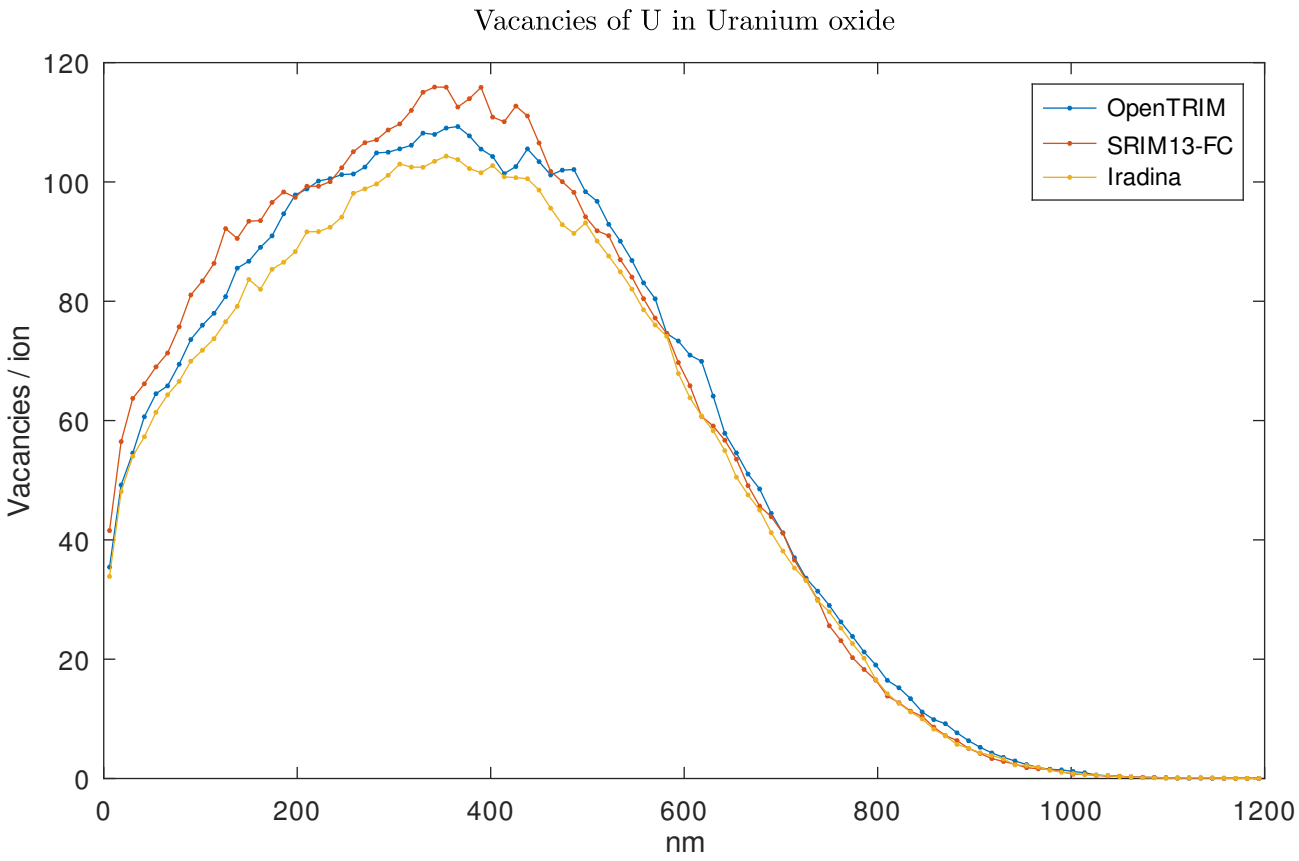
Benchmark #3
3MeV Xe on UO2

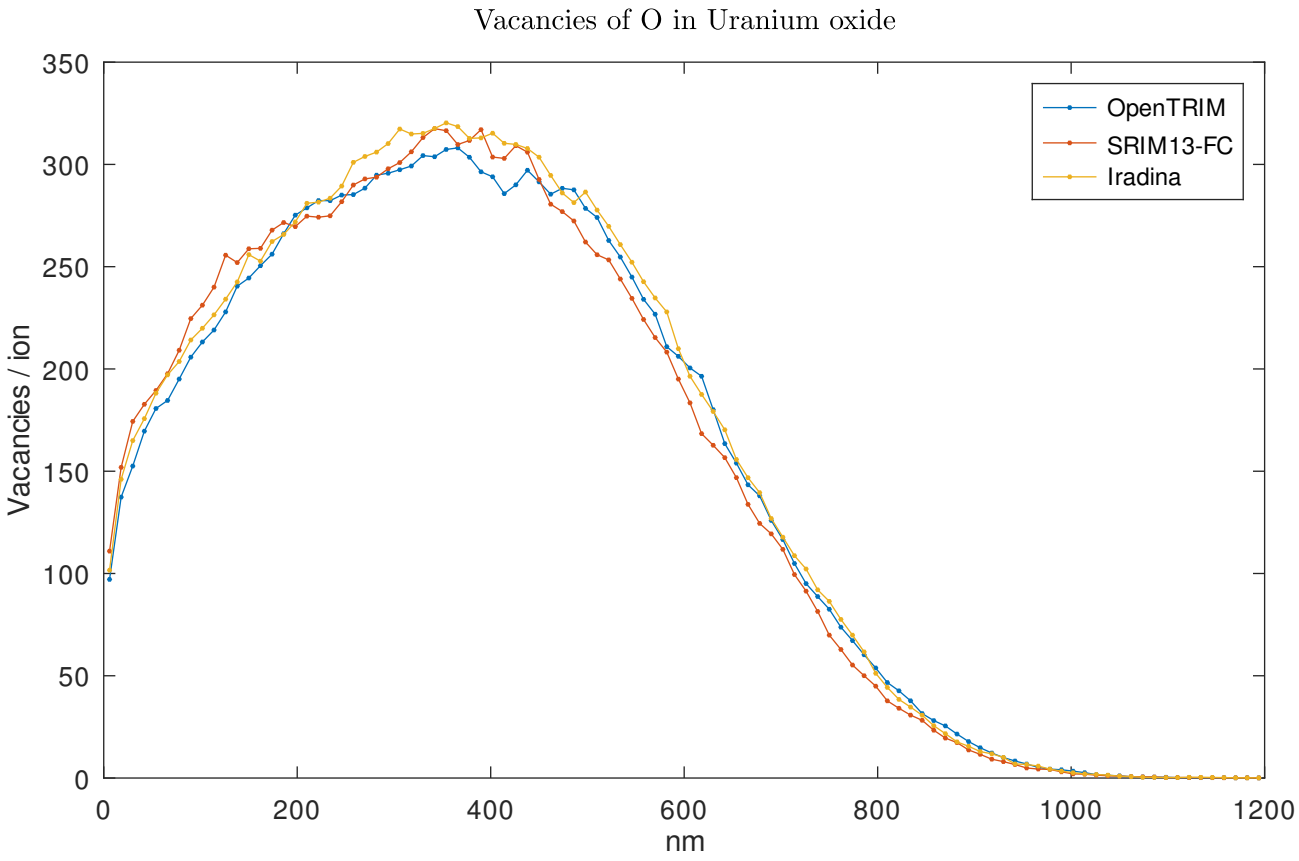
Ion energy E0 = 3e+06 eV

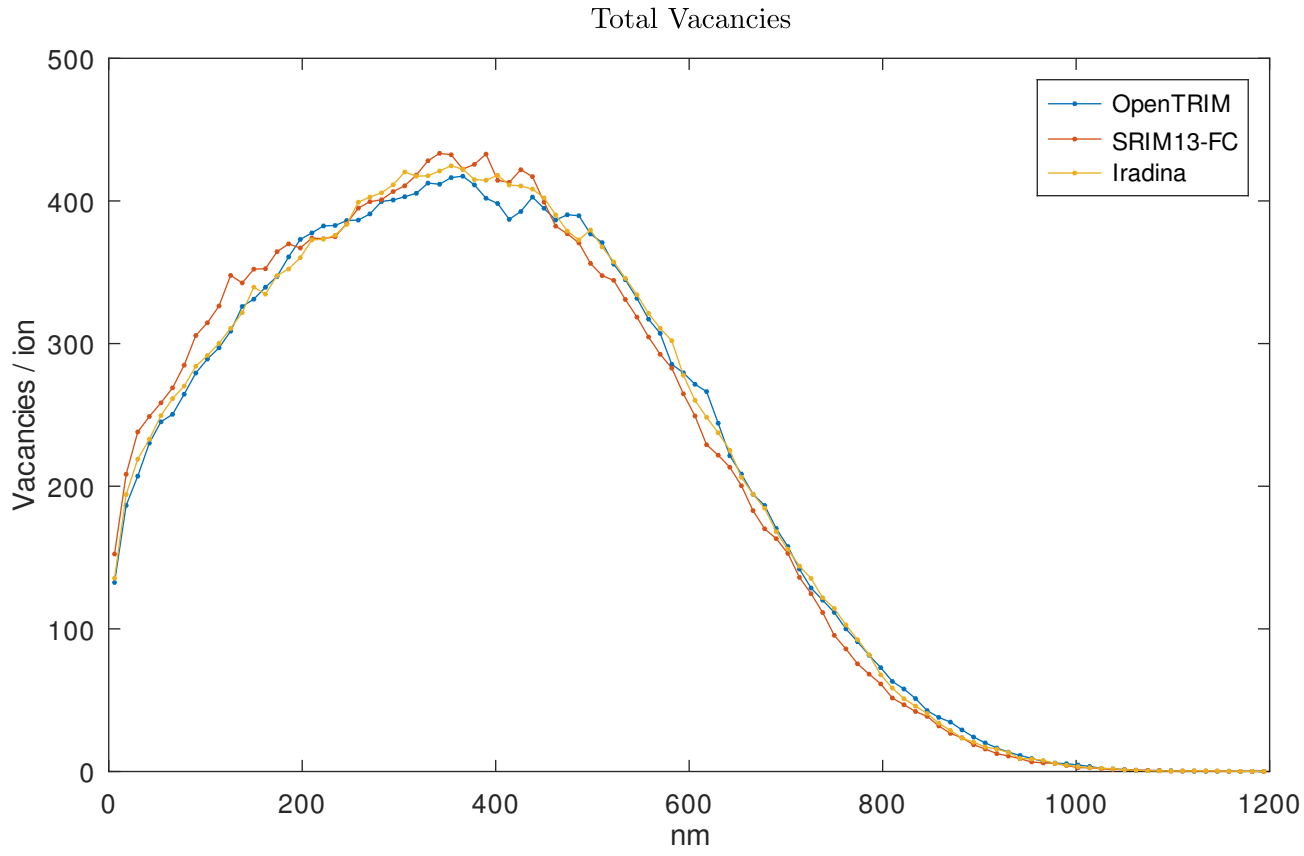
Target depth = 1200 nm

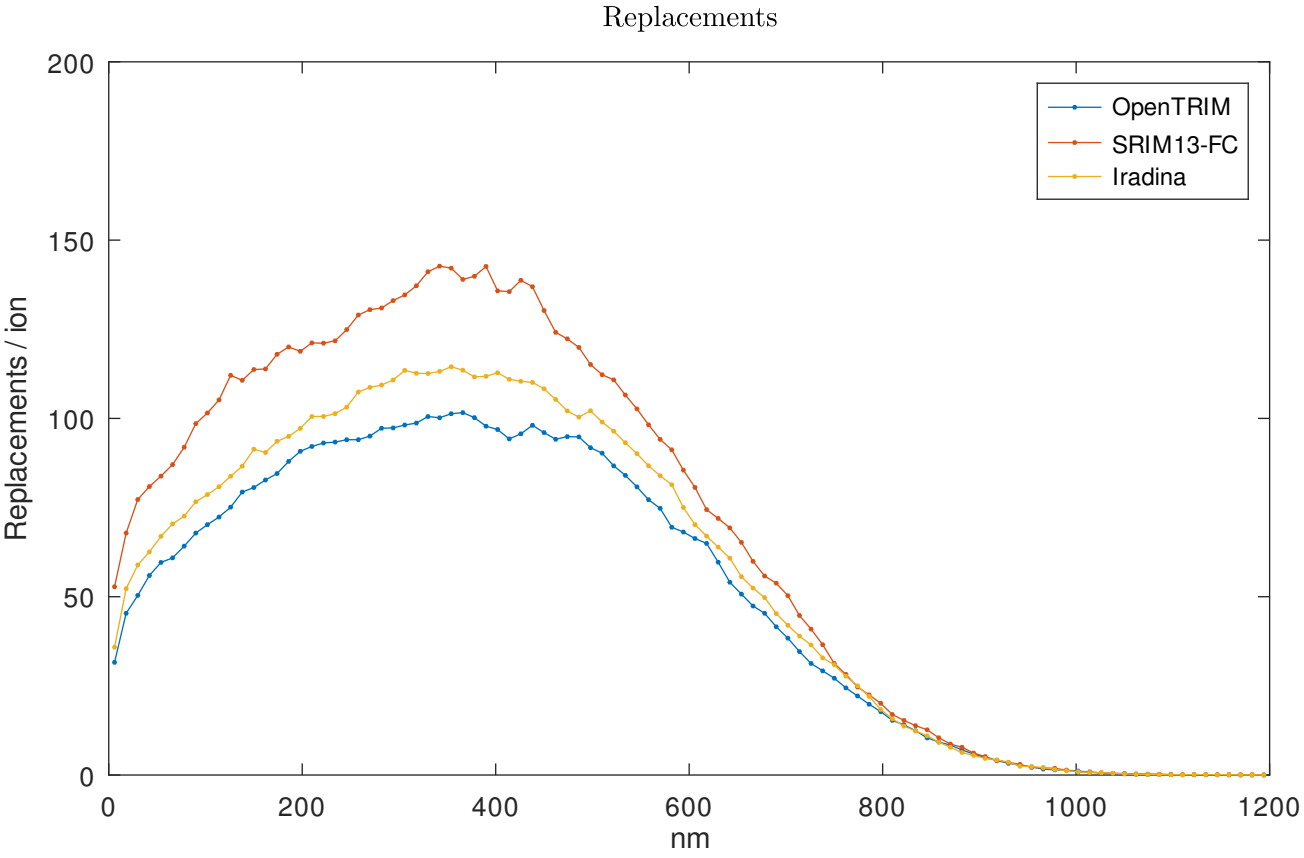
