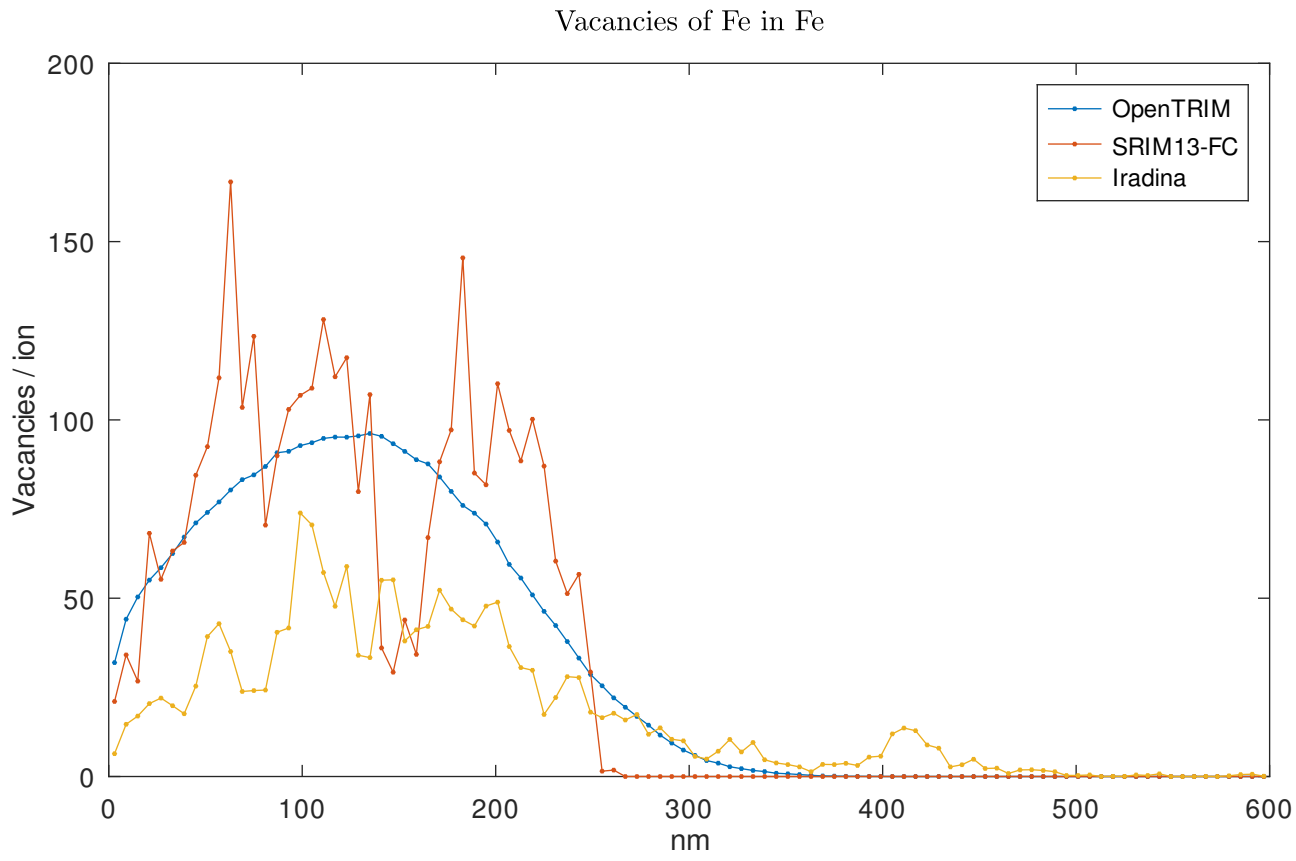
Benchmark #2
500 keV Fe on Fe

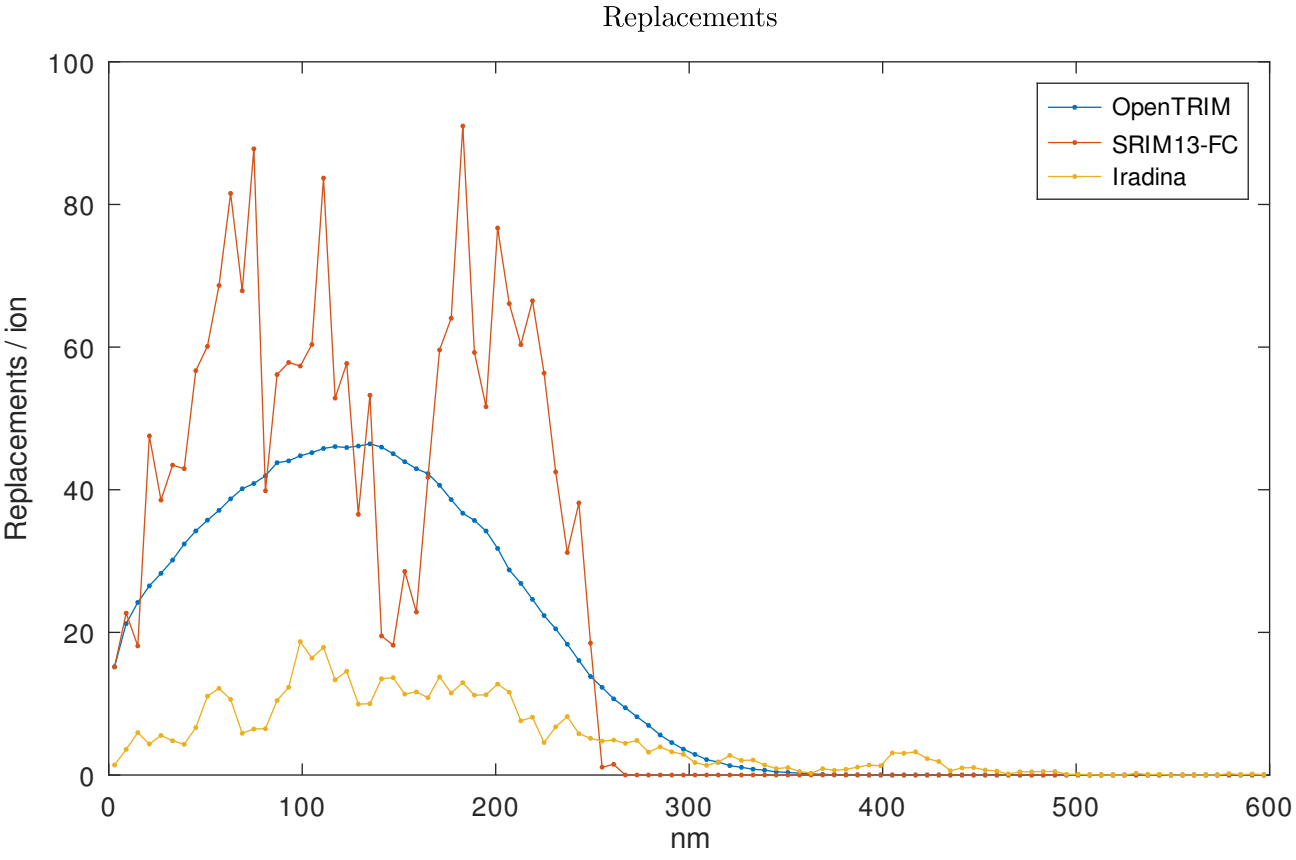
Ion energy E0 = 500000 eV

