

# Benchmark #3

## 3MeV Xe on UO2

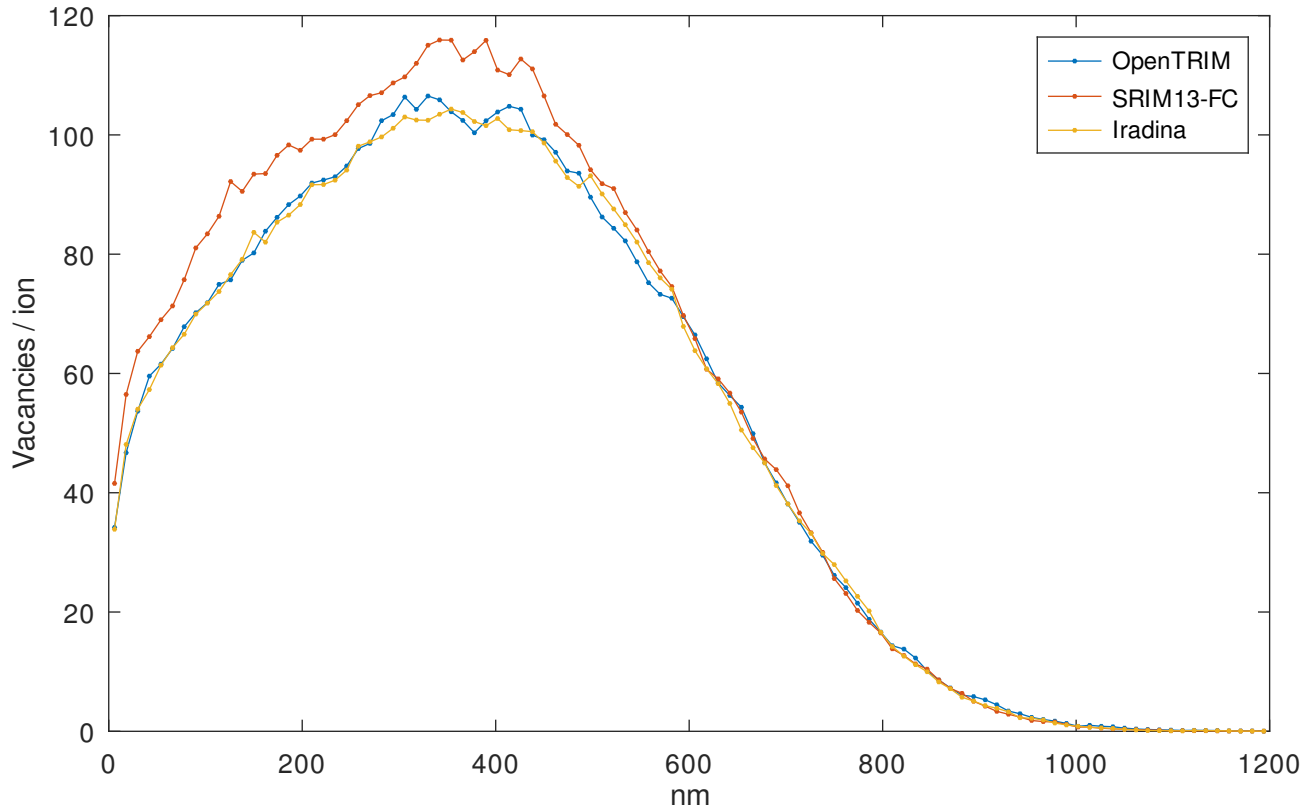
Ion energy E0 = 3e+06 eV

Target depth = 1200 nm

