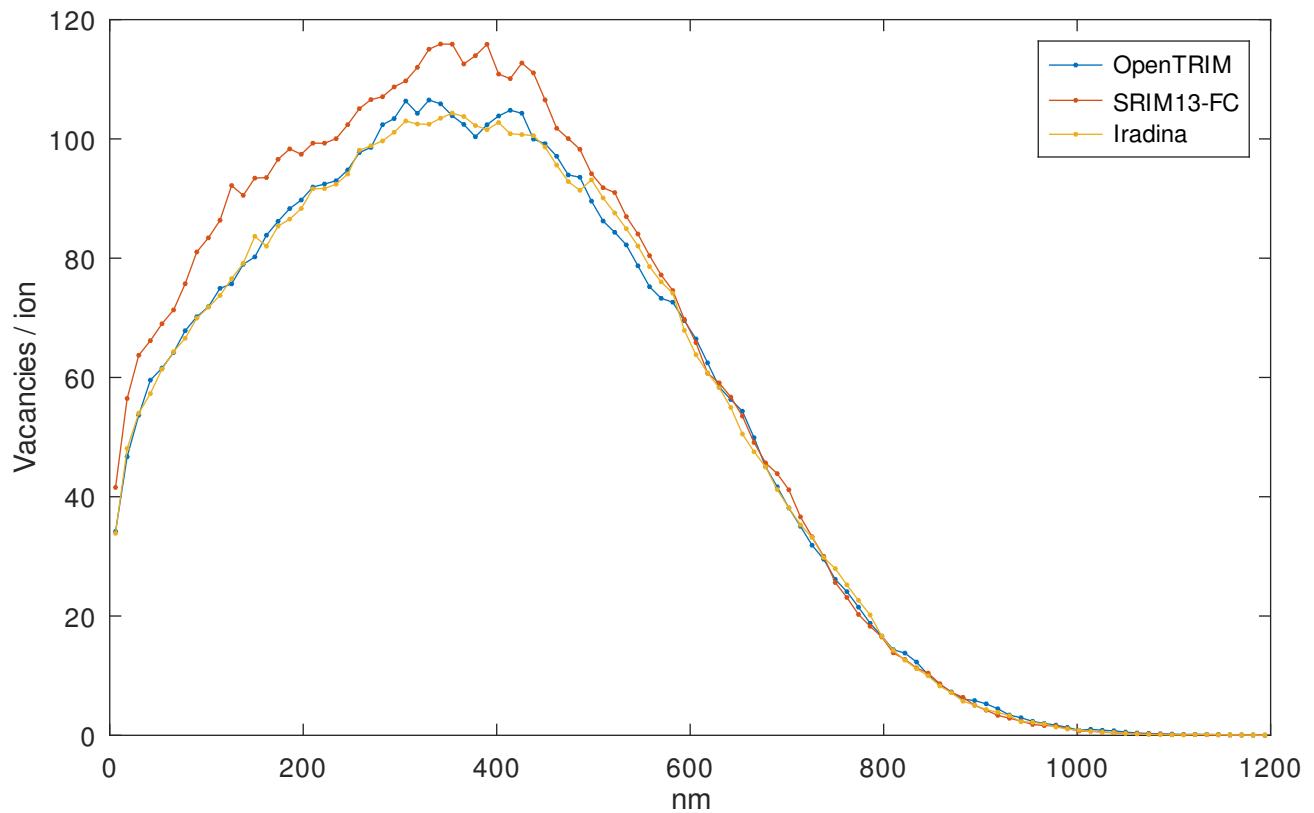
Ion energy E0 = 3e+06 eV

Target depth = 1200 nm

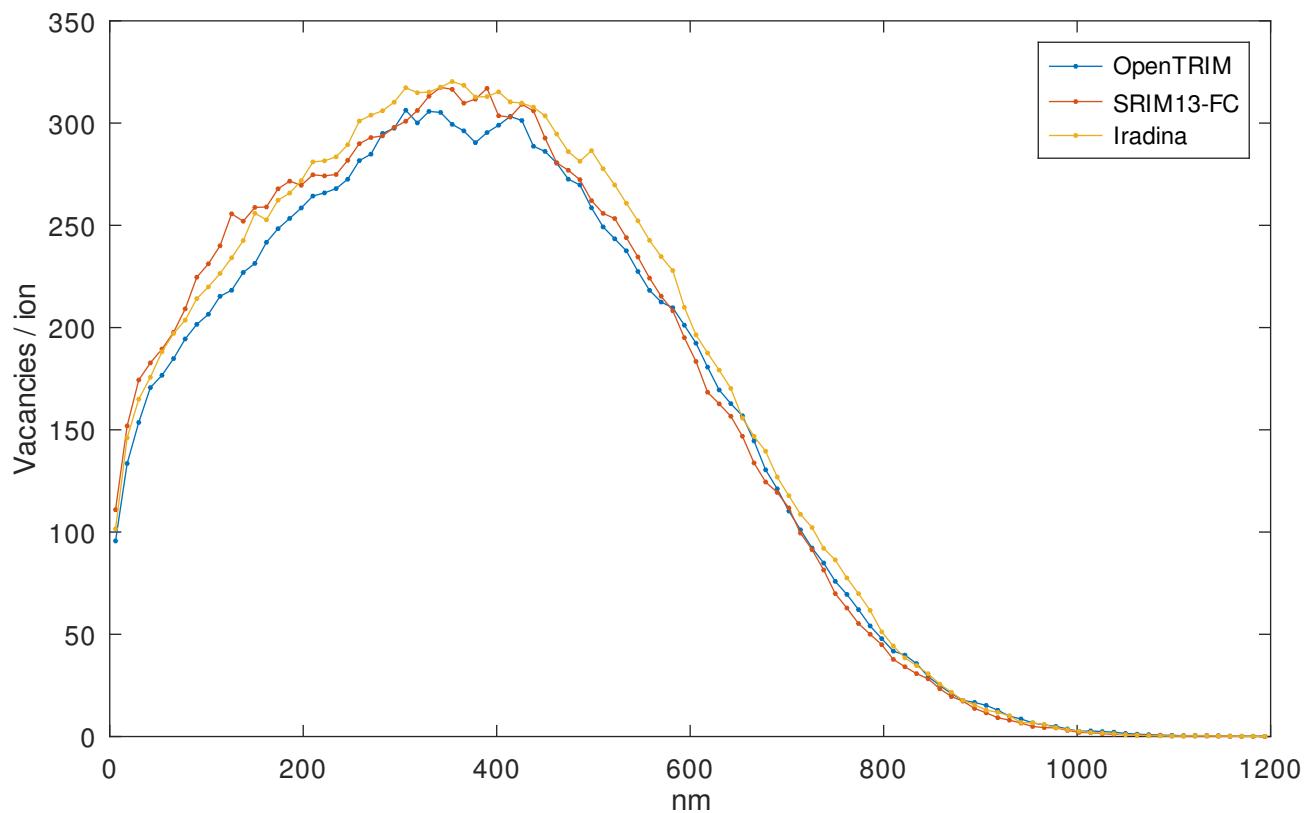
Summary Table

Quantity	OpenTRIM	SRIM13-FC	Iradina
V(U)	5.09e+03	5.48e+03	5.06e+03
V(O)	1.47e+04	1.51e+04	1.56e+04
V(tot)	1.98e+04	2.06e+04	2.06e+04
R(tot)	4.69e+03	6.7e+03	5.55e+03
I(Xe)	0.997	0.995	0.995
EI(Xe) /E0	0.298	0.294	0
EI(r) /E0	0.32	0.318	0
EI/E0	0.619	0.613	0.634
EPH(Xe) /E0	0.00181	0.00175	0
EPH(r) /E0	0.377	0.36	0
EPH(tot) /E0	0.379	0.362	0.363
1 - (EI+EPH) /E0	0.00228	0.0259	0.00242