Summary Table

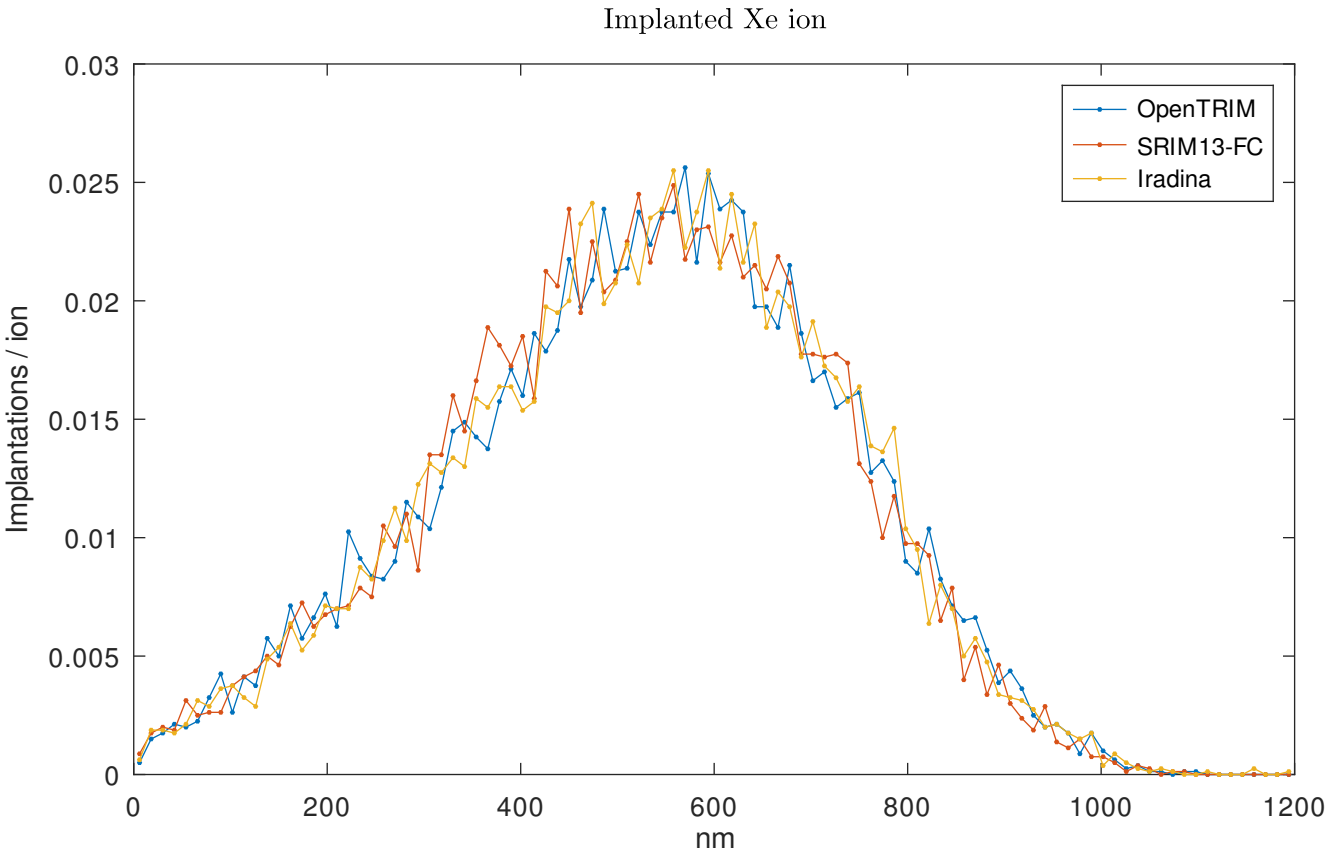
Quantity	OpenTRIM	SRIM13-FC	Iradina
V(U)	5.37e+03	5.48e+03	5.06e+03
V(O)	1.51e+04	1.51e+04	1.56e+04
V(tot)	2.05e+04	2.06e+04	2.06e+04
R(tot)	4.99e+03	6.7e+03	5.55e+03
I(Xe)	0.996	0.995	0.995
EI(Xe)/E0	0.299	0.294	0
EI(r)/E0	0.328	0.318	0
EI/E0	0.627	0.627	0.613
EPh(Xe)/E0	0.0018	0.00175	0
EPh(r)/E0	0.369	0.36	0
EPh(r)/E0	0.371	0.371	0.362
1-(EI+EPh)/E0	0.00241	0.0259	0.00242