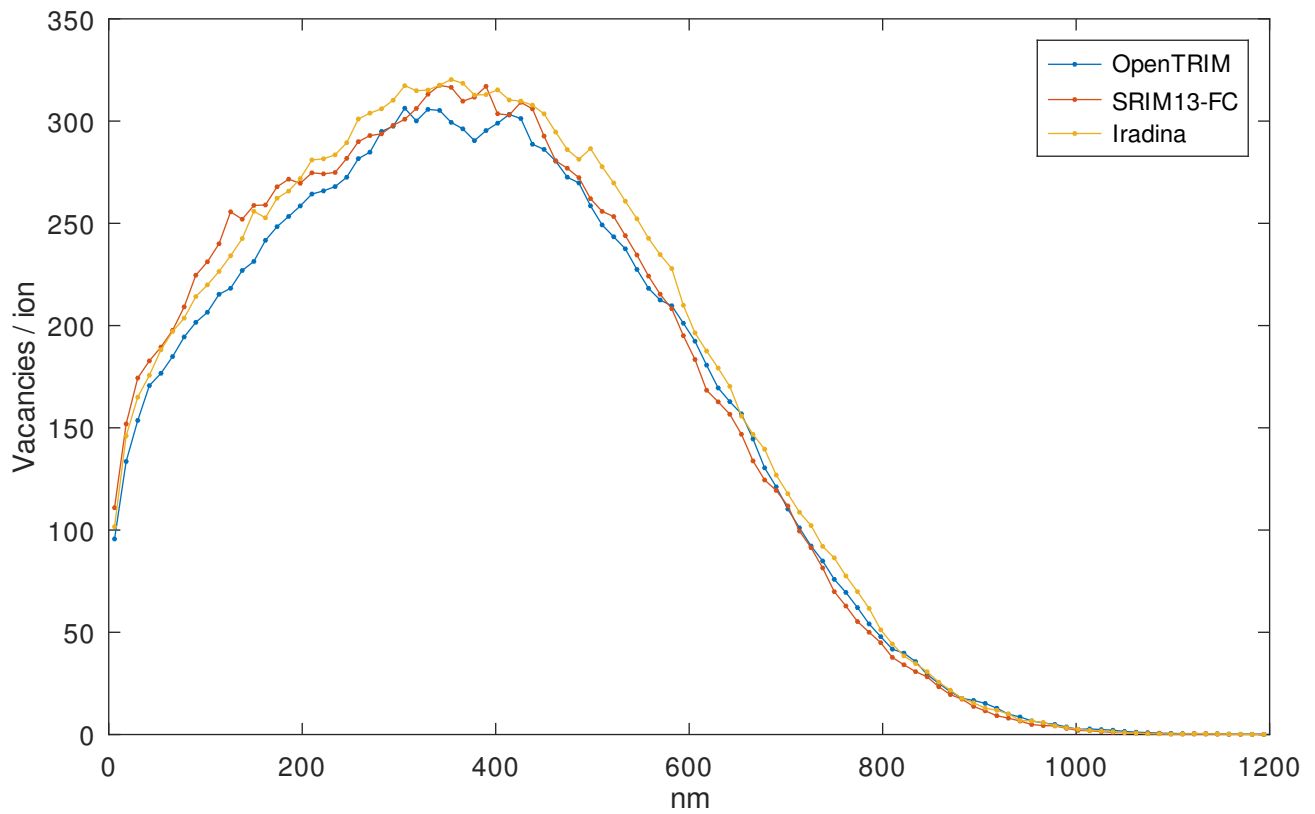
Summary Table

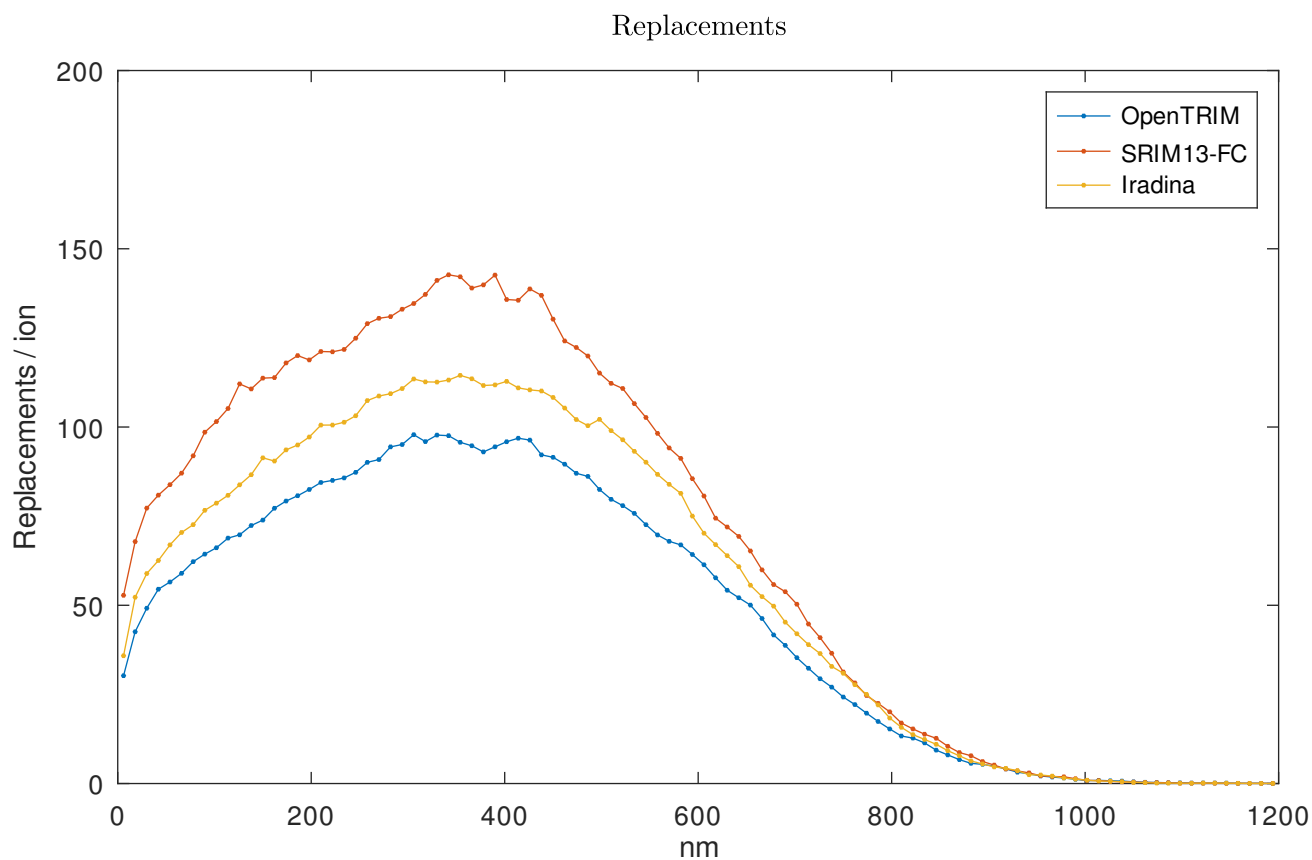
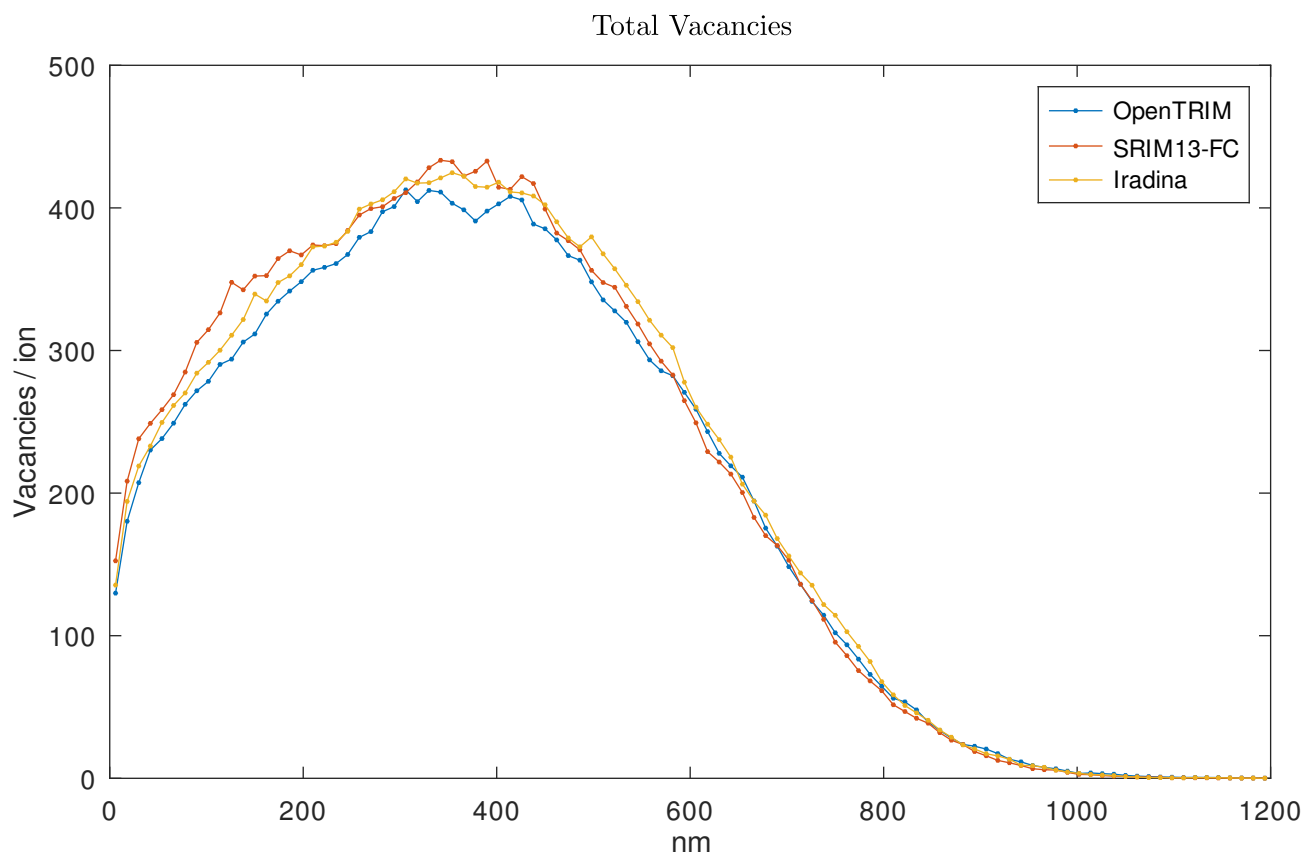
