Benchmark #2
500 keV Fe on Fe

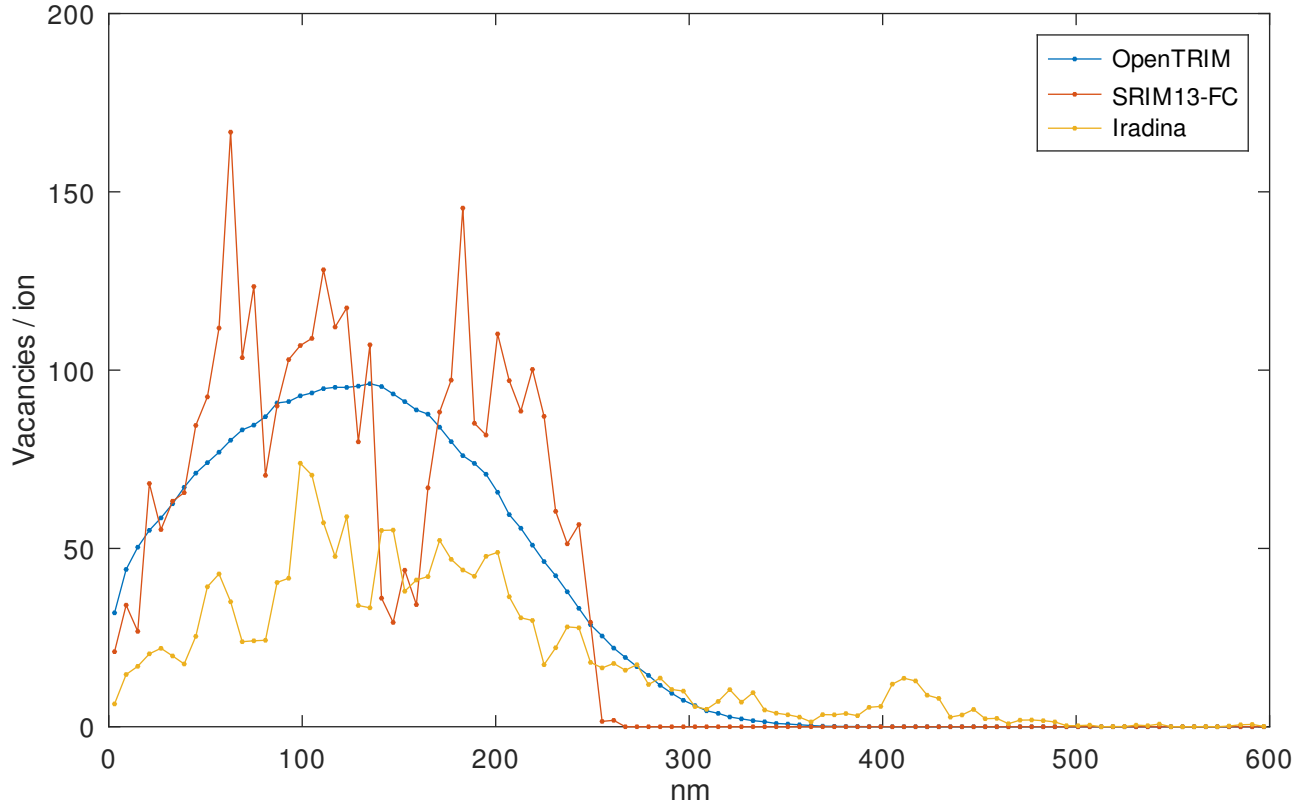
Ion energy E0 = 500000 eV

Target depth = 600 nm

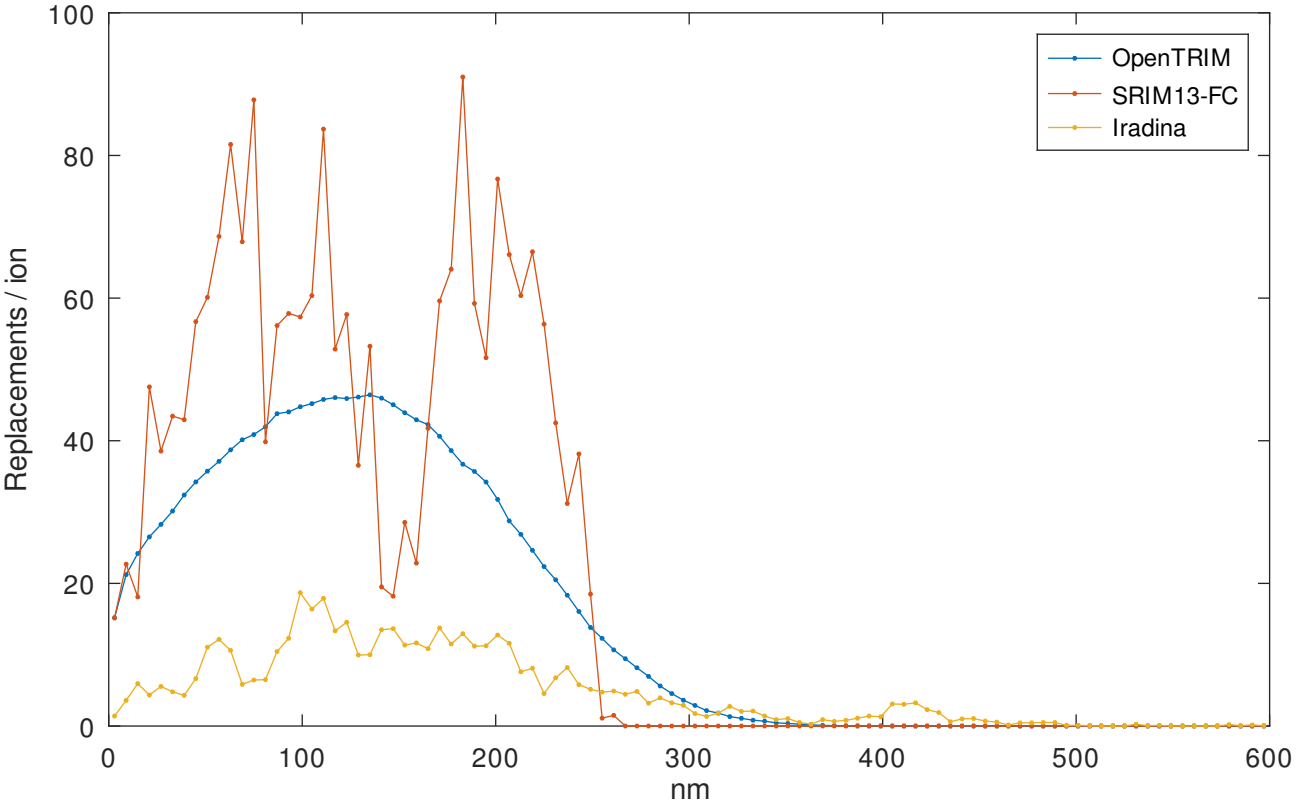
Summary Table

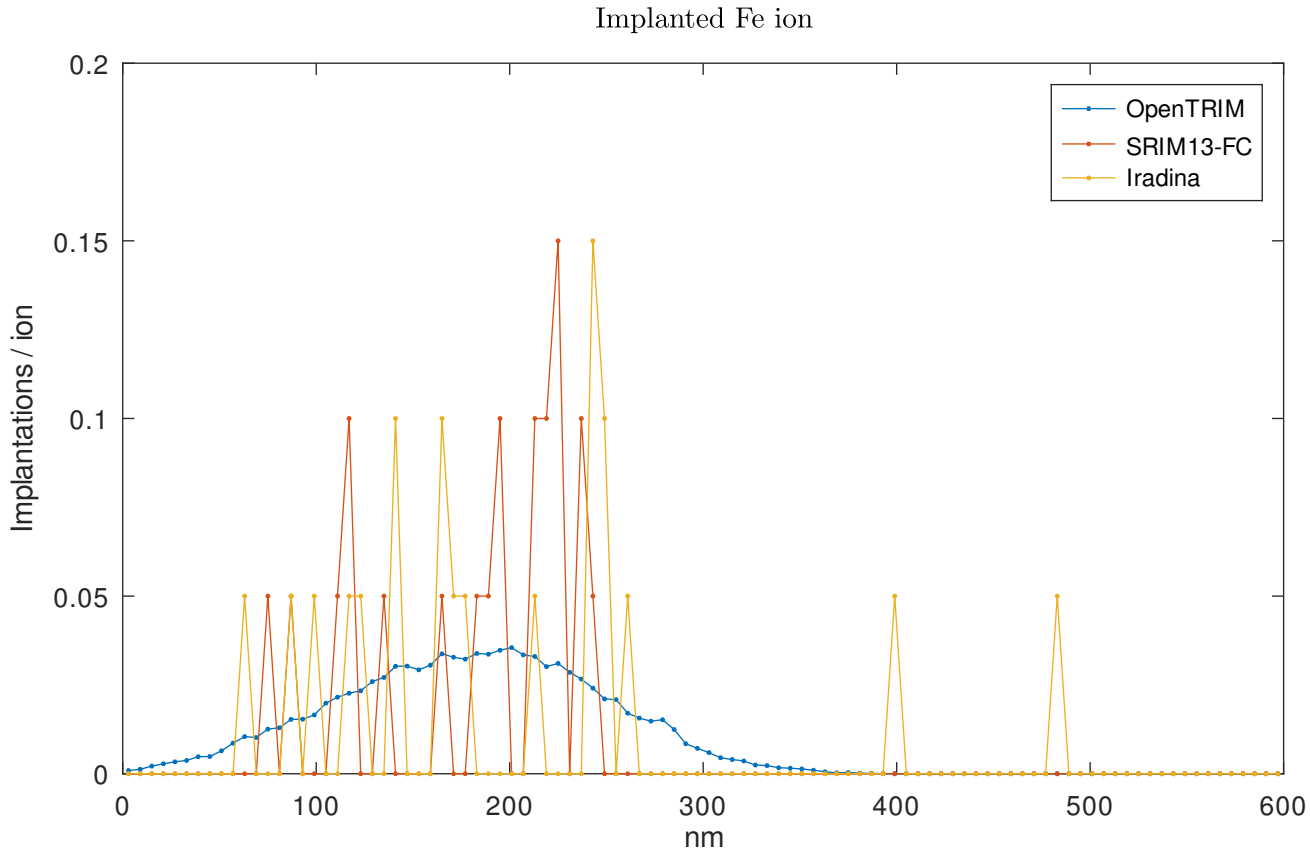
Quantity	OpenTRIM	SRIM13-FC	Iradina
V(Fe)	3.19e+03	3.43e+03	1.8e+03
R(tot)	1.54e+03	2.12e+03	480
I(Fe)	0.999	1.05	1
EI(Fe)/E0	0.269	0.281	0
EI(r)/E0	0.163	0.159	0
EI/E0	0.431	0.44	0.183
EPh(Fe)/E0	0.00597	0.00592	0
EPh(r)/E0	0.561	0.59	0
EPh(tot)/E0	0.567	0.596	0.215
1-(EI+EPh)/E0	0.00113	-0.0362	0.602