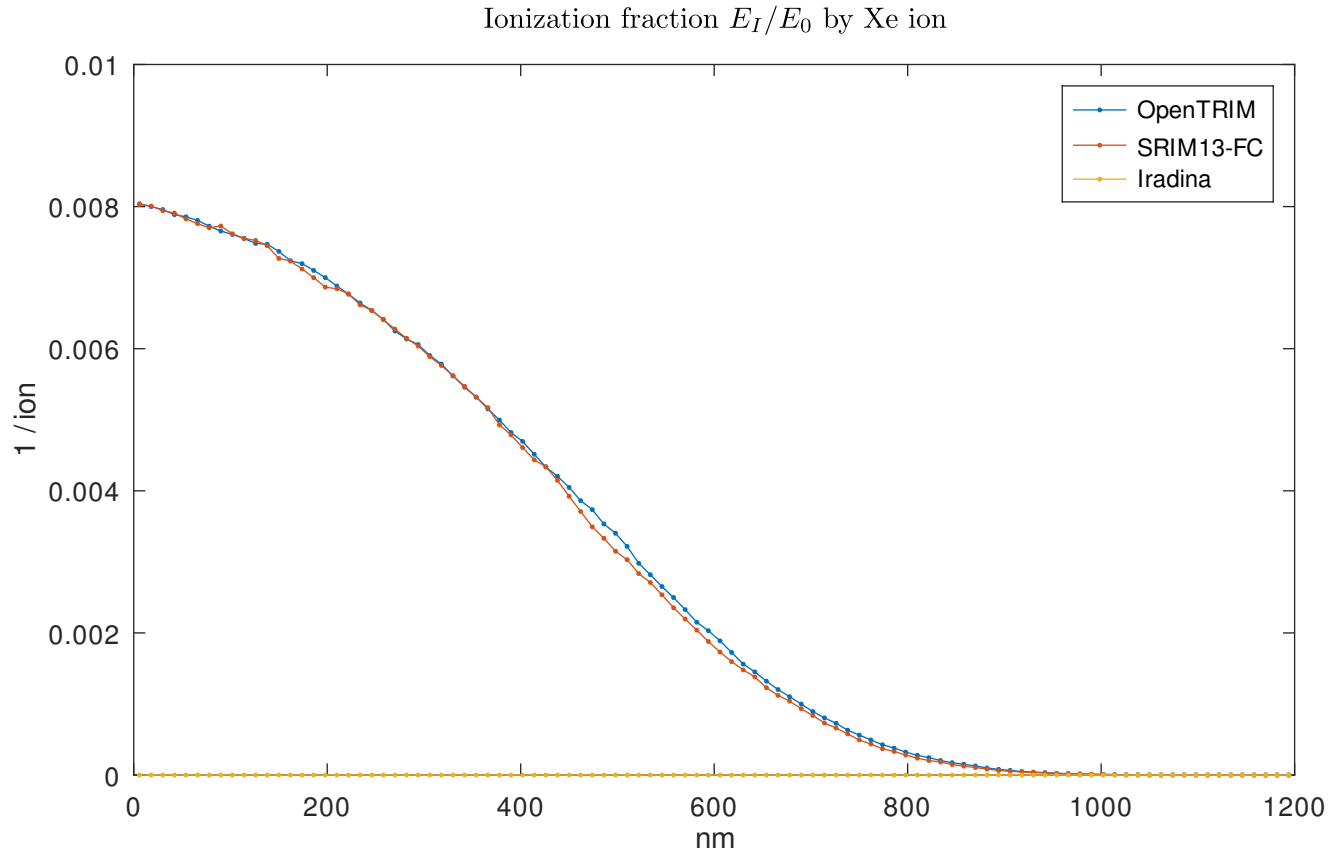

Vacancies of U in Uranium oxide
OpenTRIM
SRIM13-FC
Iradina
Vacancies / ion
nm
0
20
40
60
80
100
120
0
200
400
600
800
1000
1200