| Quantity        | OpenTRIM | SRIM13-FC | Iradina  |
|-----------------|----------|-----------|----------|
| V(U)            | 5.09e+03 | 5.48e+03  | 5.06e+03 |
| V(O)            | 1.47e+04 | 1.51e+04  | 1.56e+04 |
| V(tot)          | 1.98e+04 | 2.06e+04  | 2.06e+04 |
| R(tot)          | 4.69e+03 | 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

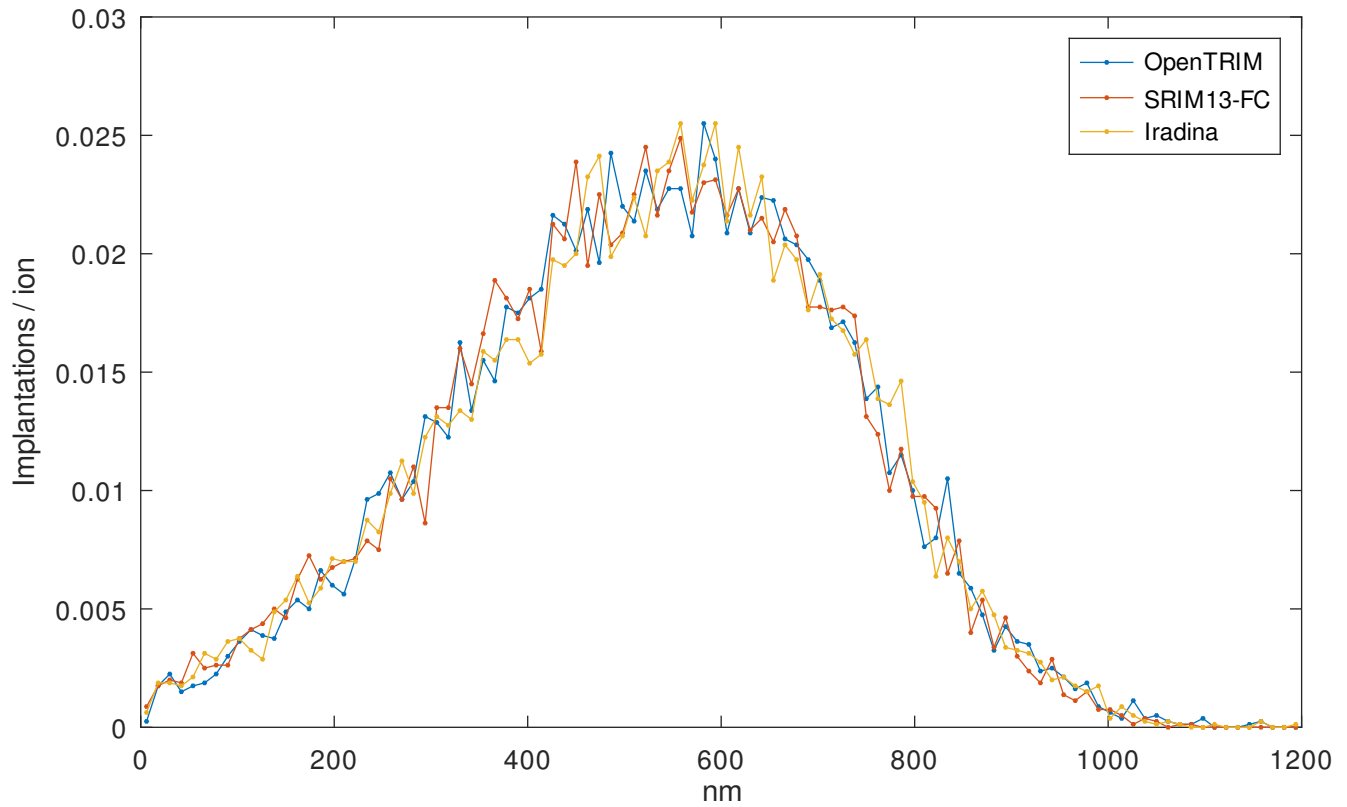