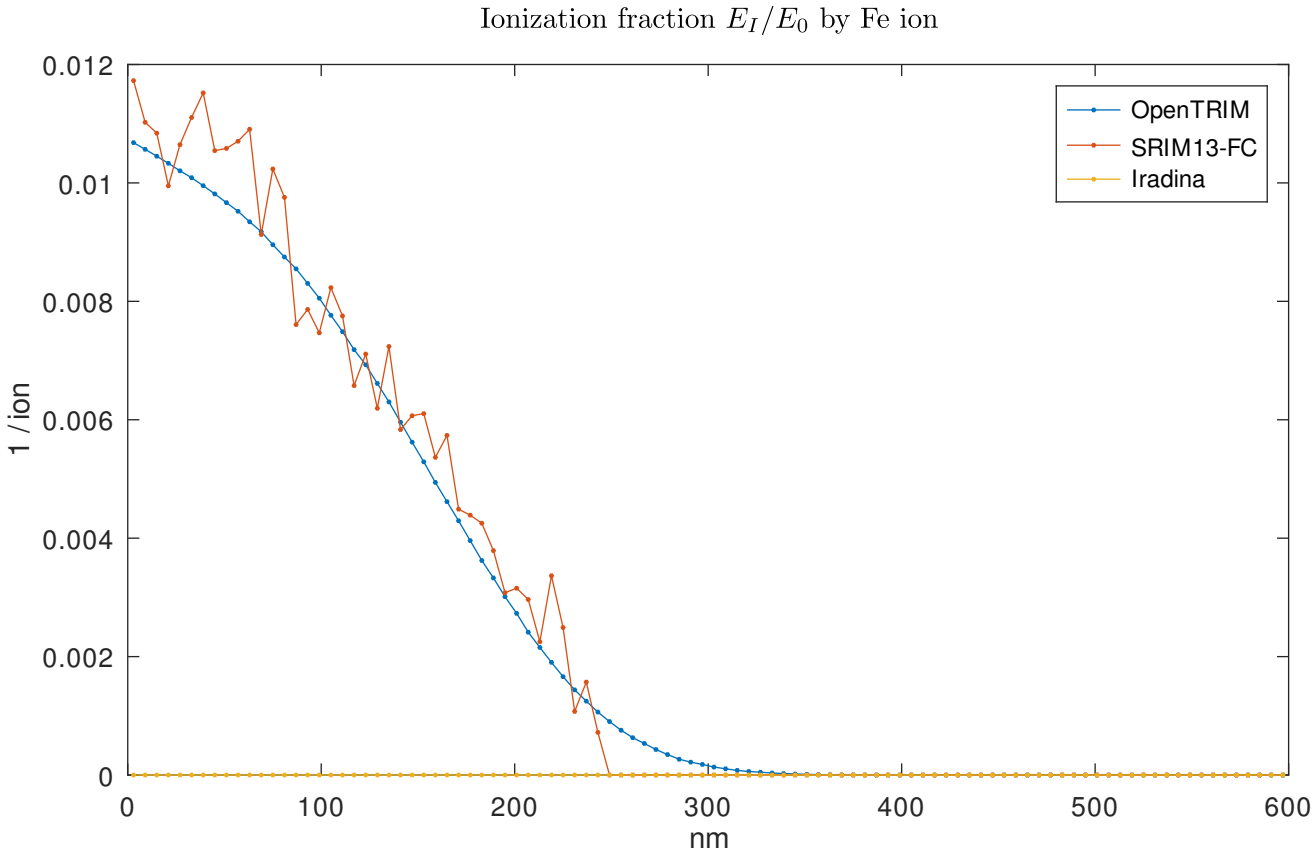
Vacancies of Fe in Fe

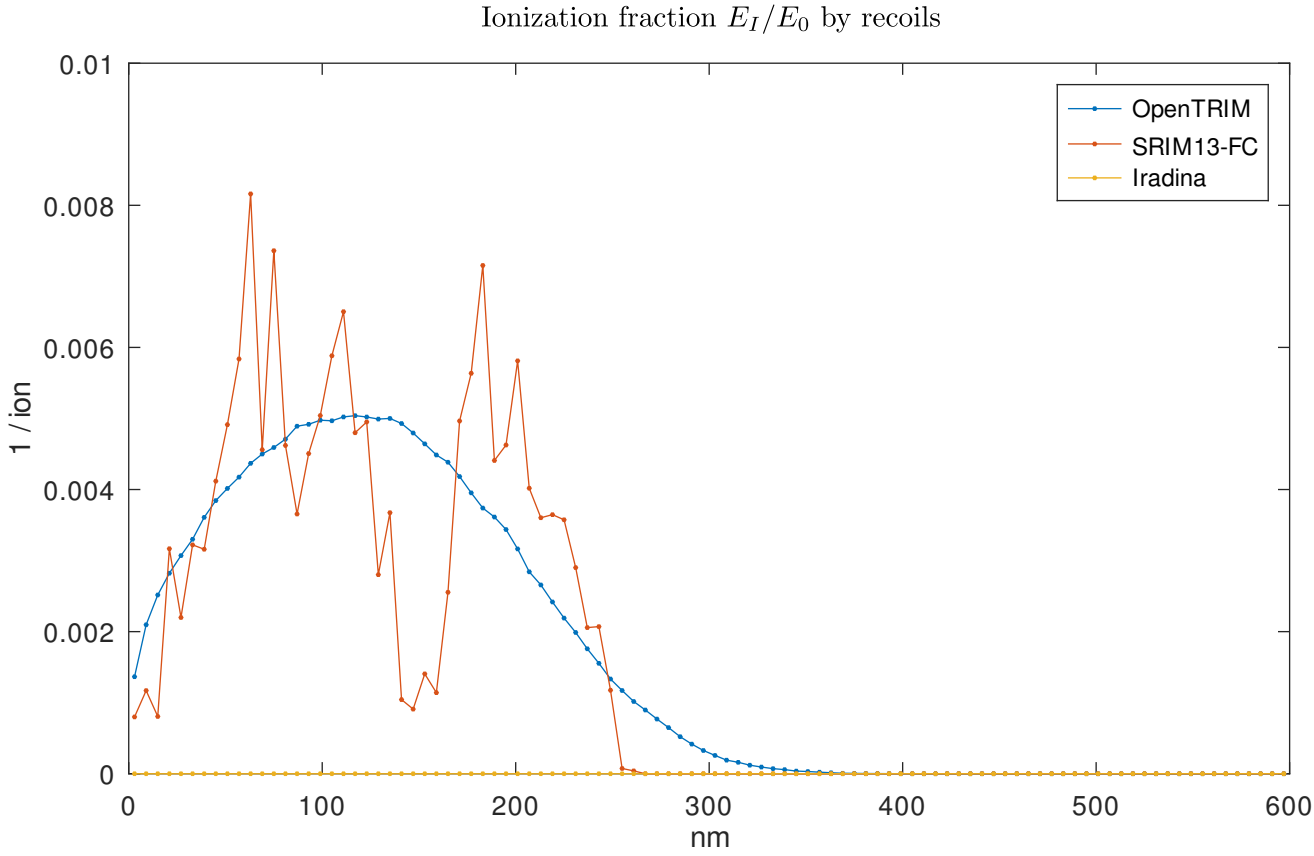


