

Benchmark #4

1MeV Xe on UO2

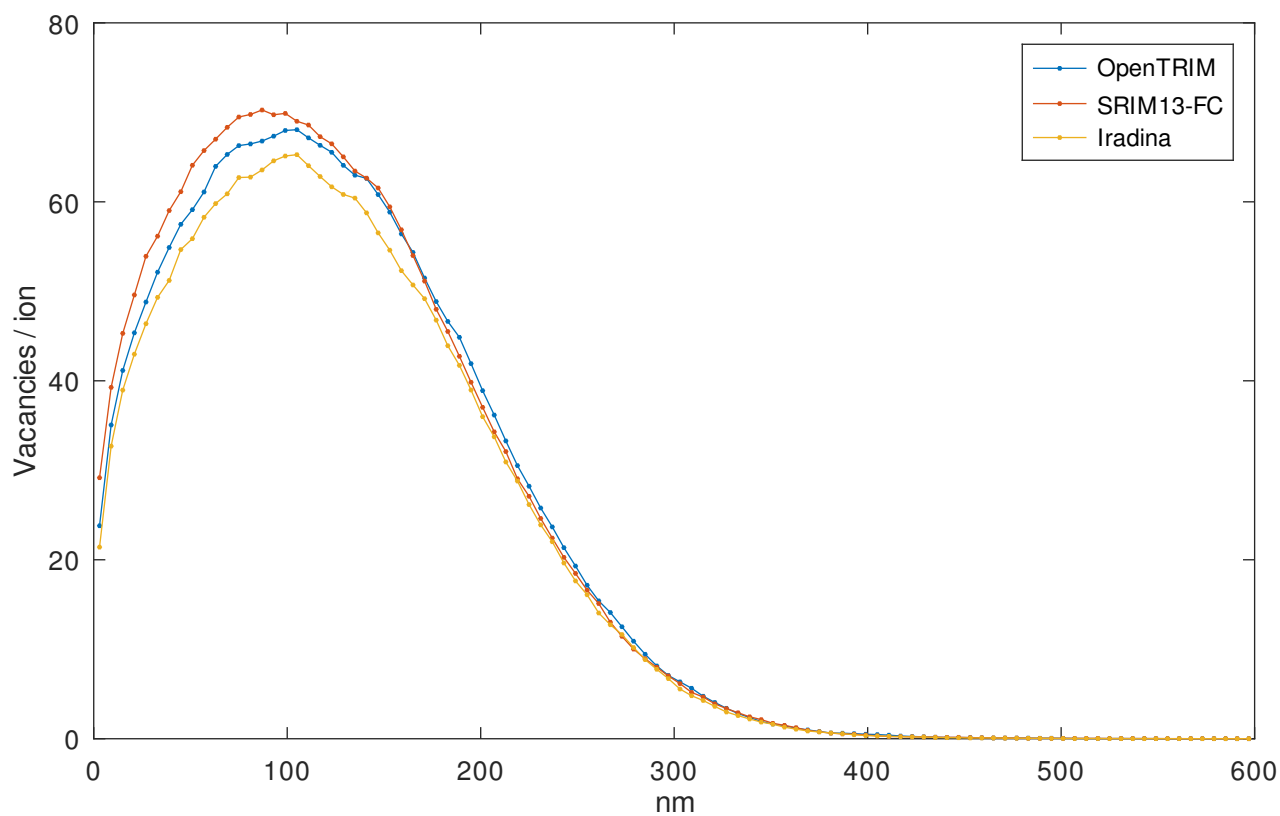
Ion energy E0 = 1e+06 eV

Target depth = 600 nm

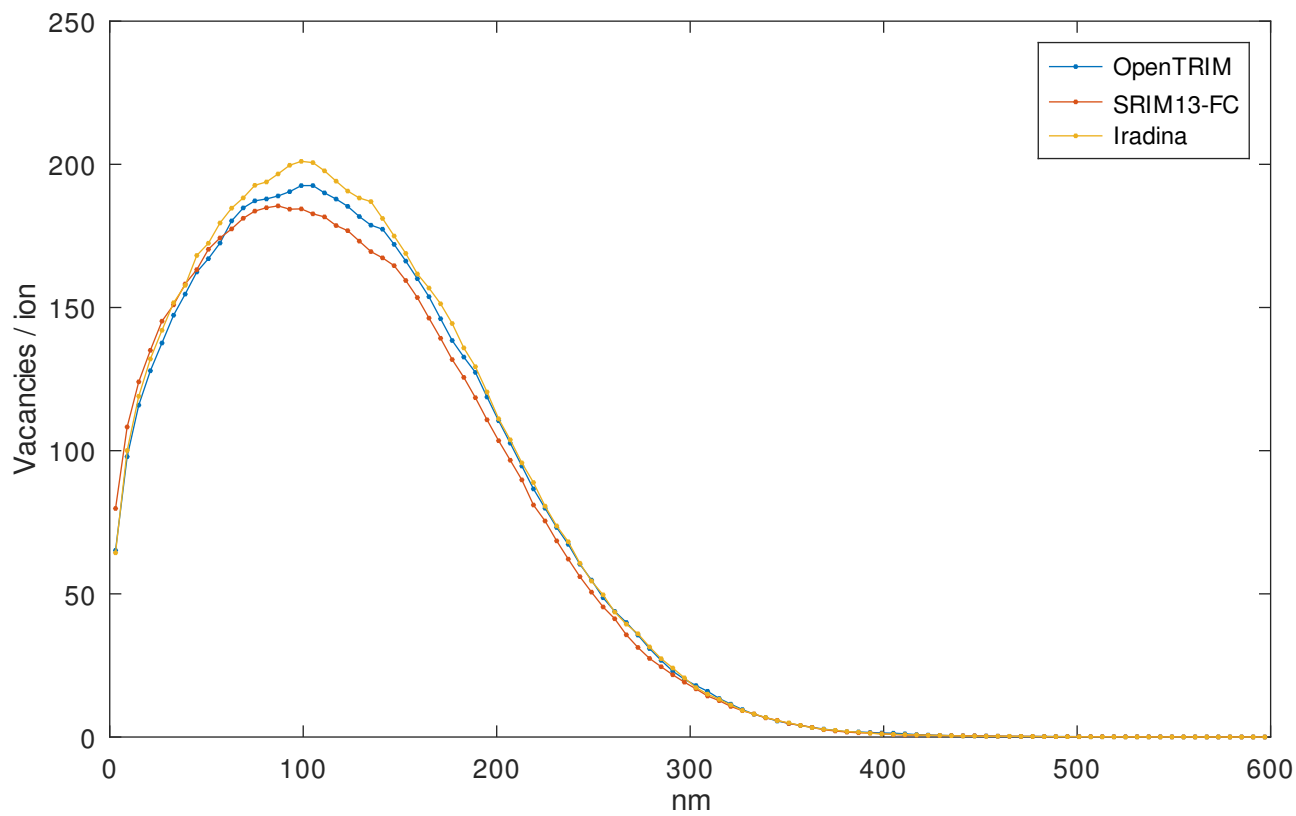
Summary Table

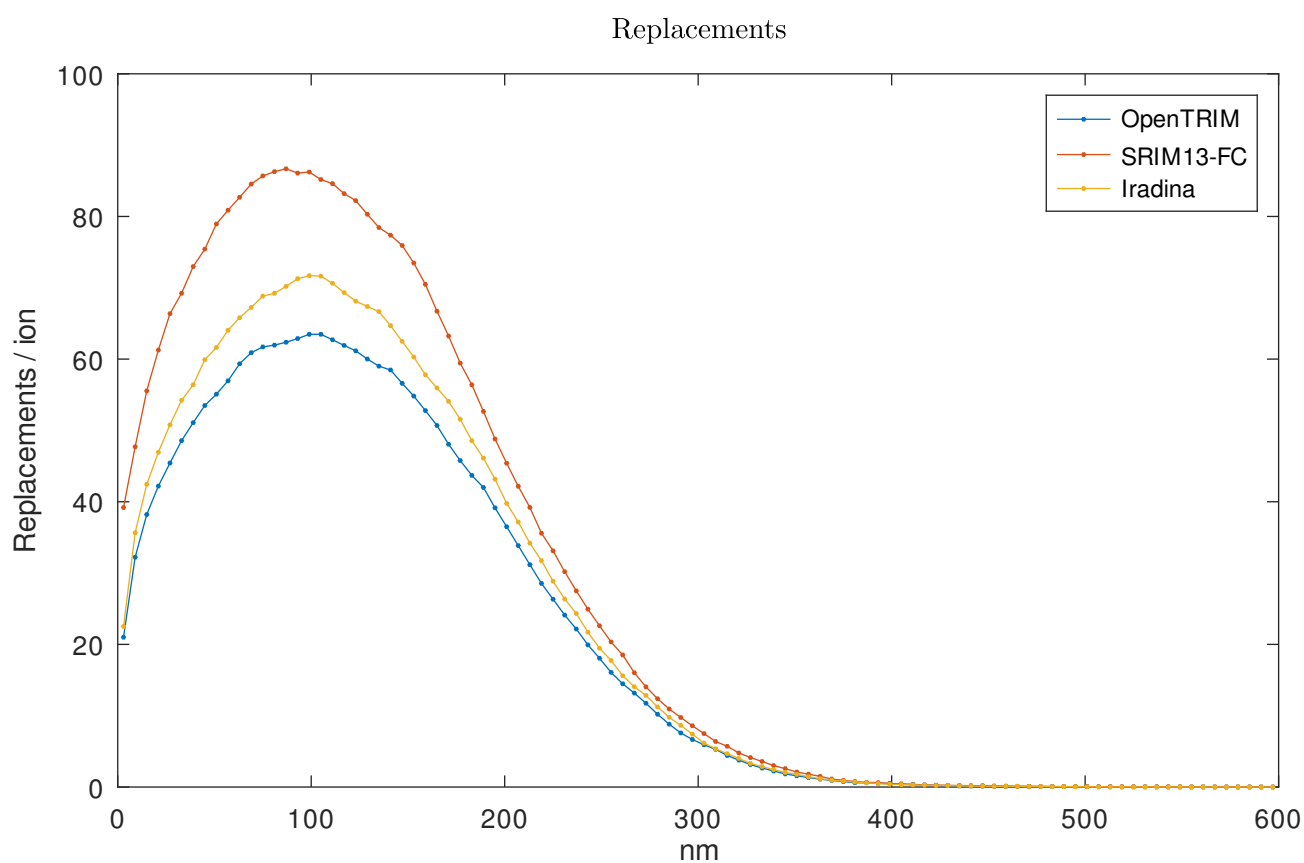
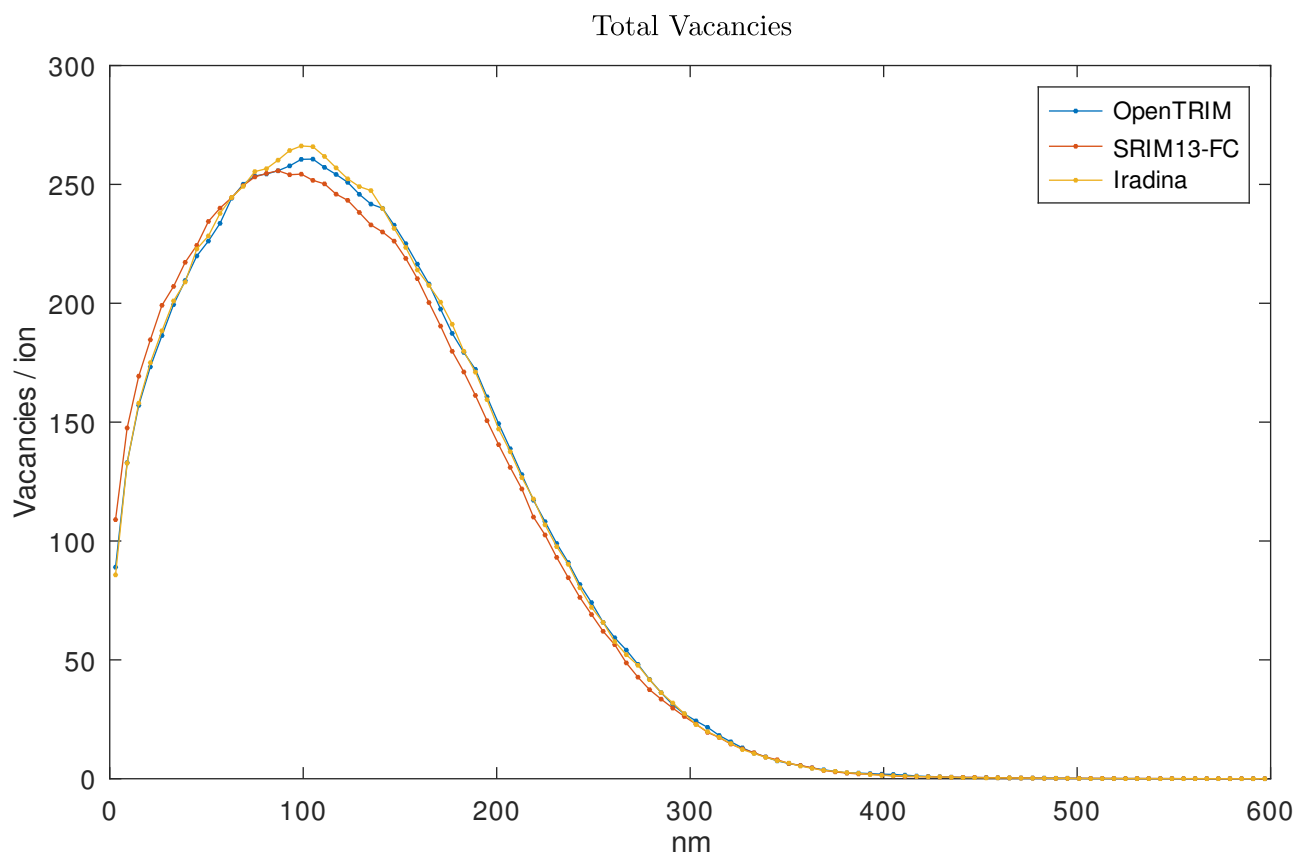
| Quantity | OpenTRIM | SRIM13-FC | Iradina |
|-----------------|----------|-----------|----------|
| V(U) | 2.26e+03 | 2.31e+03 | 2.12e+03 |
| V(O) | 6.39e+03 | 6.21e+03 | 6.55e+03 |
| V(tot) | 8.65e+03 | 8.52e+03 | 8.68e+03 |
| R(tot) | 2.11e+03 | 2.85e+03 | 2.34e+03 |
| I(Xe) | 0.987 | 0.986 | 0.988 |
| EI(Xe)/E0 | 0.161 | 0.16 | 0 |
| EI(r)/E0 | 0.362 | 0.346 | 0 |
| EI/E0 | 0.523 | 0.507 | 0.534 |
| EPh(Xe)/E0 | 0.00248 | 0.00241 | 0 |
| EPh(r)/E0 | 0.467 | 0.452 | 0 |
| EPh(tot)/E0 | 0.469 | 0.455 | 0.458 |
| 1 - (EI+EPh)/E0 | 0.00742 | 0.0388 | 0.00728 |