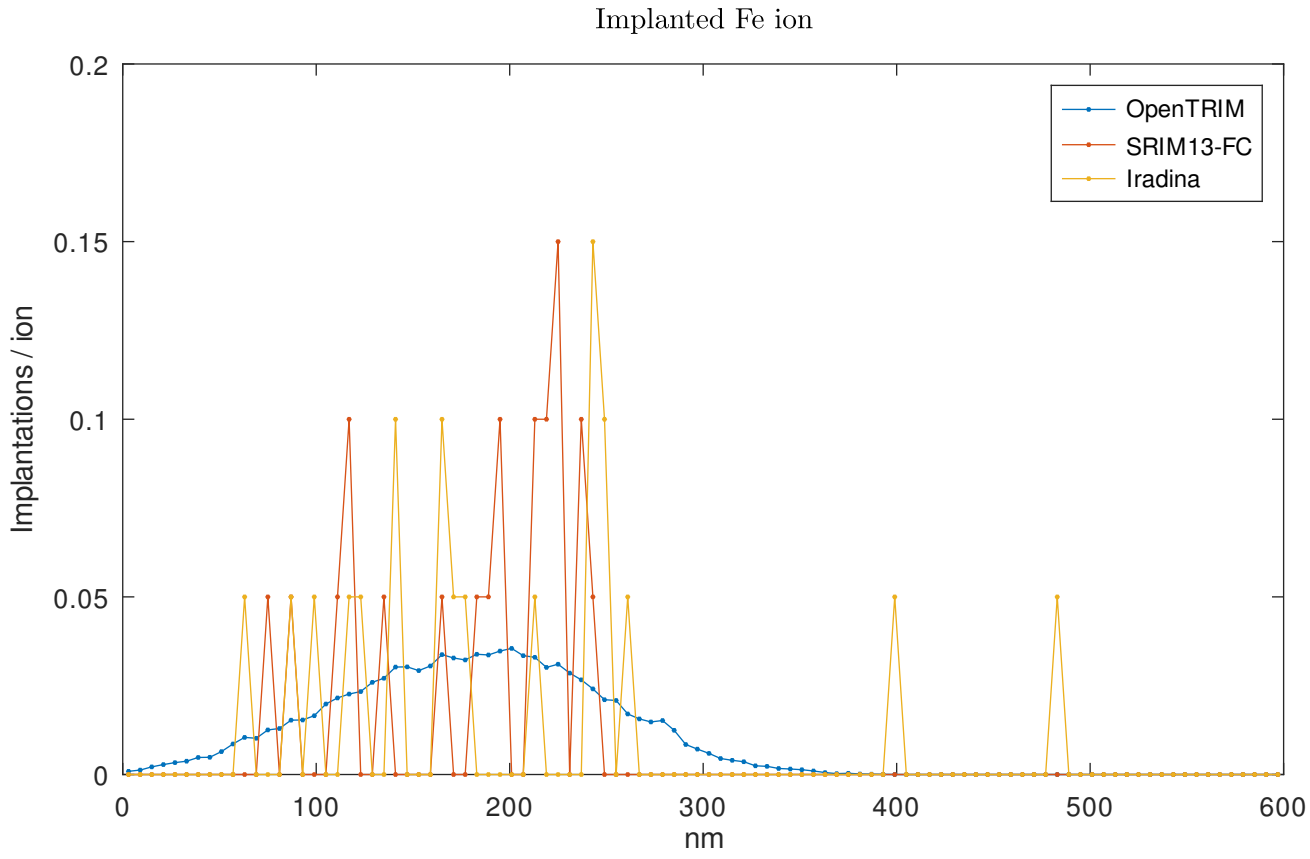
Target depth = 600 nm

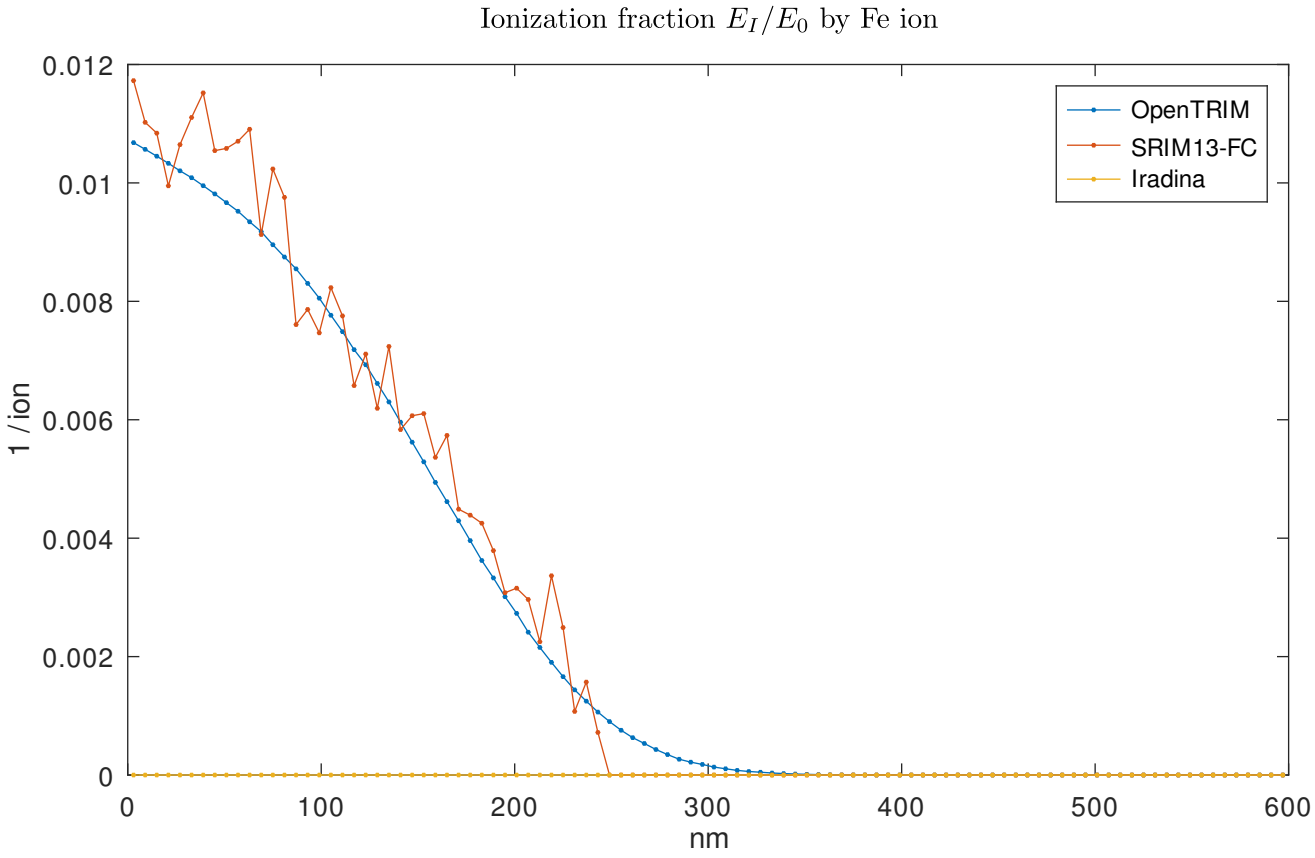
Summary Table

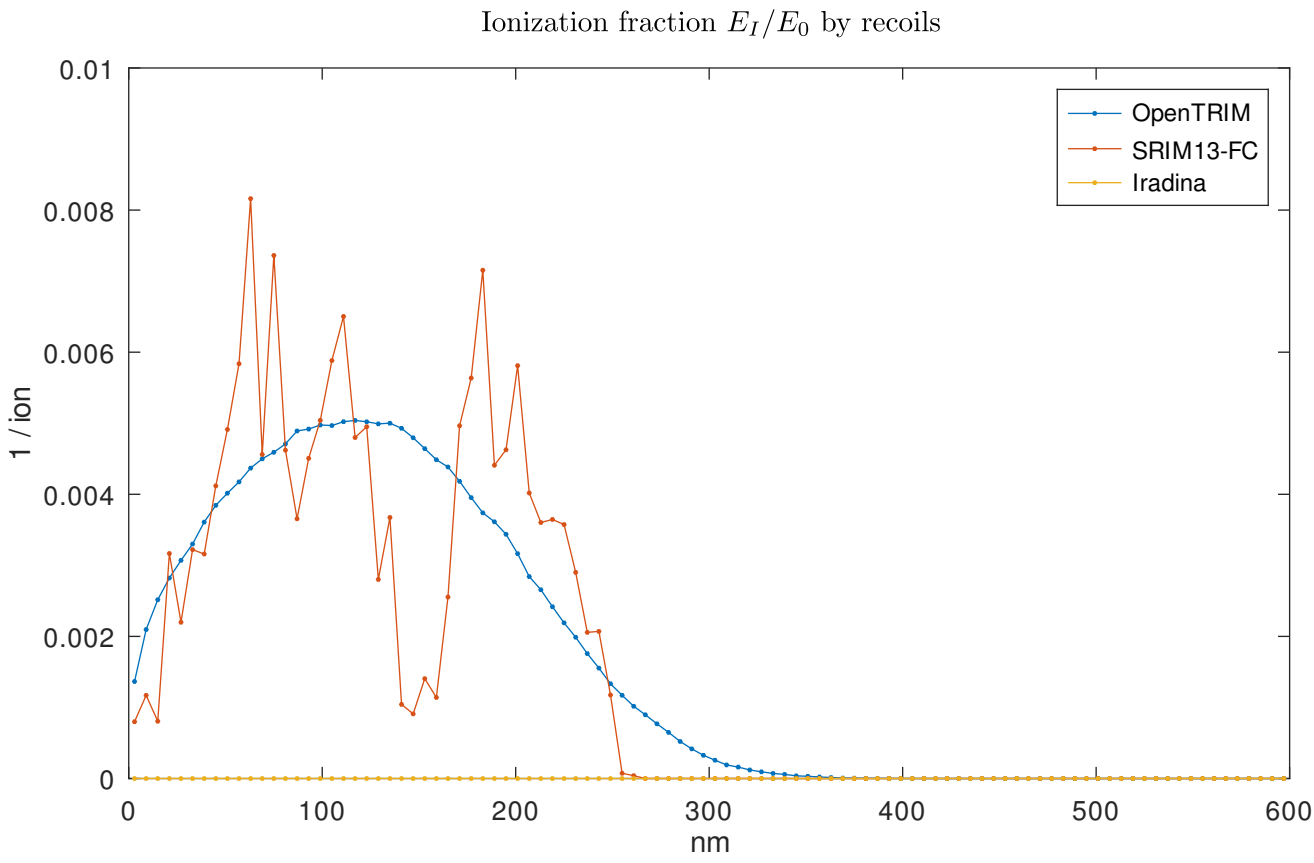
Quantity	OpenTRIM	SRIM13-FC	Iradina
V(Fe)	3.19e+03	3.43e+03	1.8e+03
R(tot)	1.54e+03	2.12e+03	480
I(Fe)	0.999	1.05	1
EI(Fe)/E0	0.269	0.281	0
EI(r)/E0	0.163	0.159	0
EI/E0	0.431	0.431	0.44
EPh(Fe)/E0	0.00597	0.00592	0
EPh(r)/E0	0.561	0.59	0
EPh(r)/E0	0.567	0.567	0.596
1-(EI+EPh)/E0	0.00113	-0.0362	0.602