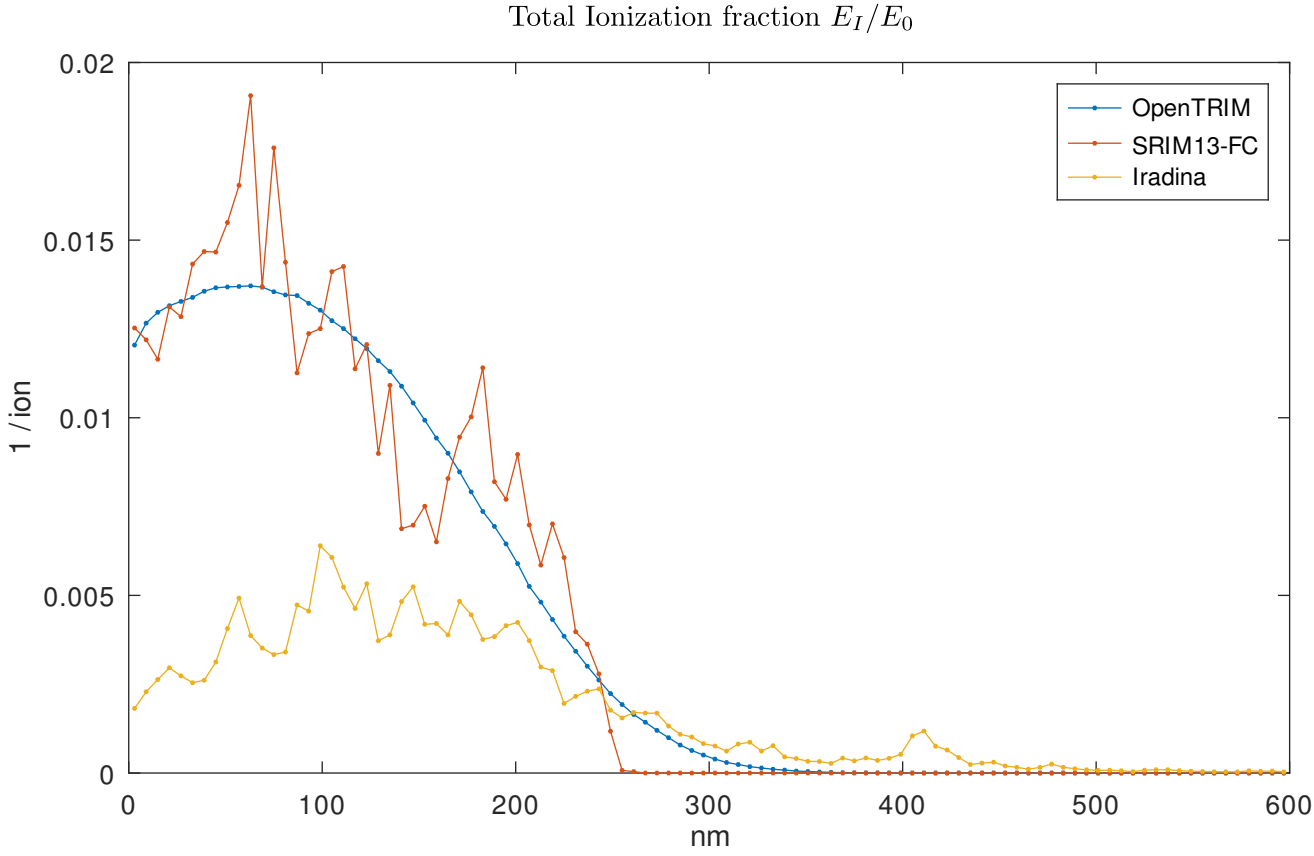
Replacements

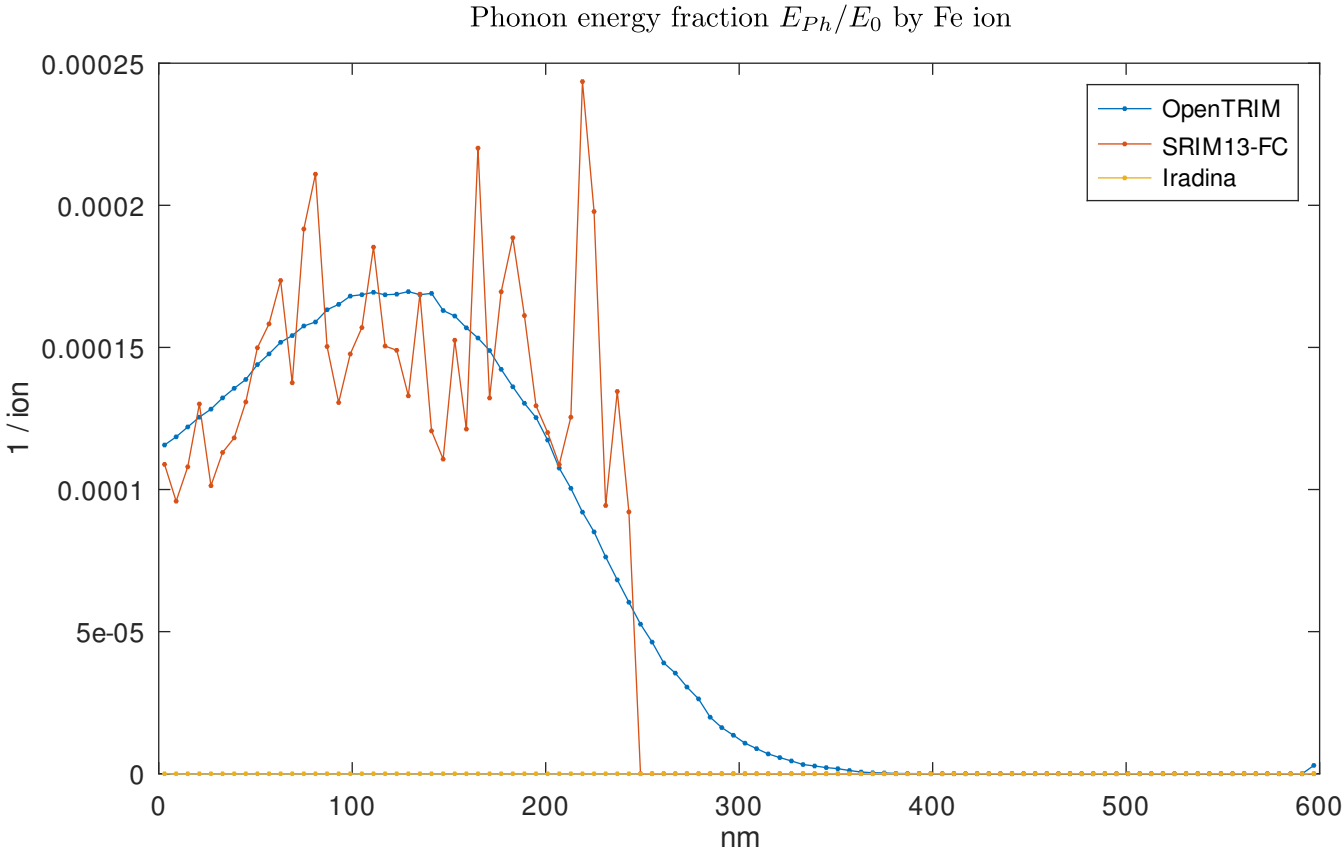