Vacancies of U in Uranium oxide

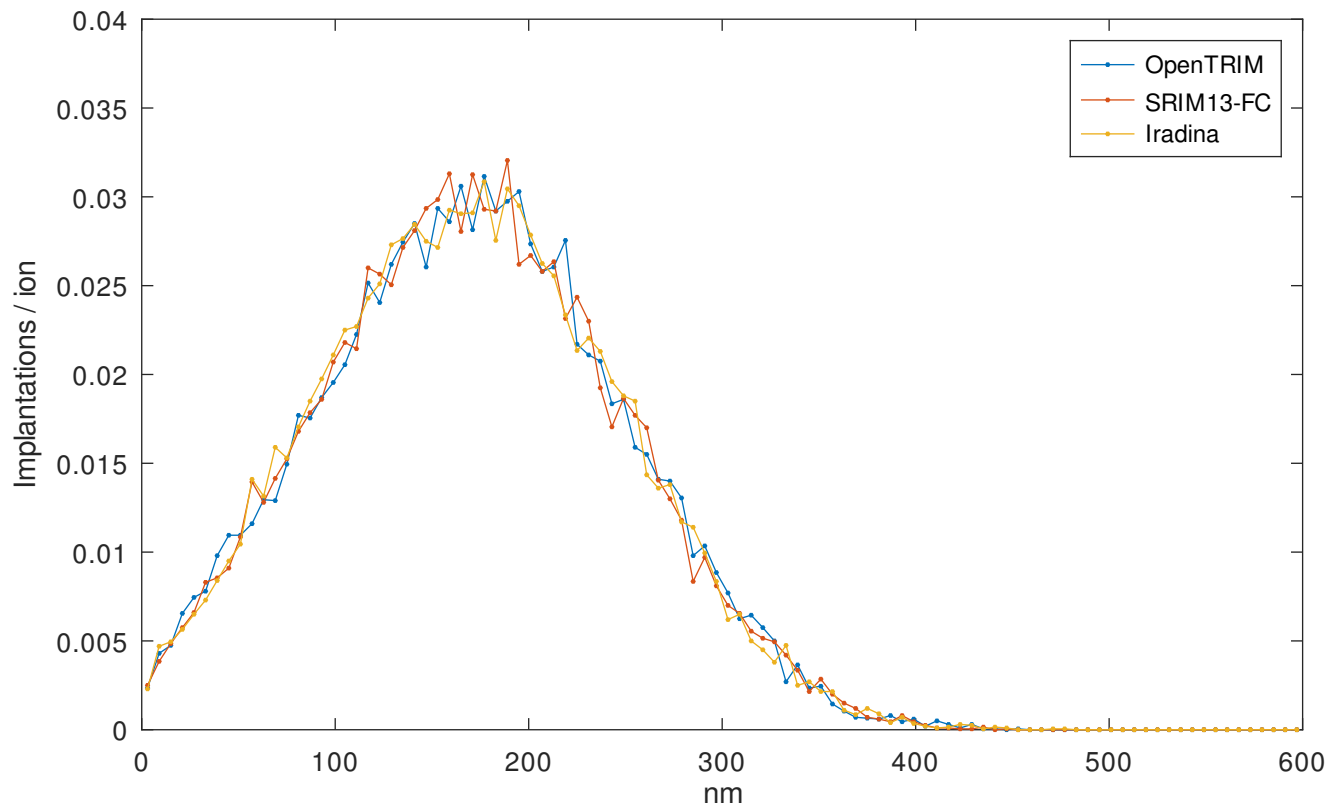


Vacancies of O in Uranium oxide

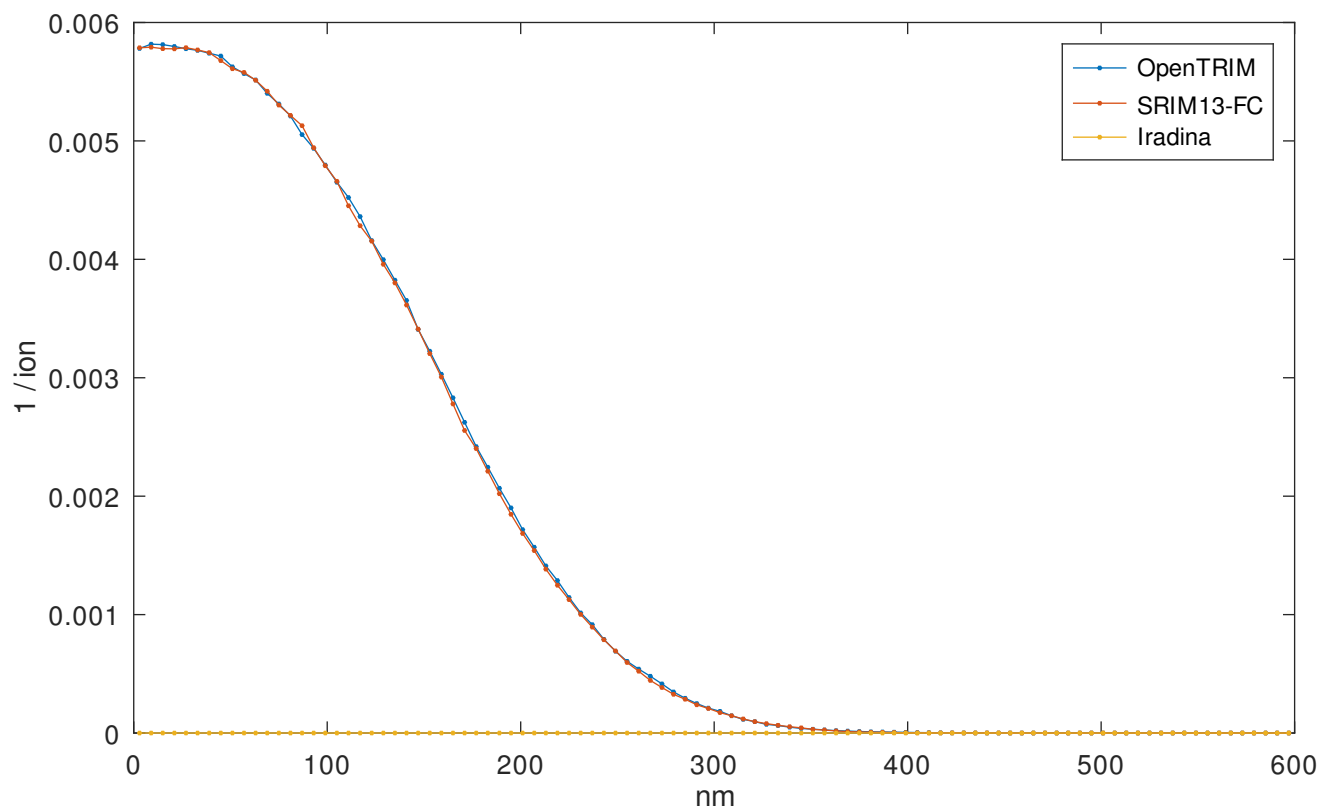