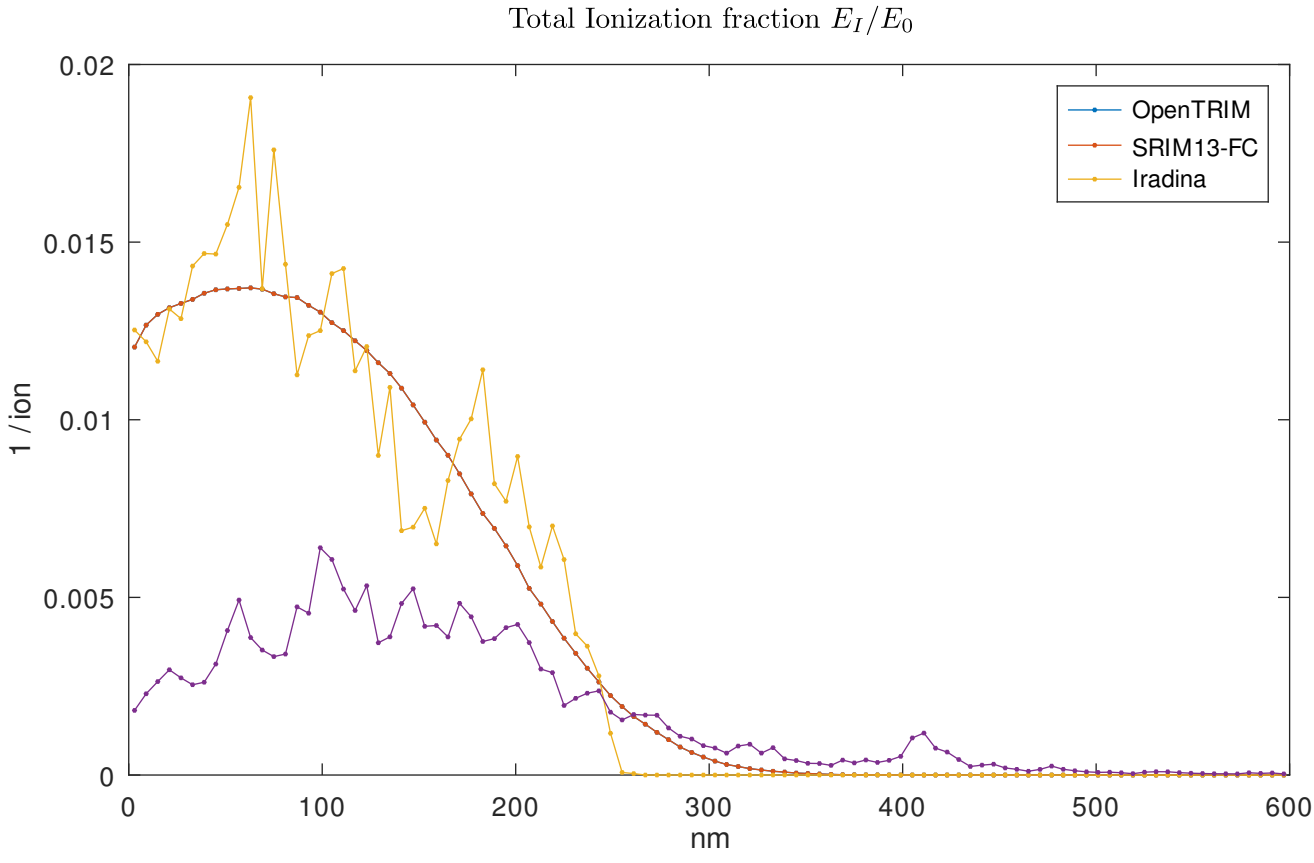

Vacancies of Fe in Fe
OpenTRIM
SRIM13-FC
Iradina
Vacancies / ion
nm
0
50
100
150
200
0
100
200
300
400
500
600


Replacements
OpenTRIM
SRIM13-FC
Iradina
Replacements / ion
nm
0
20
40
60
80
100
0
100
200
300
400
500
600