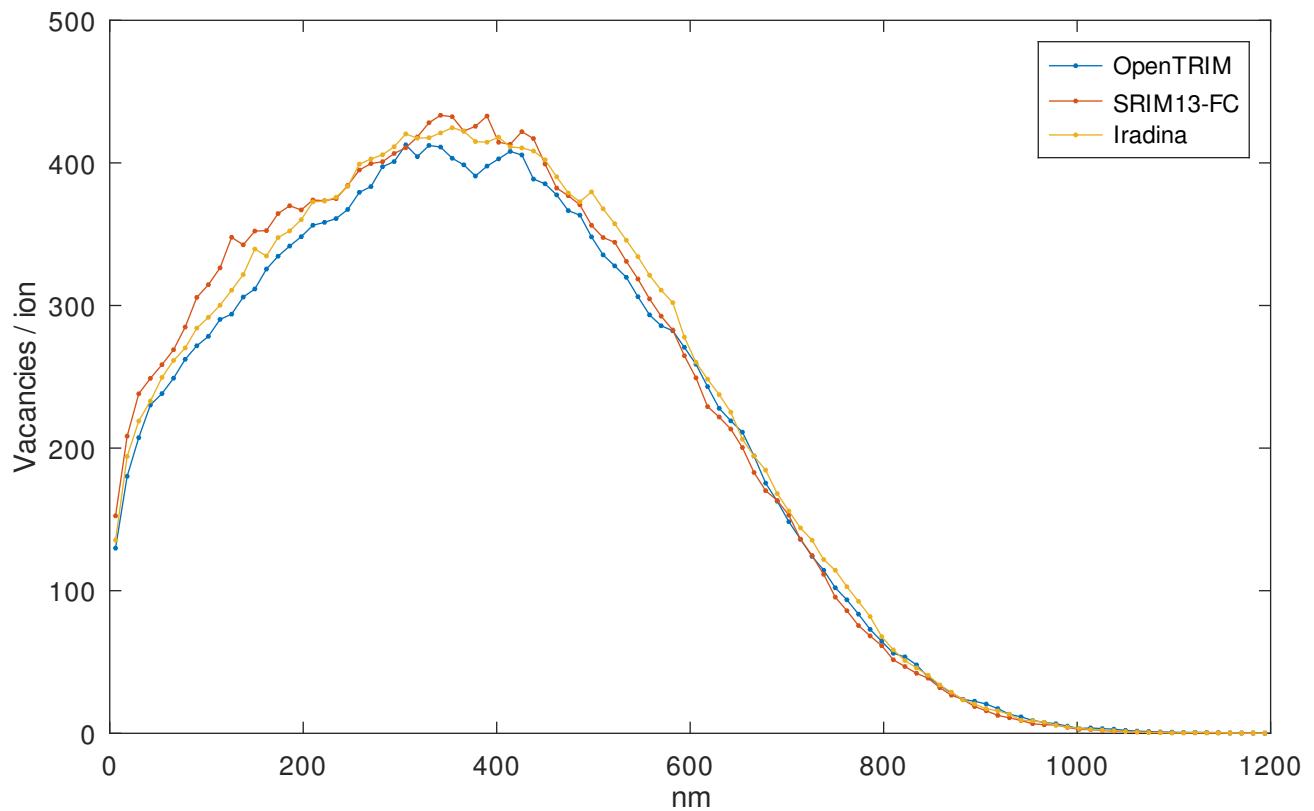
Vacancies of U in Uranium oxide