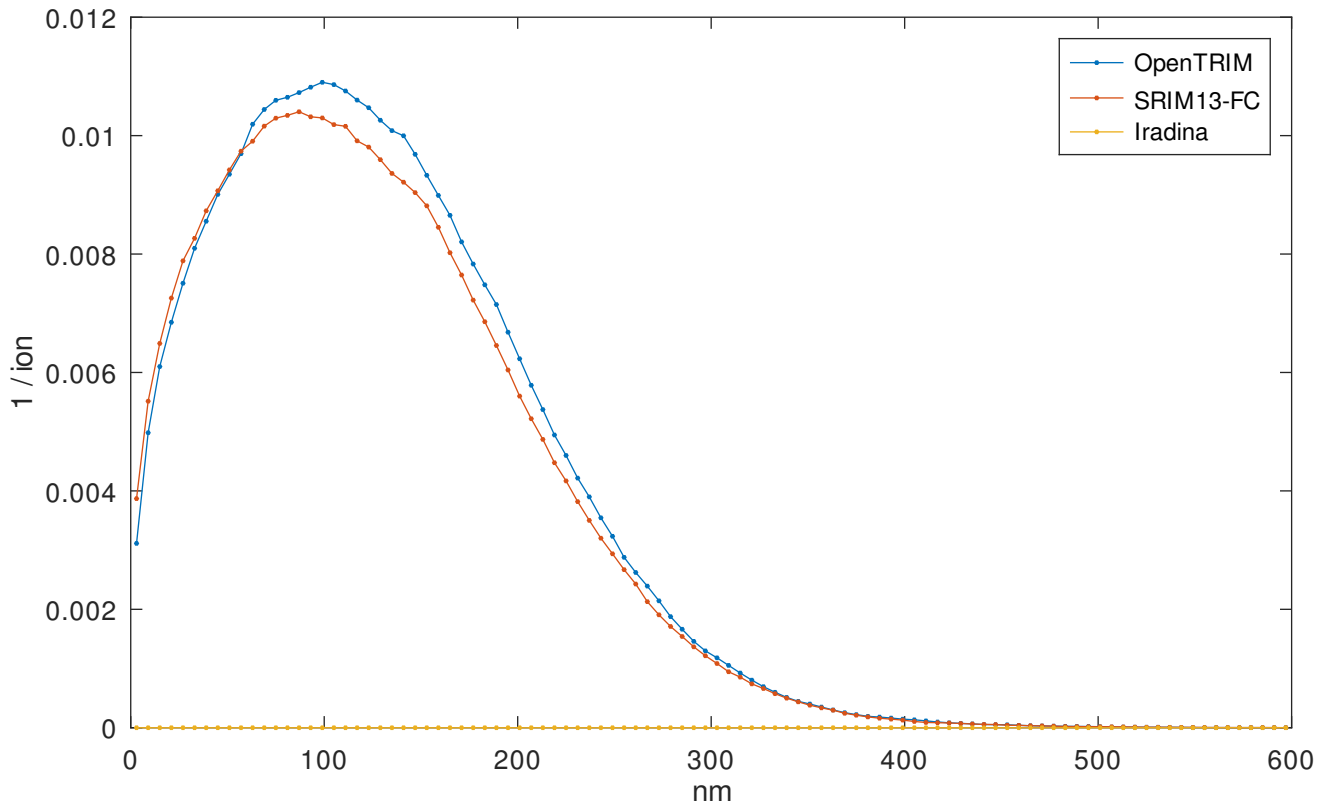
Implanted Xe ion



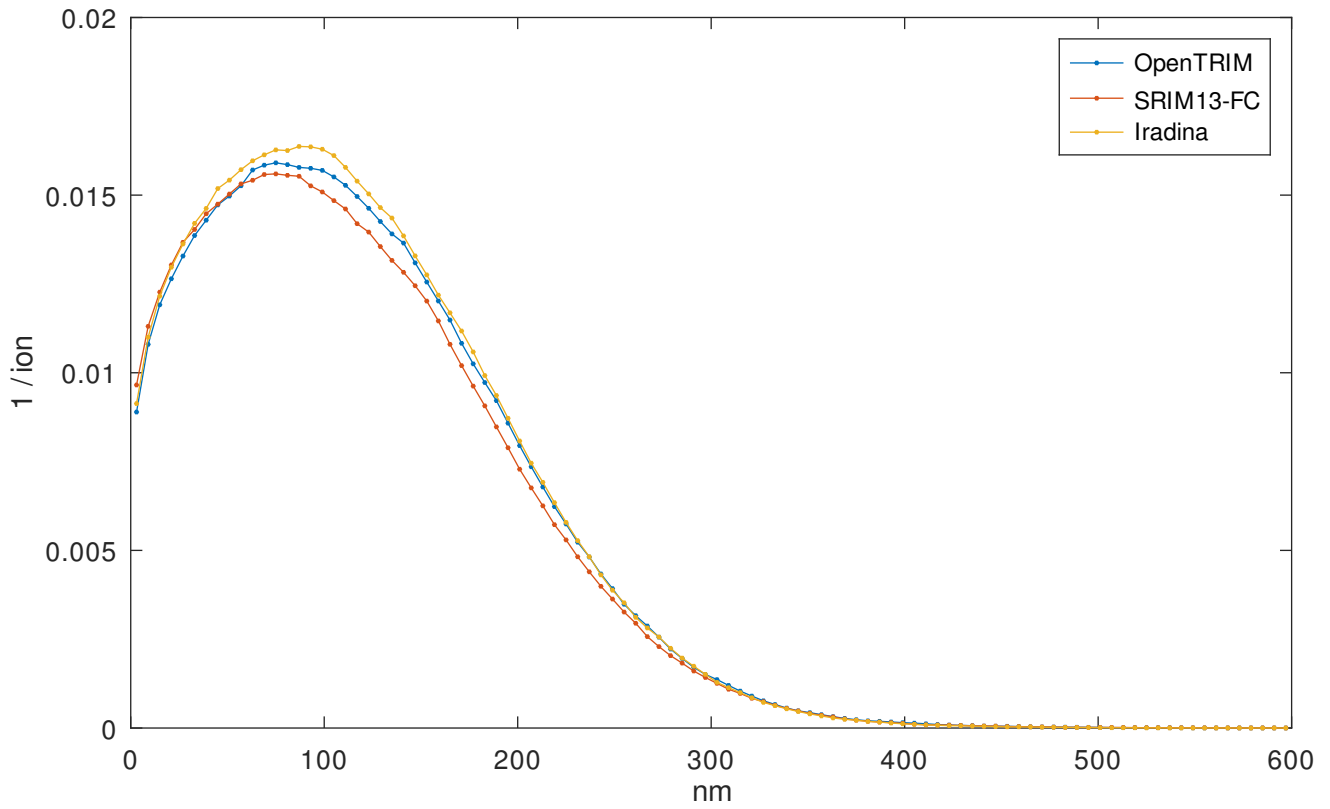
Ionization fraction E_I/E_0 by Xe ion