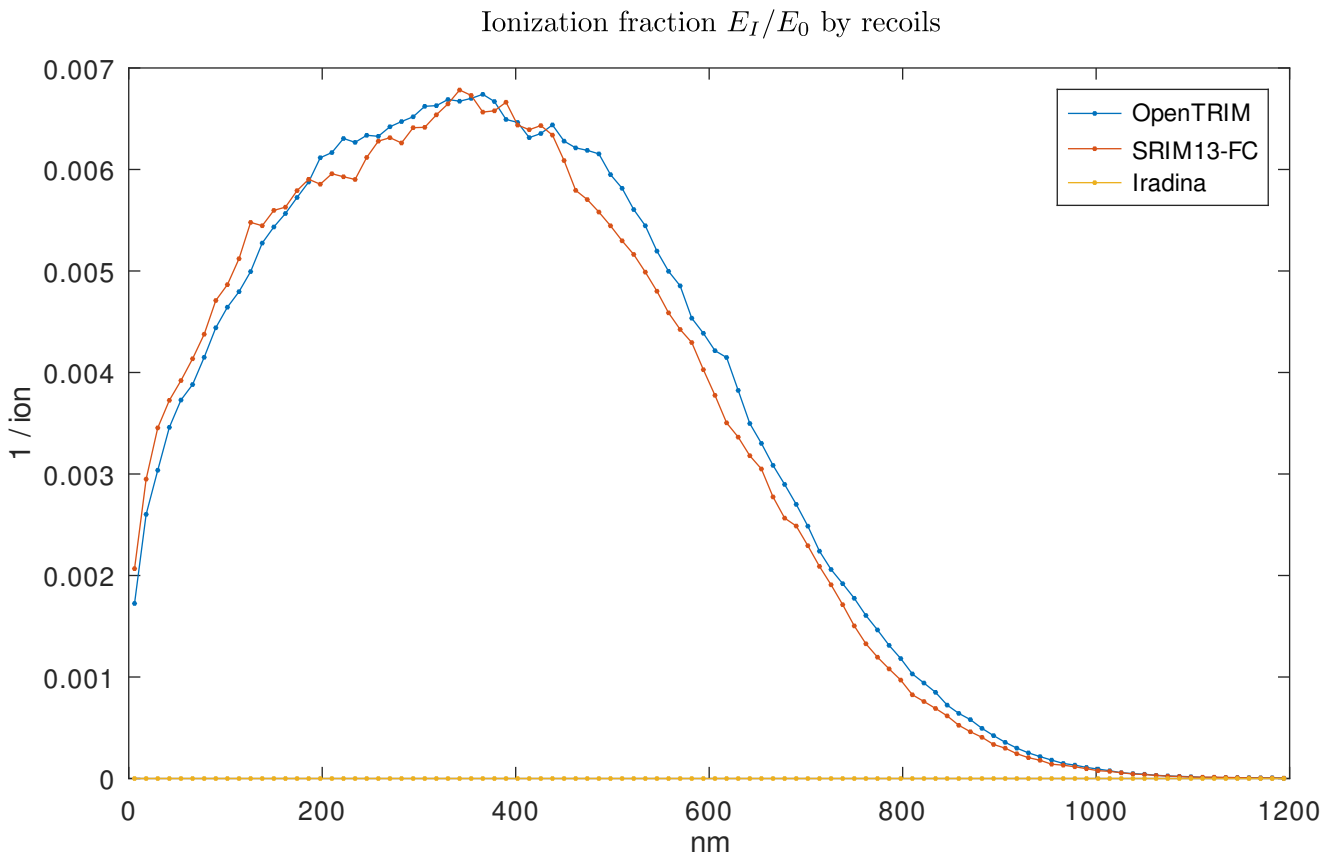

Vacancies of O in Uranium oxide
OpenTRIM
SRIM13-FC
Iradina
Vacancies / ion
nm
0
50
100
150
200
250
300
350
0
200
400
600
800
1000
1200