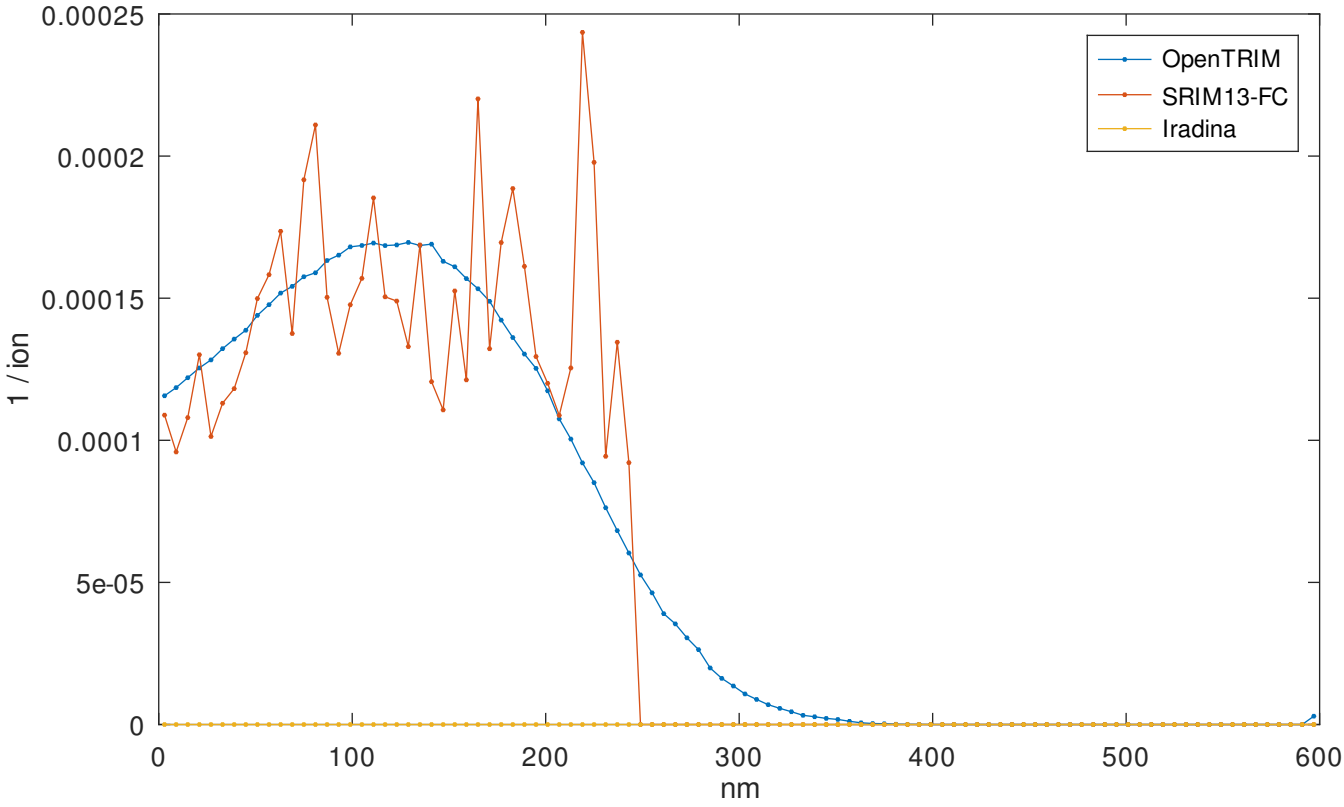

Implanted Fe ion
OpenTRIM
SRIM13-FC
Iradina
Implantations / ion
0.2
0.15
0.1
0.05
0
0
100
200
300
400
500
600
nm


Ionization fraction E_I/E_0 by Fe ion
OpenTRIM
SRIM13-FC
Iradina
1 / ion
0.012