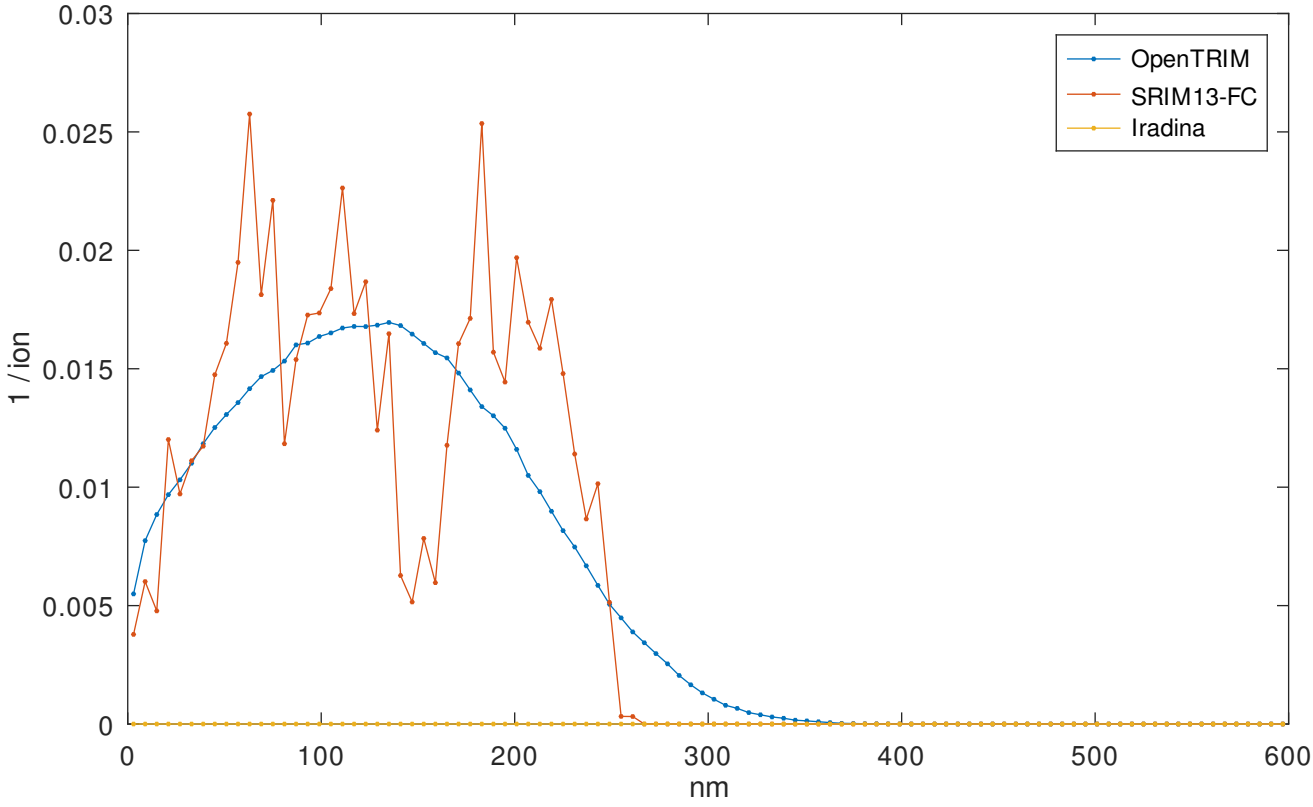

Implanted Fe ion
OpenTRIM
SRIM13-FC
Iradina
Implantations / ion
nm
0
0.05
0.1