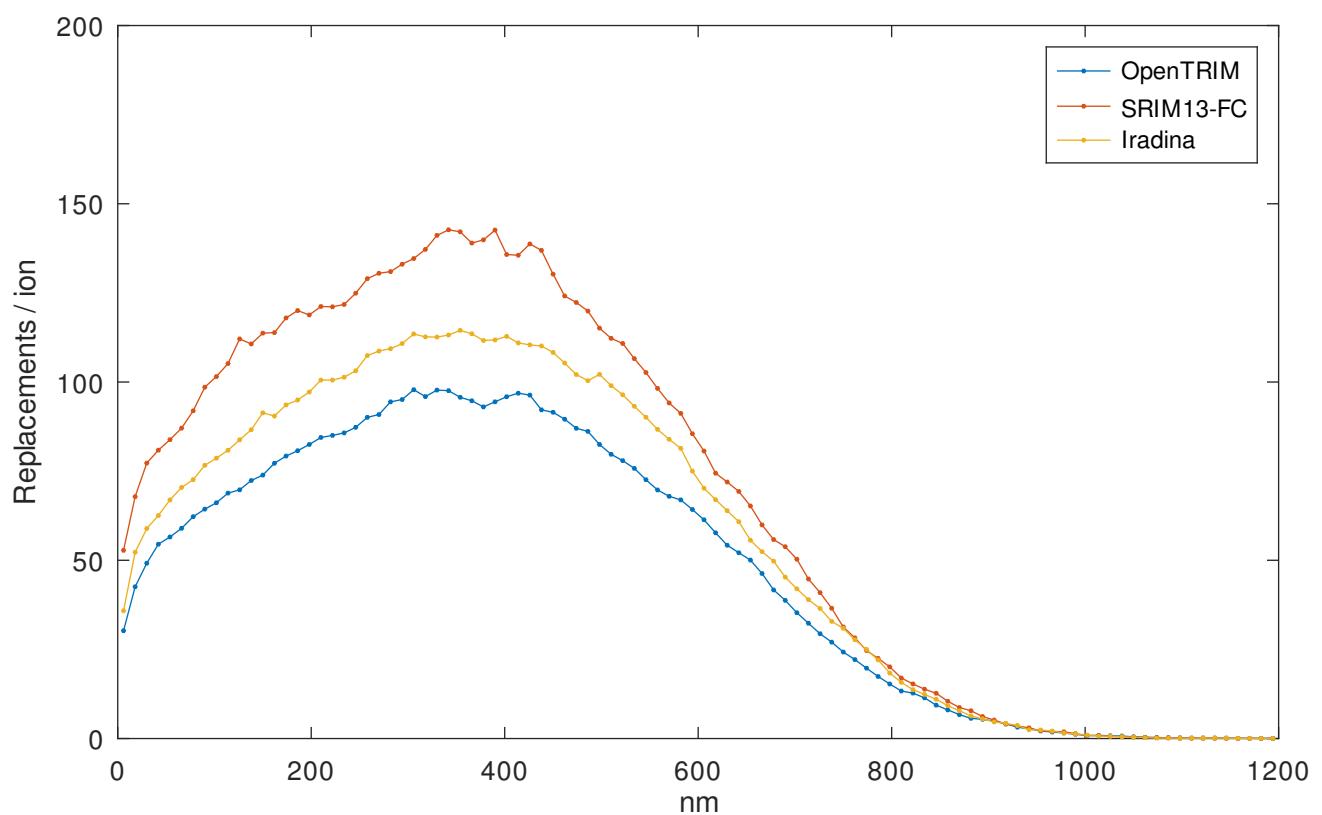
Vacancies of O in Uranium oxide