0.01
0.008
0.006
0.004
0.002
0
0
100
200
300
400
500
600
nm

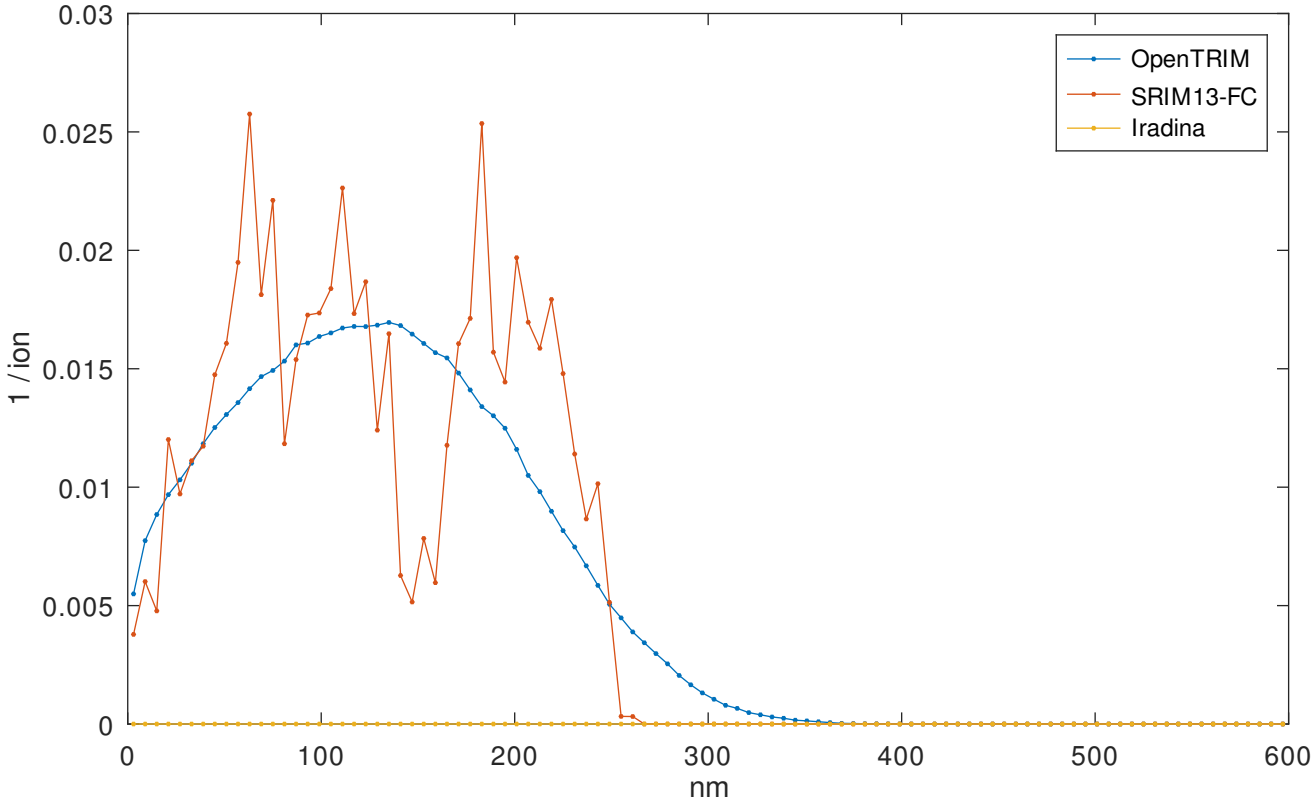

Ionization fraction E_I/E_0 by recoils
OpenTRIM
SRIM13-FC
Iradina
1 / ion
nm
0.01
0.008
0.006
0.004
0.002
0
0
100
200
300
400
500
600