0.15
0.2
0
100
200
300
400
500
600

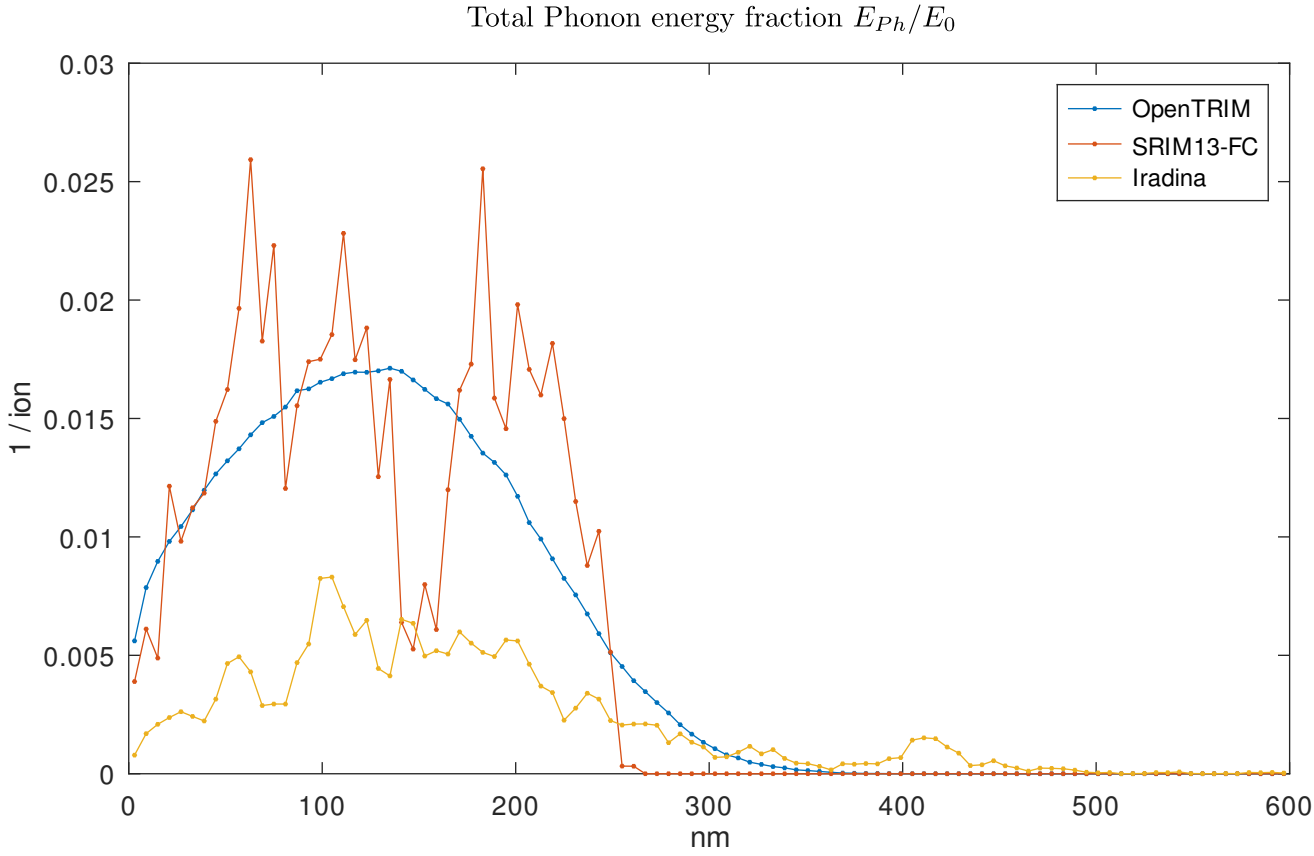

Ionization fraction E_I/E_0 by Fe ion
OpenTRIM
SRIM13-FC
Iradina
1 / ion
nm
0
0.002
0.004
0.006
0.008
0.01
0.012
0
100
200
300
400
500
600