Vacancies of O in Uranium oxide

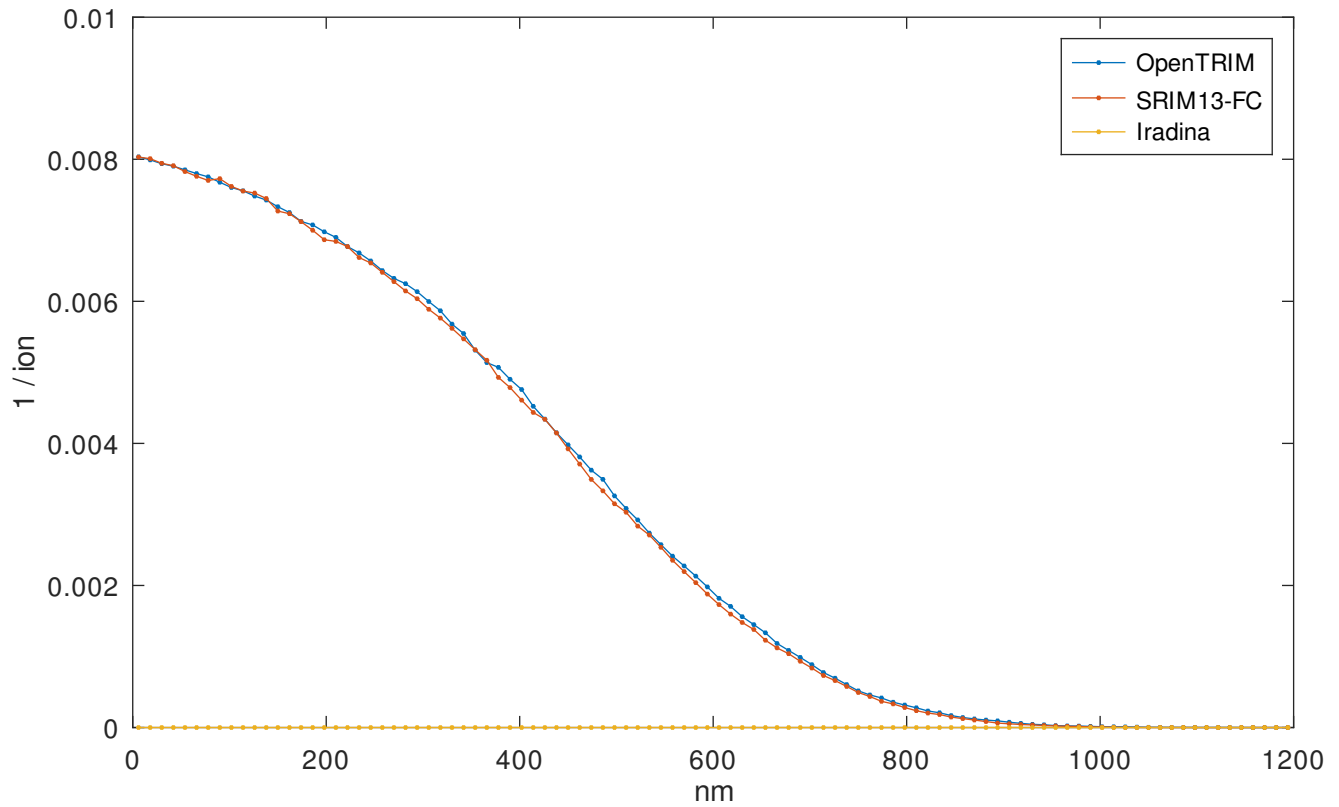




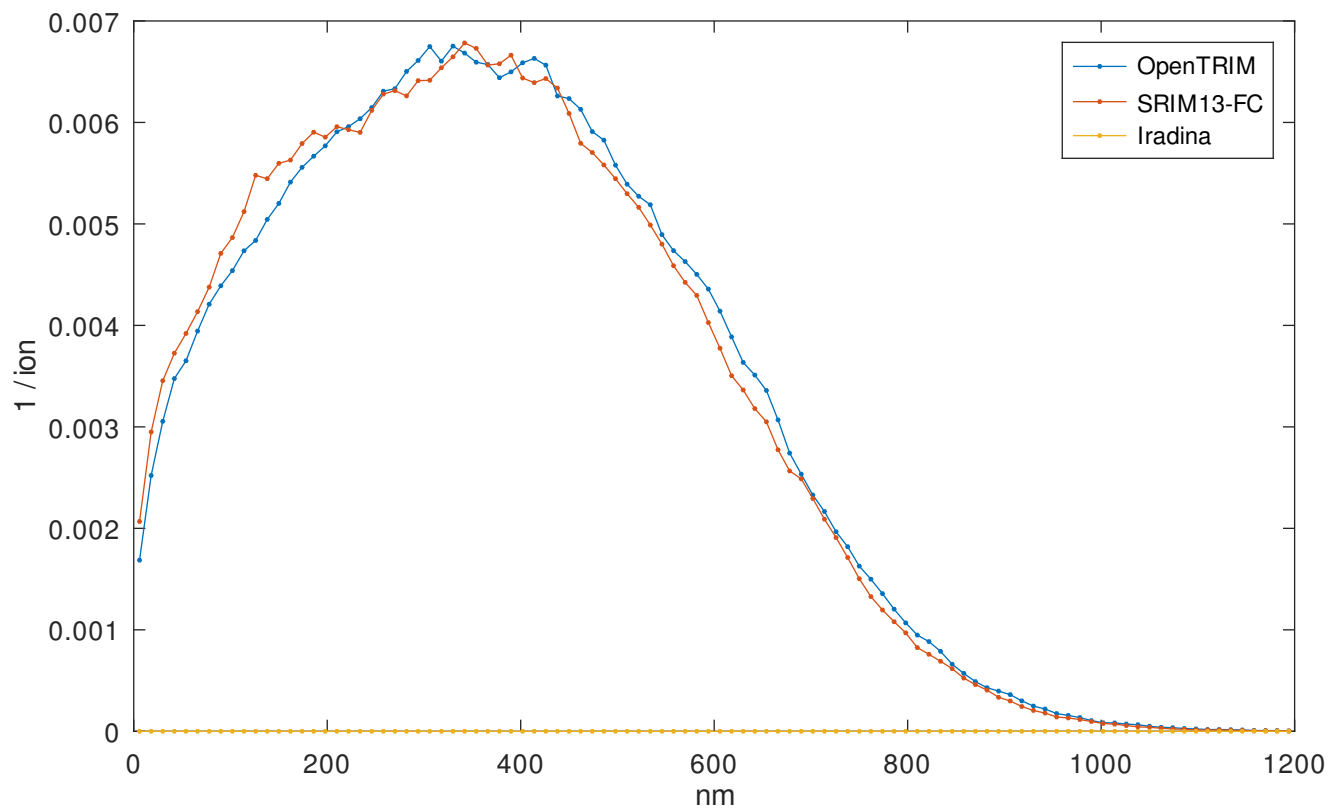