Total Ionization fraction E_I/E_0
OpenTRIM
SRIM13-FC
Iradina
1 / ion
nm
0.02
0.015
0.01
0.005
0
0
100
200
300
400
500
600

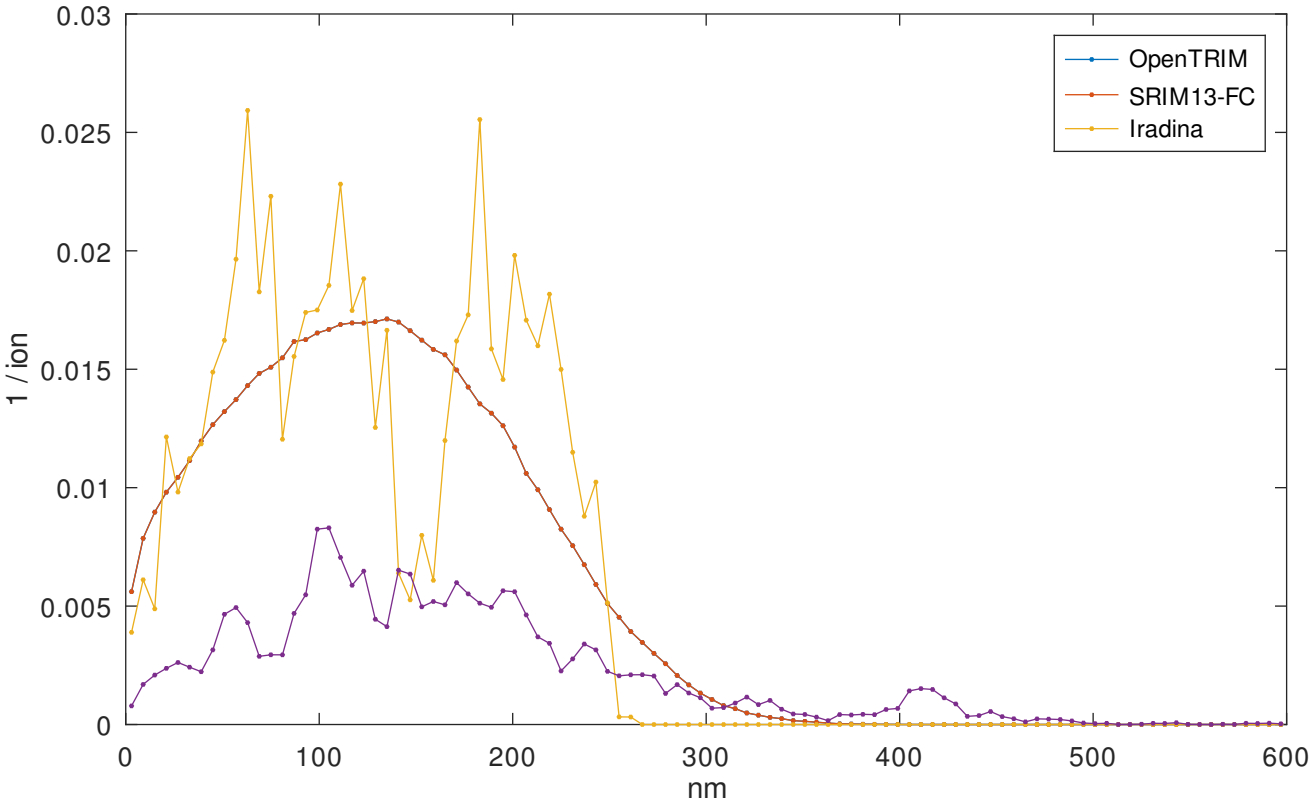
Phonon energy fraction E_{Ph}/E_0 by Fe ion



Phonon energy fraction E_{Ph}/E_0 by recoils



Total Phonon energy fraction E_{Ph}/E_0



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