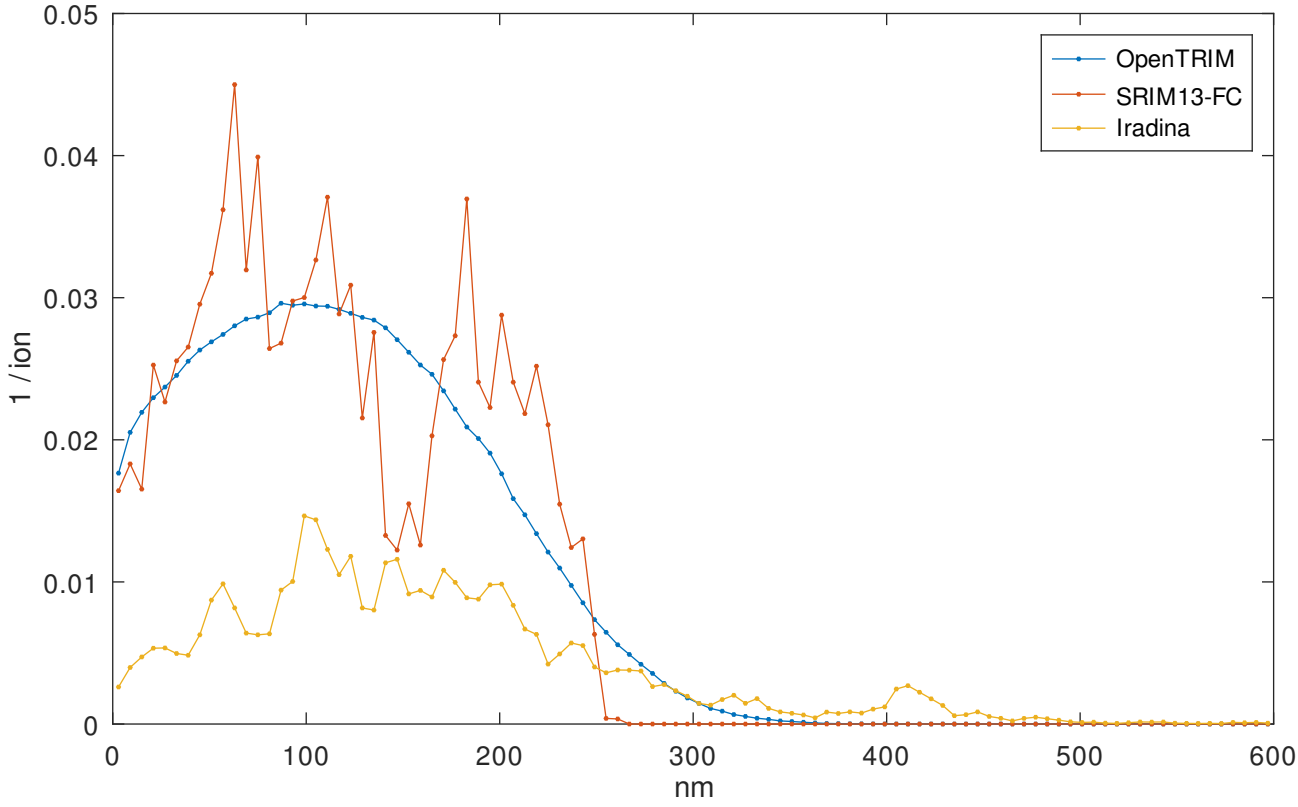

Ionization fraction E_I/E_0 by recoils
OpenTRIM
SRIM13-FC
Iradina
1 / ion
nm
0.01
0.008
0.006
0.004
0.002
0
0
100
200
300
400
500
600


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
0.00025
0.0002
0.00015
0.0001
5e-05
0
1 / ion
0
100
200
300
400
500
600
nm
OpenTRIM
SRIM13-FC
Iradina


Phonon energy fraction E_{Ph}/E_0 by recoils
0.03
0.025
0.02
0.015
0.01
0.005
0
1 / ion
0
100
200
300
400
500
600
nm
OpenTRIM
SRIM13-FC
Iradina


Total Phonon energy fraction E_{Ph}/E_0
OpenTRIM
SRIM13-FC
Iradina
1 / ion
nm
0.03
0.025
0.02
0.015
0.01
0.005
0
0
100
200
300
400
500
600


Total fractional energy deposition $(E_I + E_{Ph})/E_0$
OpenTRIM
SRIM13-FC
Iradina
1 / ion
nm
0.05
0.04
0.03
0.02
0.01
0
0
100
200
300
400
500
600