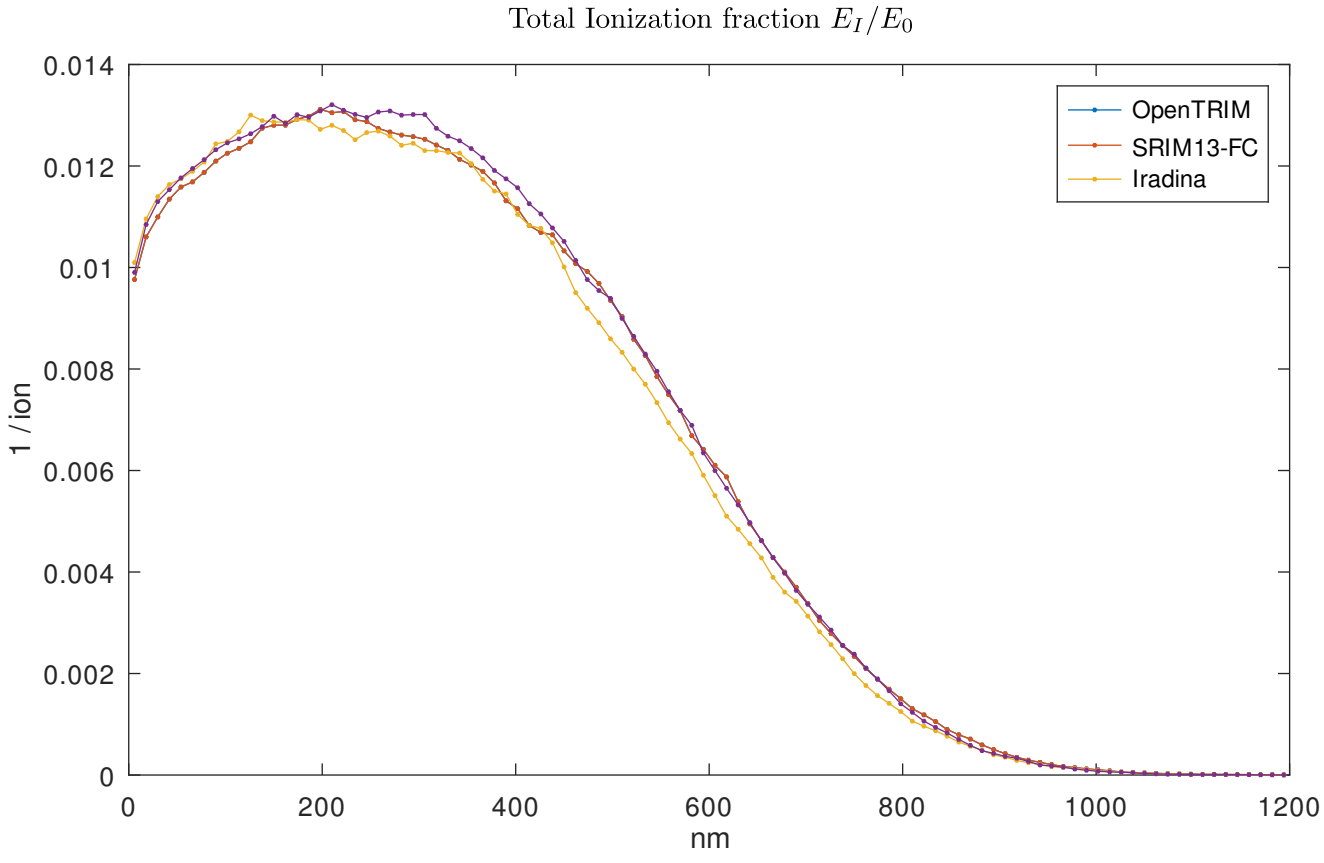

Total Vacancies
Vacancies / ion
nm
OpenTRIM
SRIM13-FC
Iradina
0
100
200
300
400
500
0
200
400
600
800
1000
1200

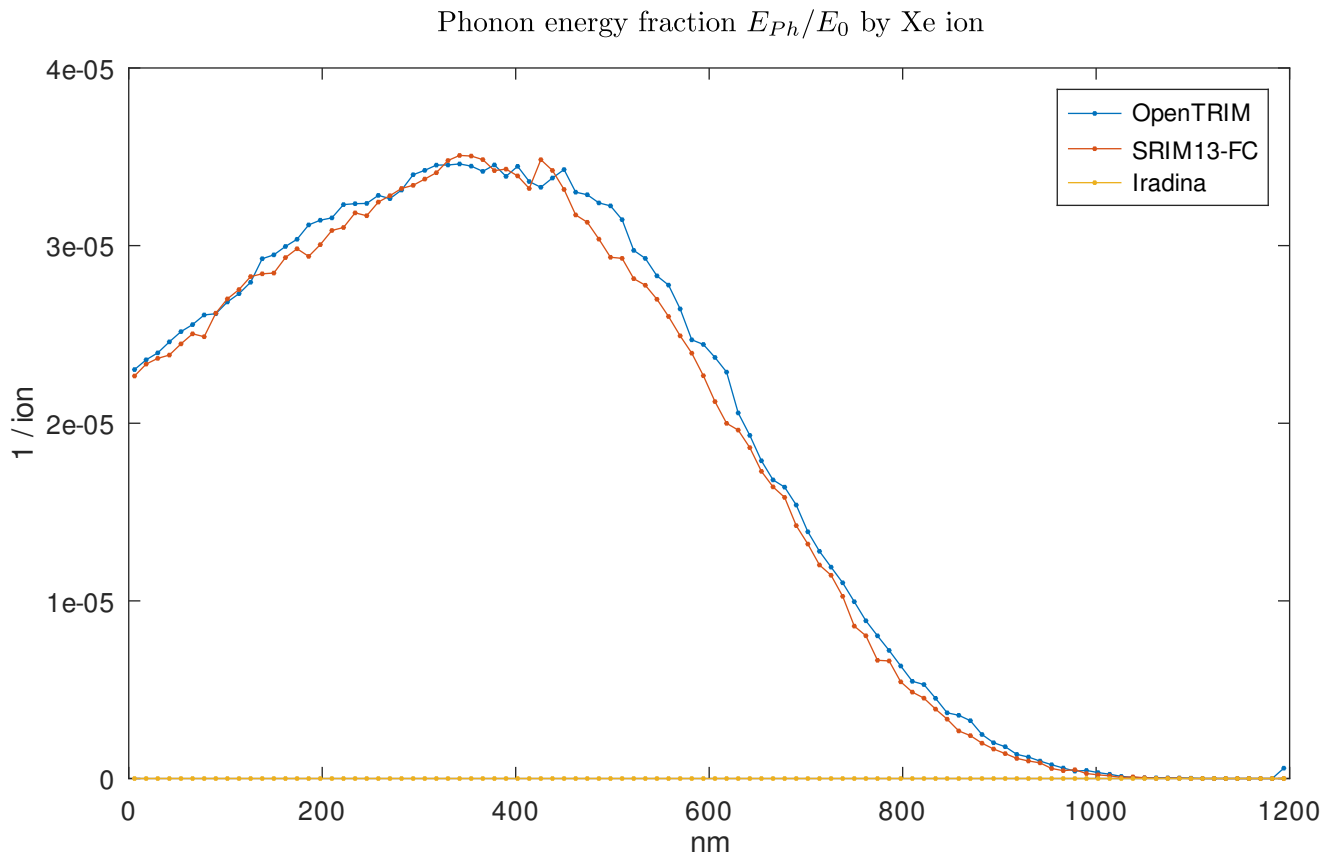

Replacements
Replacements / ion
nm
OpenTRIM
SRIM13-FC
Iradina
0
50
100
150
200
0
200
400
600
800
1000
1200