Implanted Xe ion



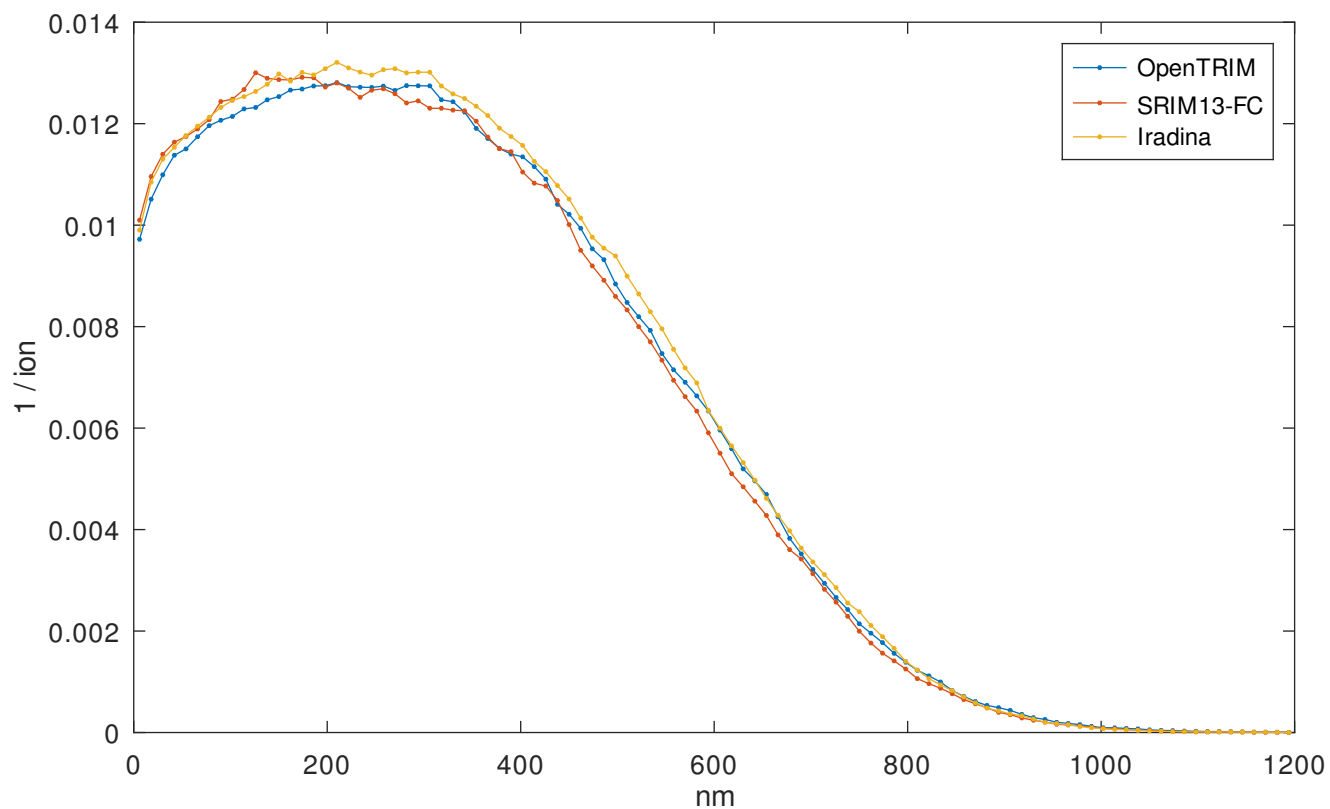
Ionization fraction  $E_I/E_0$  by Xe ion