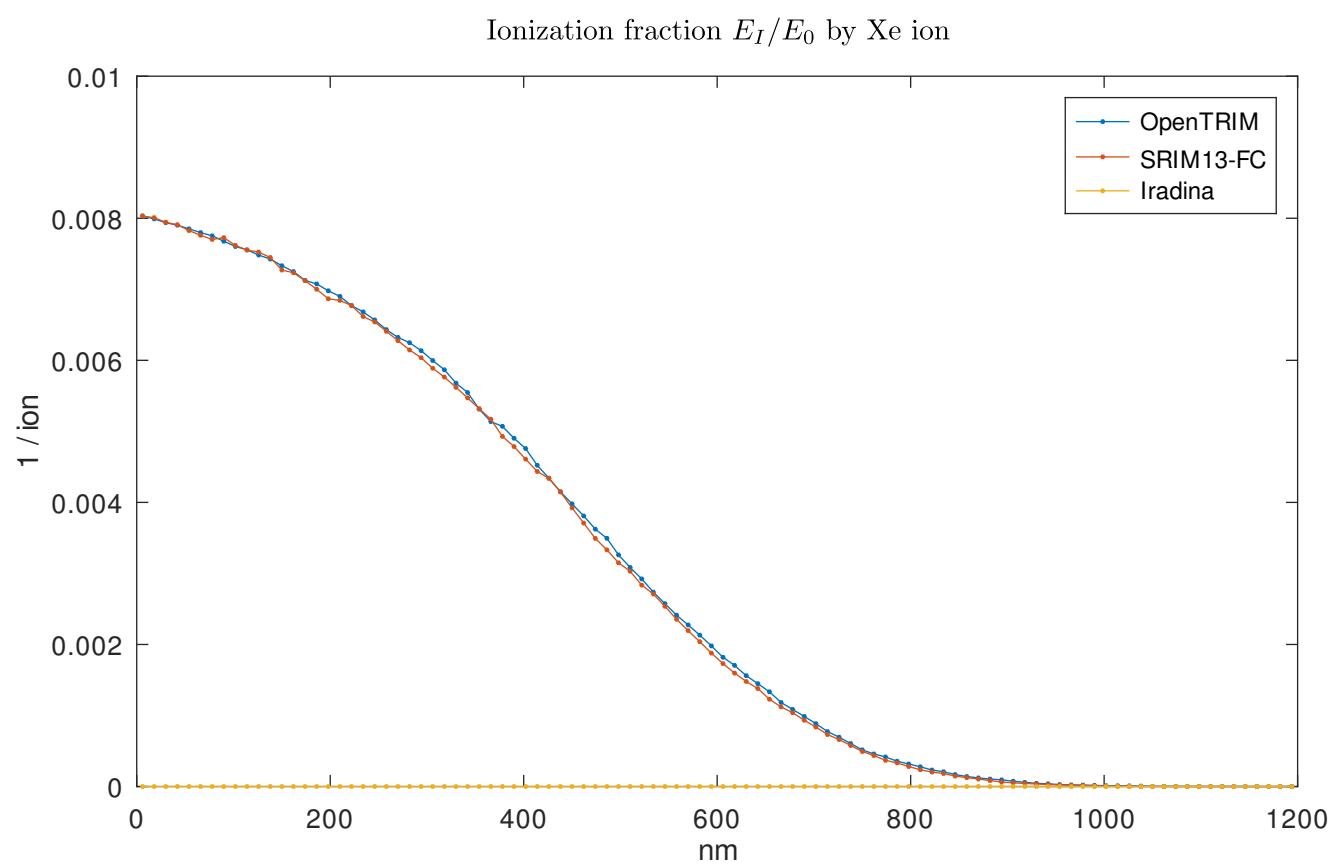
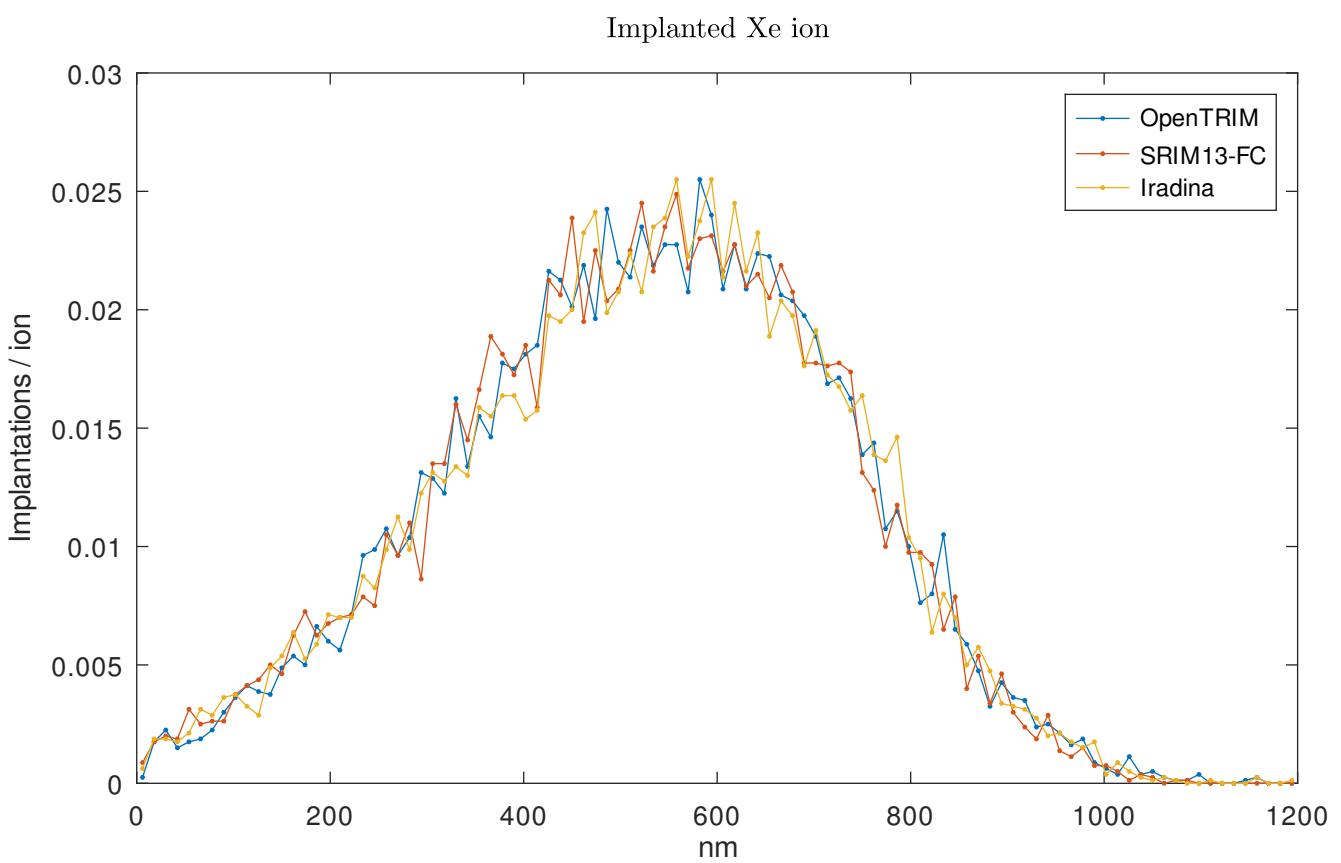