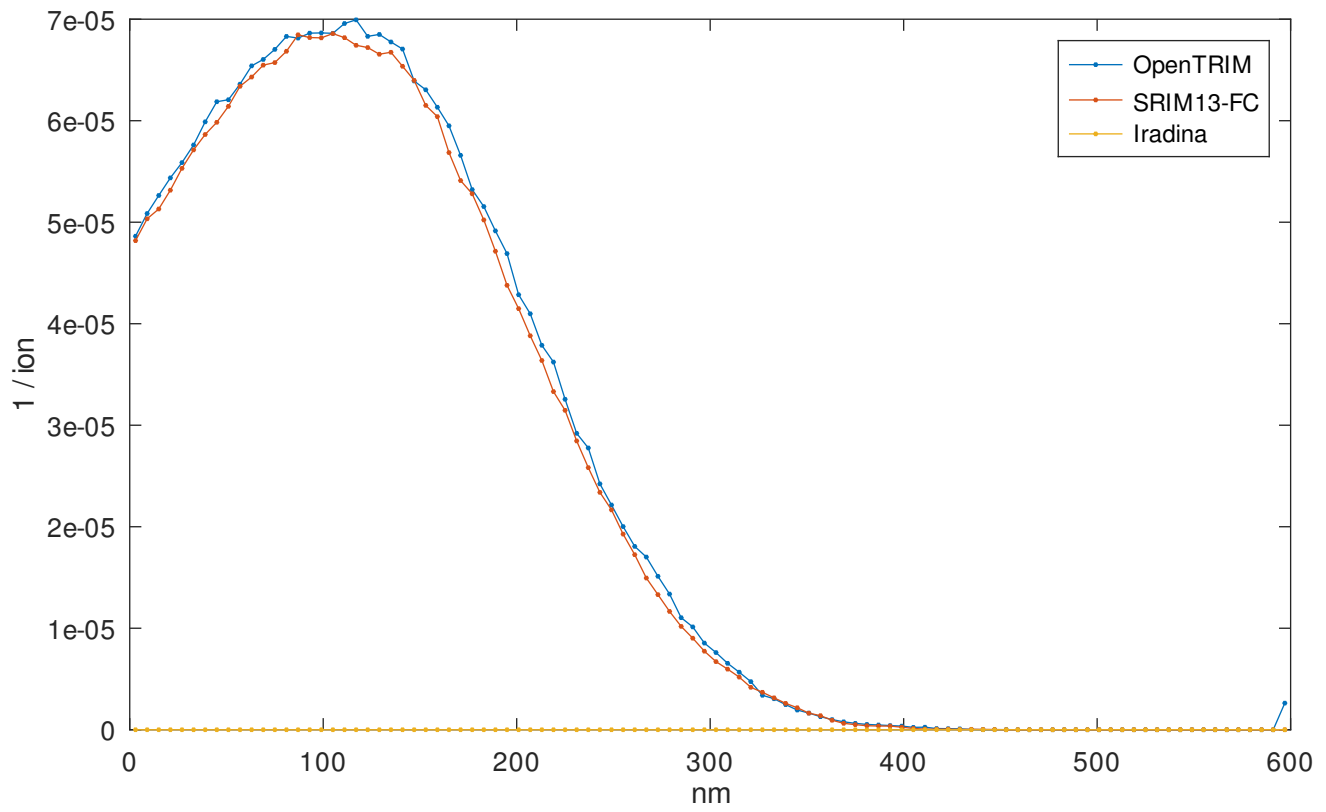
Ionization fraction E_I/E_0 by recoils



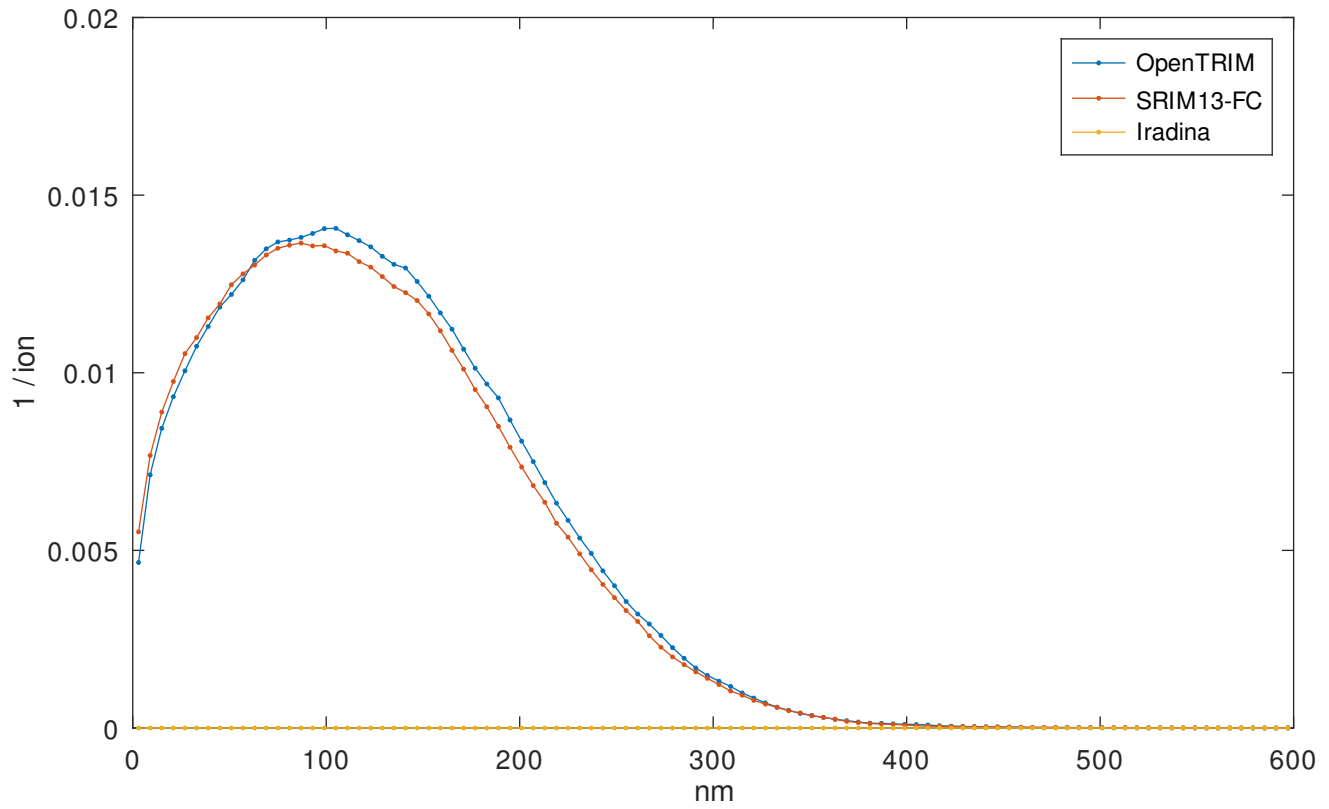