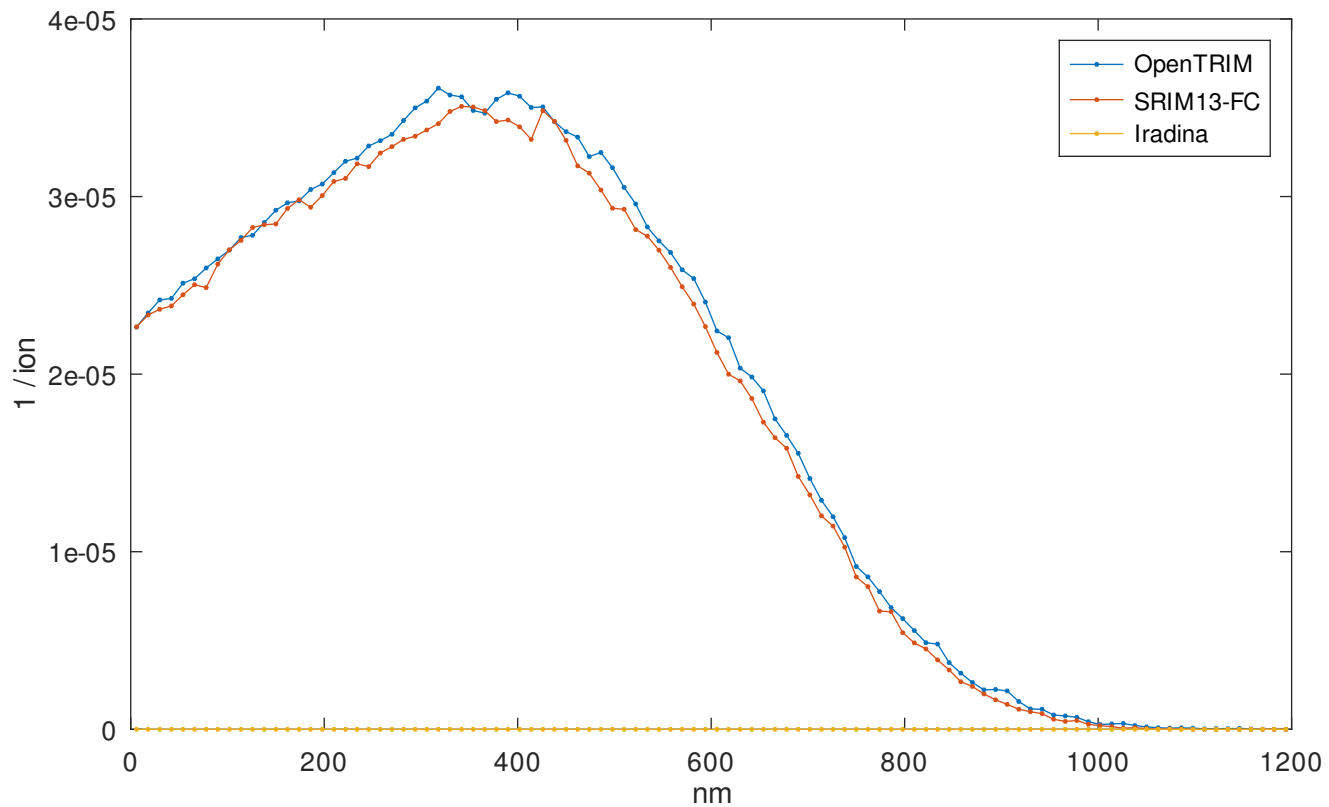
Ionization fraction  $E_I/E_0$  by recoils



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