Total Vacancies

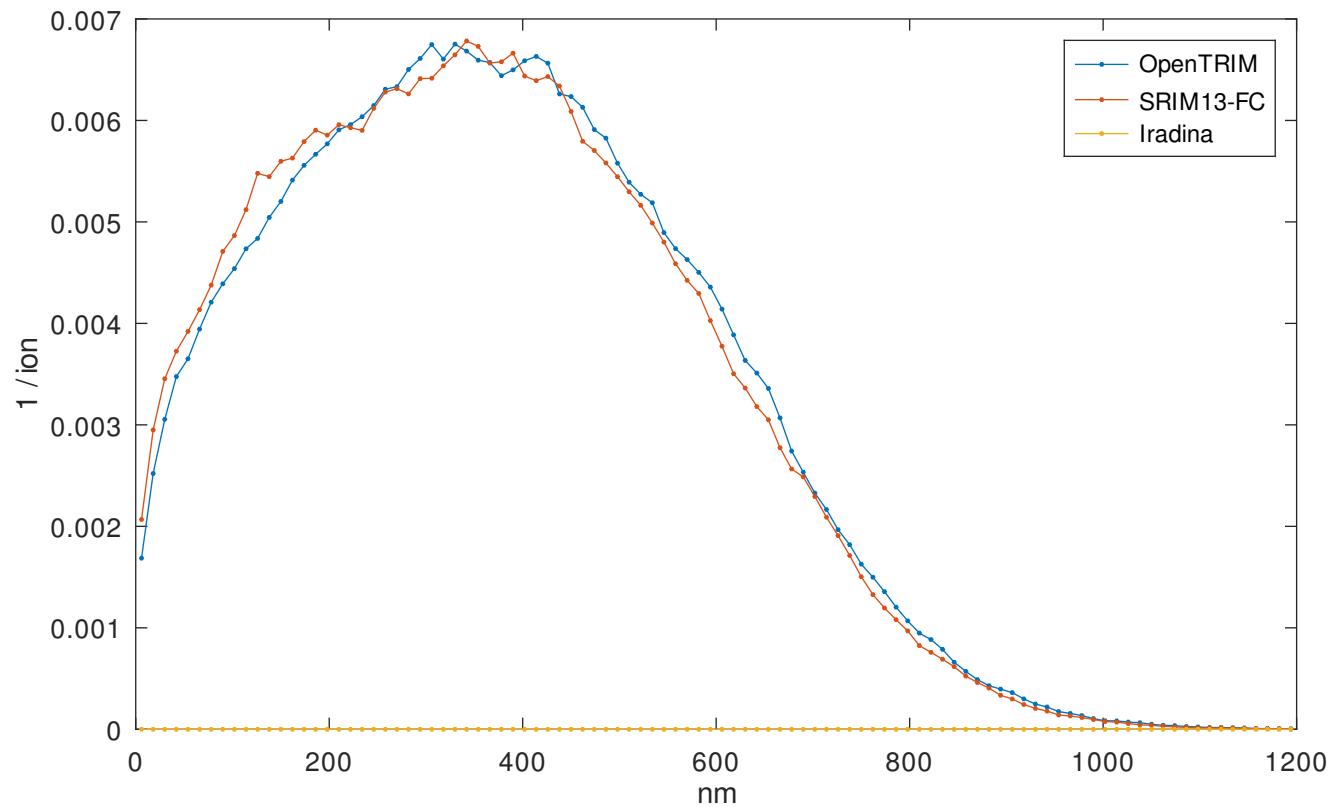


Replacements

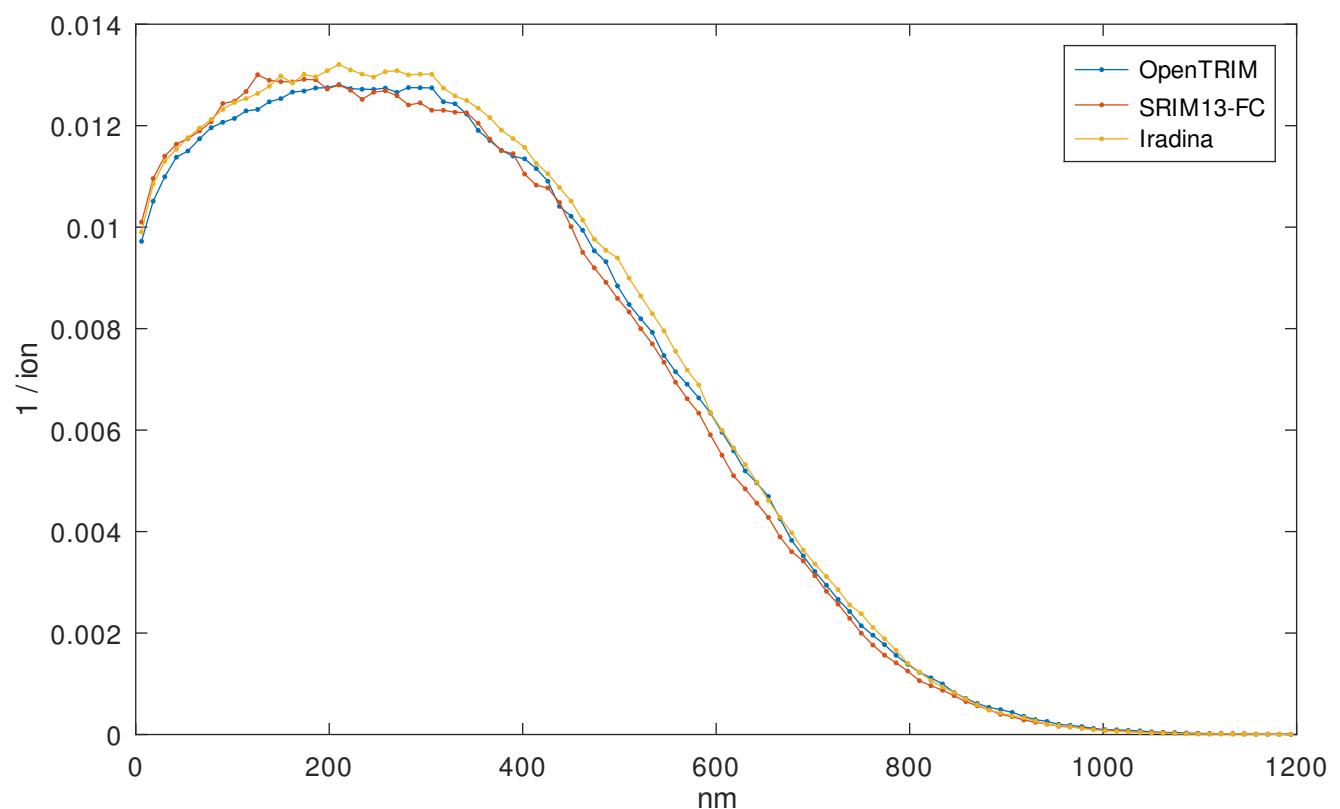




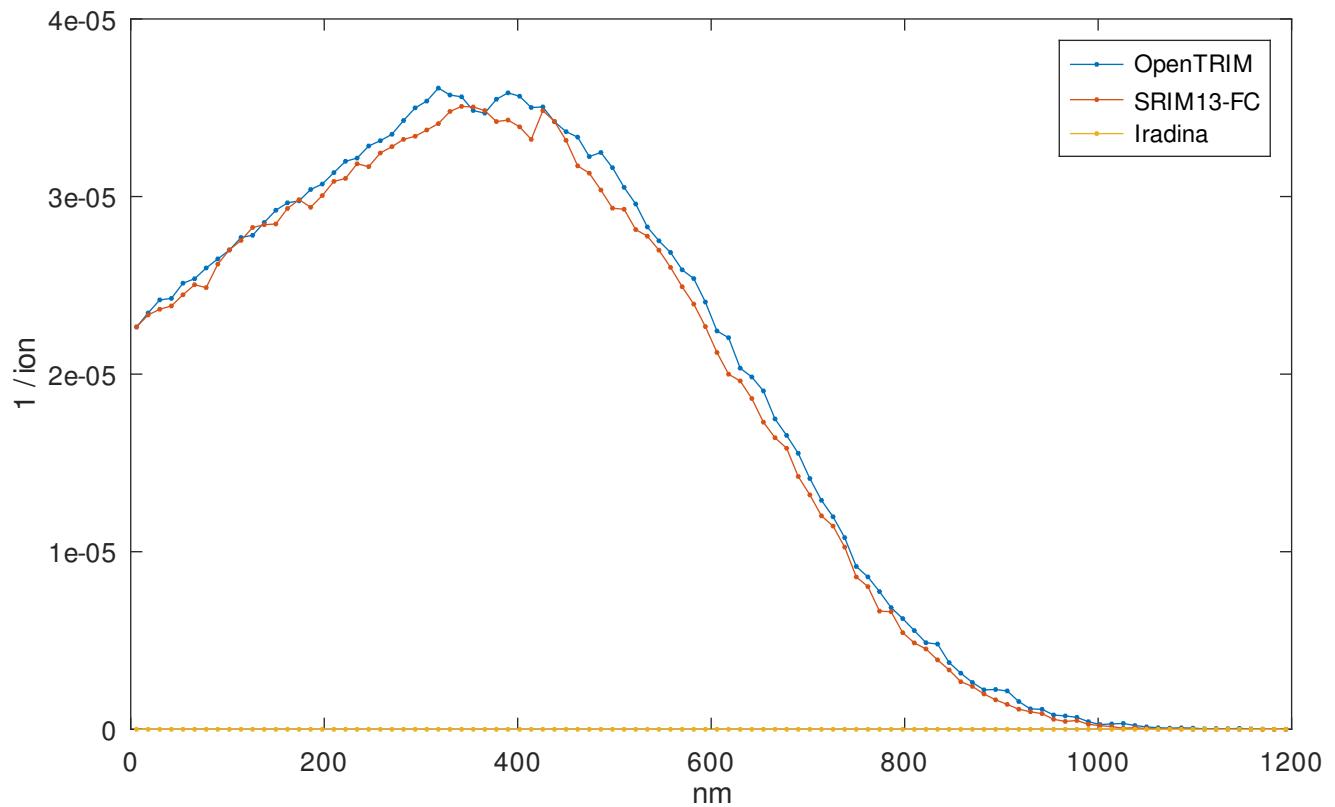