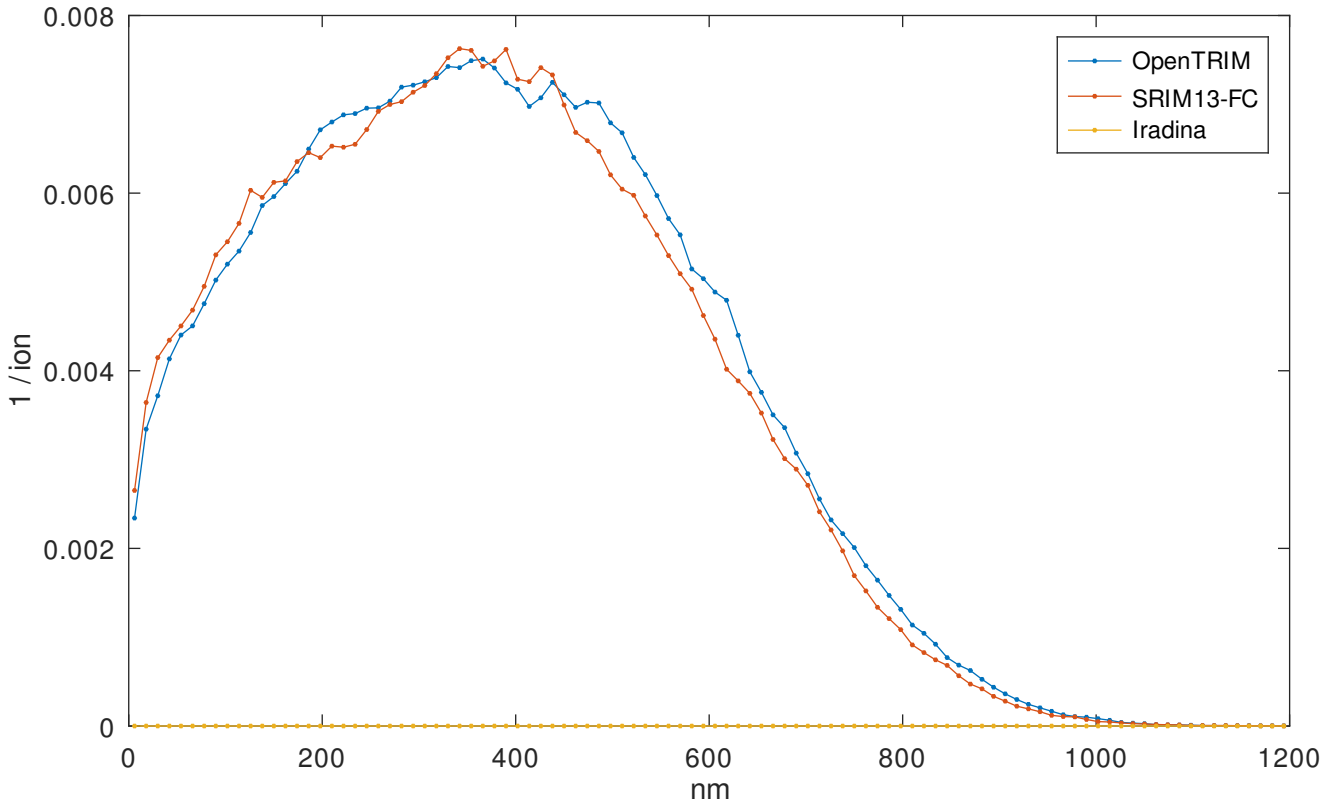

Implanted Xe ion
OpenTRIM
SRIM13-FC
Iradina
Implantations / ion
0.03
0.025
0.02
0.015
0.01
0.005
0
0
200
400
600
800
1000
1200
nm