Total Ionization fraction E_I/E_0



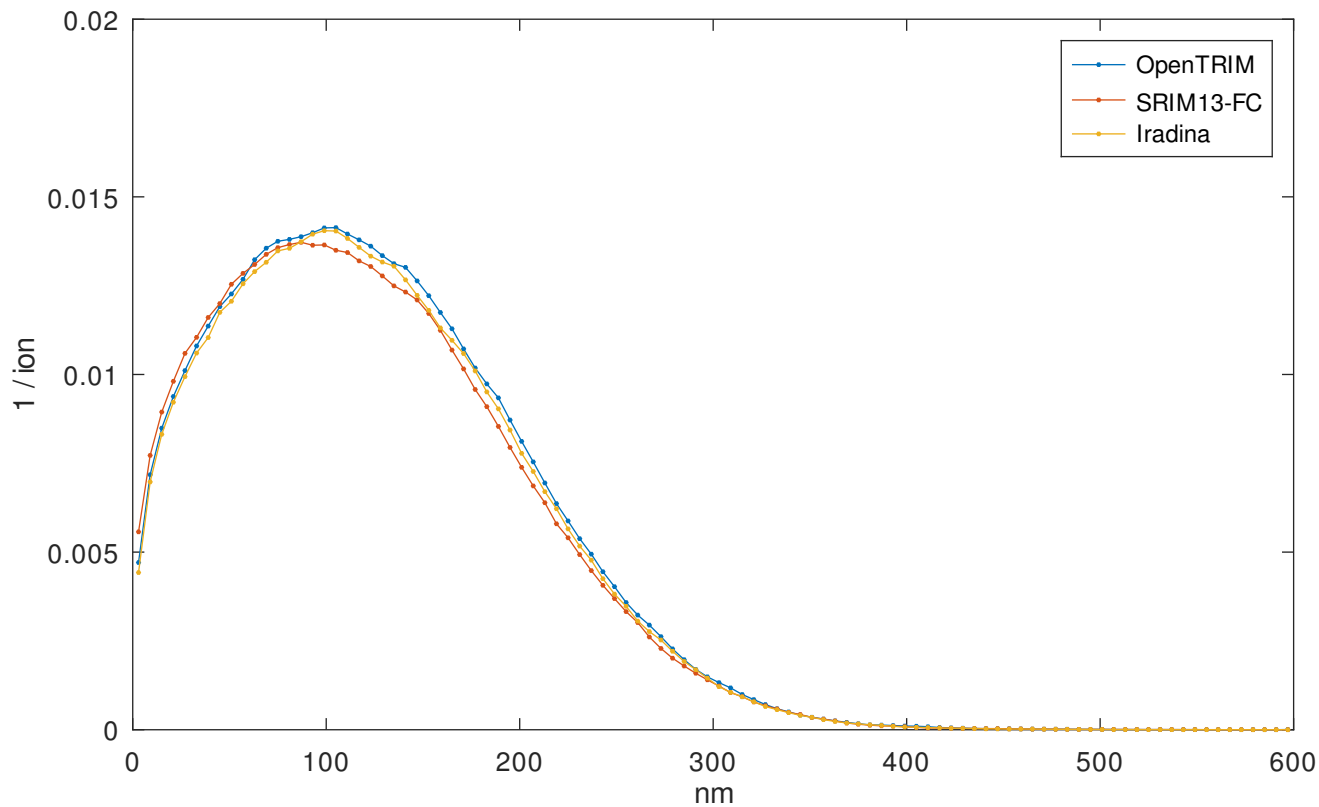
Phonon energy fraction E_{Ph}/E_0 by Xe ion



Phonon energy fraction E_{Ph}/E_0 by recoils



Total Phonon energy fraction E_{Ph}/E_0



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