Ionization fraction E_I/E_0 by recoils



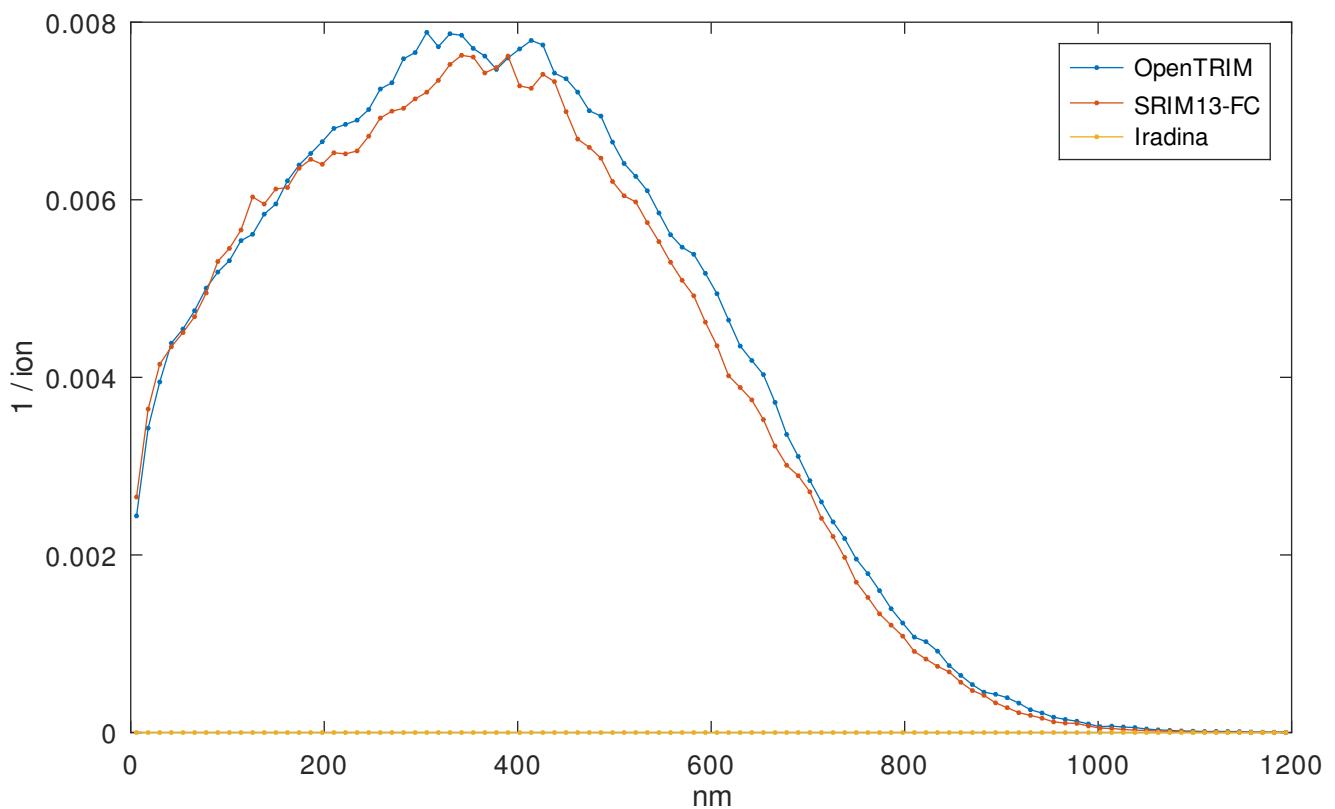
Total Ionization fraction E_I/E_0



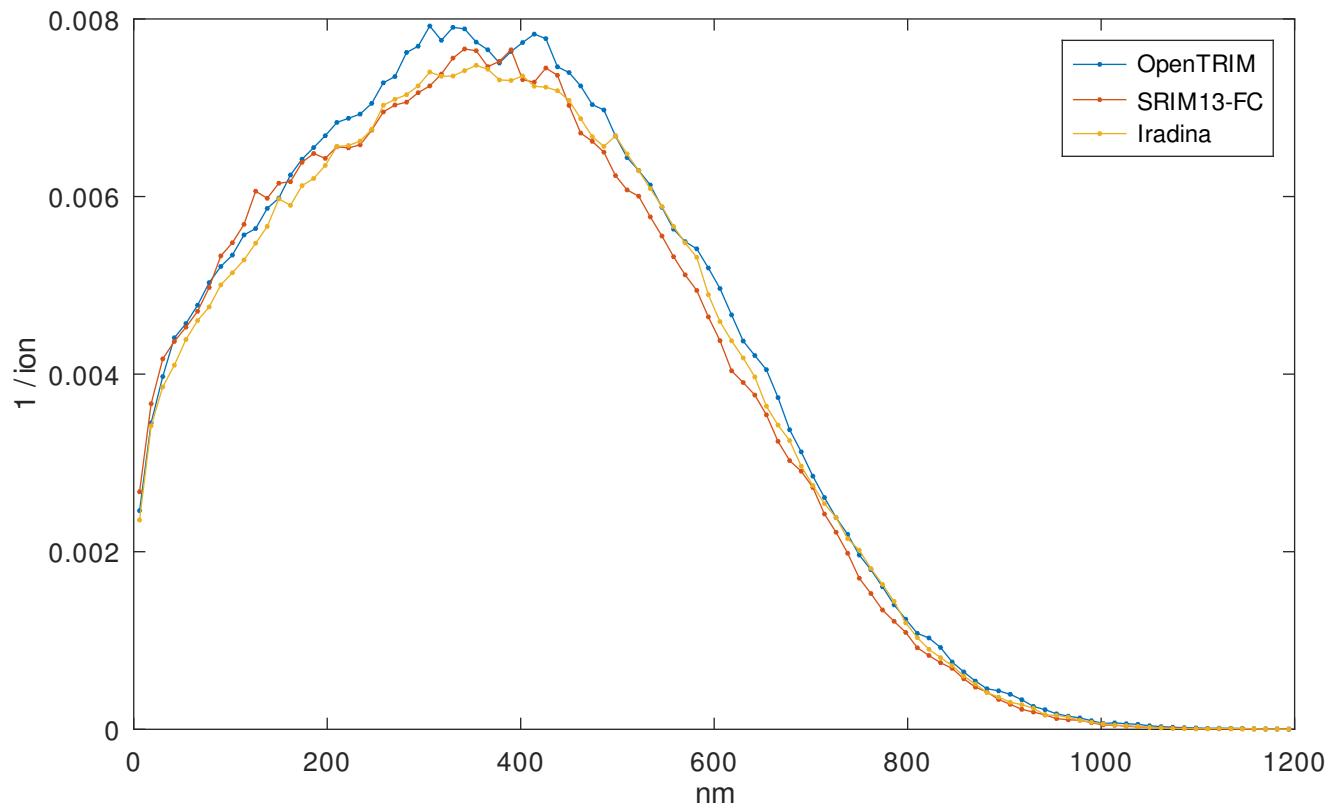
Phonon energy fraction E_{Ph}/E_0 by Xe ion



Phonon energy fraction E_{Ph}/E_0 by recoils



Total Phonon energy fraction E_{Ph}/E_0



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