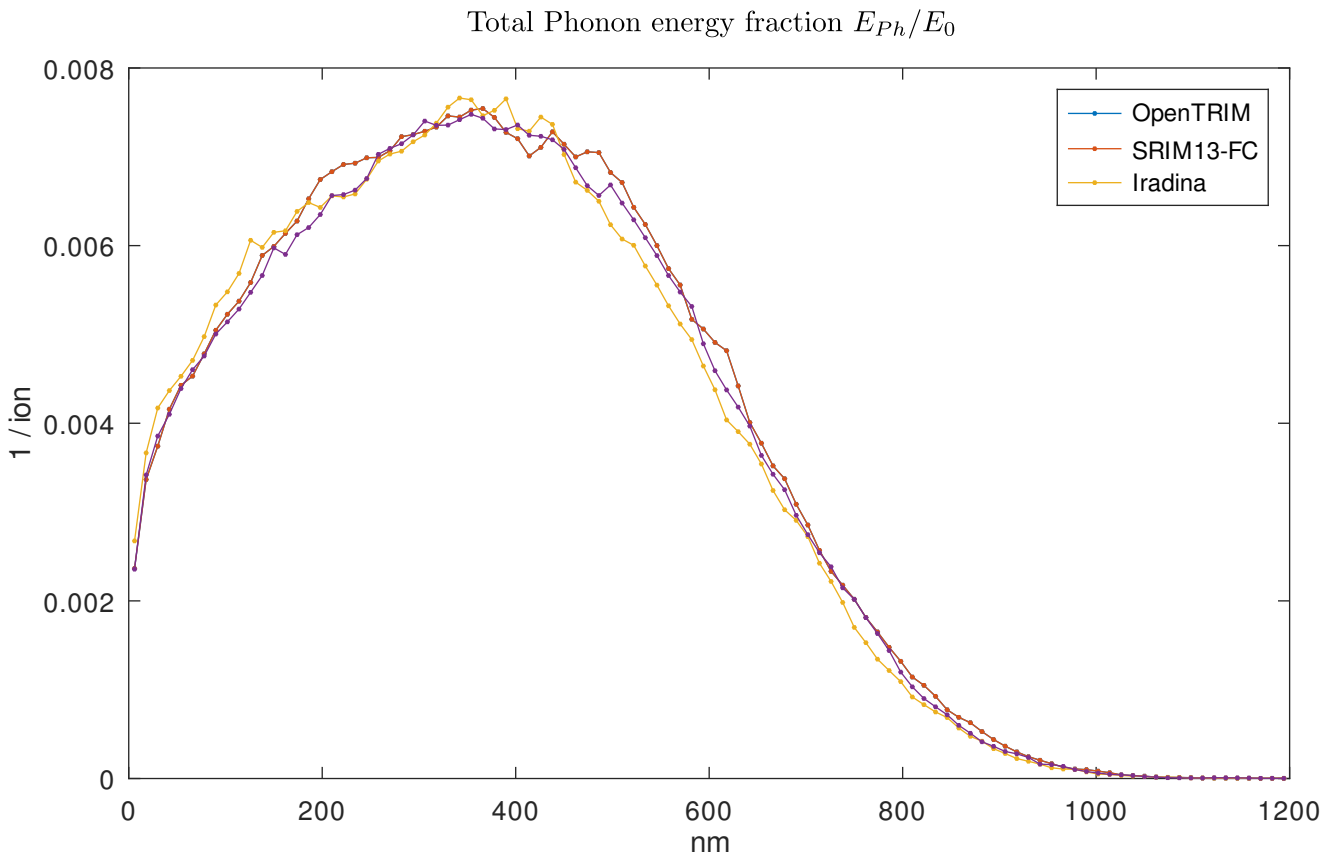

Ionization fraction E_I/E_0 by Xe ion
OpenTRIM
SRIM13-FC
Iradina
1 / ion
0.01
0.008
0.006
0.004
0.002
0
0
200
400
600
800
1000
1200
nm

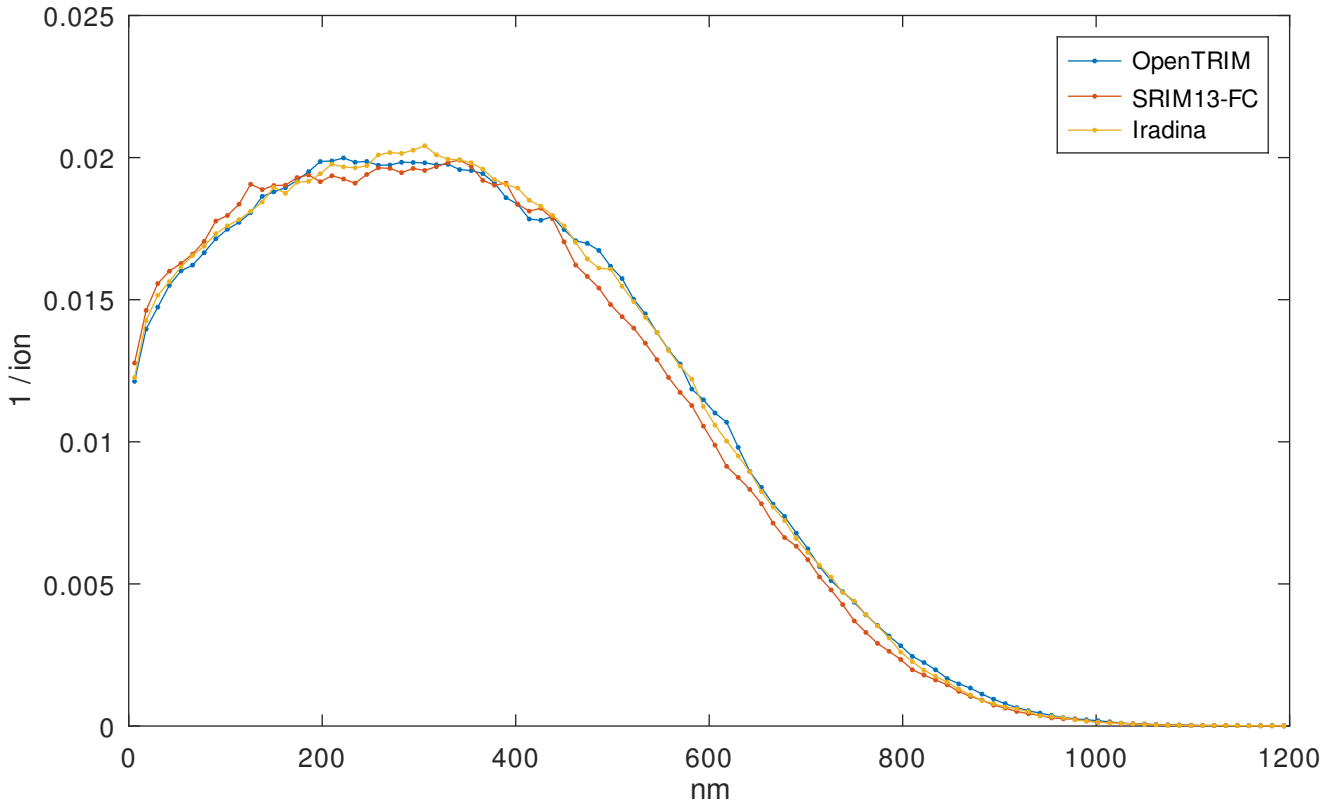

Ionization fraction E_I/E_0 by recoils
OpenTRIM
SRIM13-FC
Iradina
1 / ion
nm
0.007
0.006
0.005
0.004
0.003
0.002
0.001
0
0
200
400
600
800
1000
1200


Total Ionization fraction E_I/E_0
OpenTRIM
SRIM13-FC
Iradina
1 / ion
nm
0.014
0.012
0.01
0.008
0.006
0.004
0.002
0
0
200
400
600
800
1000
1200


Phonon energy fraction E_{Ph}/E_0 by Xe ion
4e-05
3e-05
2e-05
1e-05
0
1 / ion
0
200
400
600
800
1000
1200
nm
OpenTRIM
SRIM13-FC
Iradina


Phonon energy fraction E_{Ph}/E_0 by recoils
0.008
0.006
0.004
0.002
0
1 / ion
0
200
400
600
800
1000
1200
nm
OpenTRIM
SRIM13-FC
Iradina


Total Phonon energy fraction E_{Ph}/E_0
0.008
0.006
0.004
0.002
0
1 / ion
0
200
400
600
800
1000
1200
nm
OpenTRIM
SRIM13-FC
Iradina


Total fractional energy deposition $(E_I + E_{Ph})/E_0$
0.025
0.02
0.015
0.01
0.005
0
1 / ion
0
200
400
600
800
1000
1200
nm
OpenTRIM
SRIM13-FC
Iradina