PDL estimated with Birks' law (FLUKA PDD):
$dLdx = S \cdot dose(z)/(1 + kB \cdot dose(z))$

No normalization
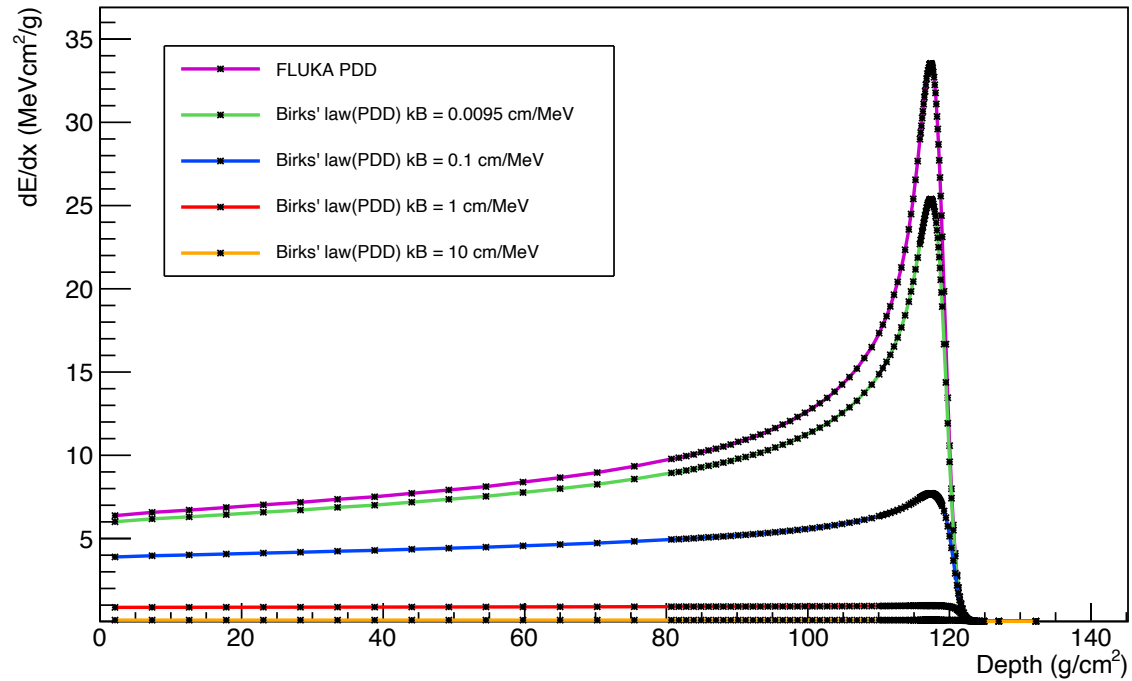
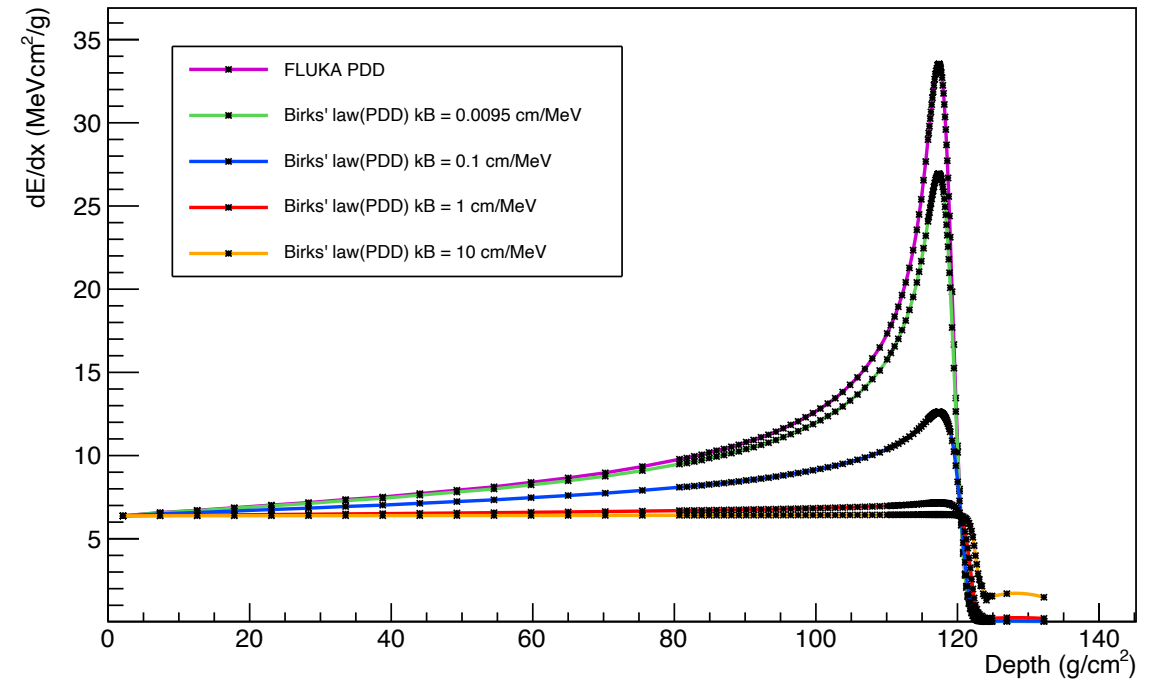### Normalised to the first bin

Graph

Graph

E_point 100, S=1
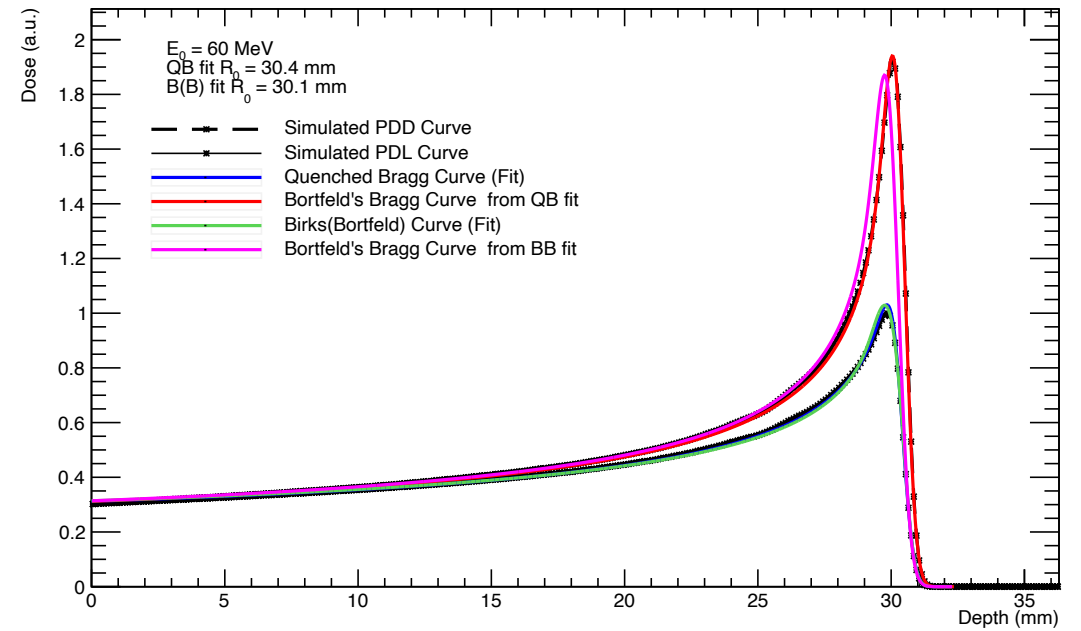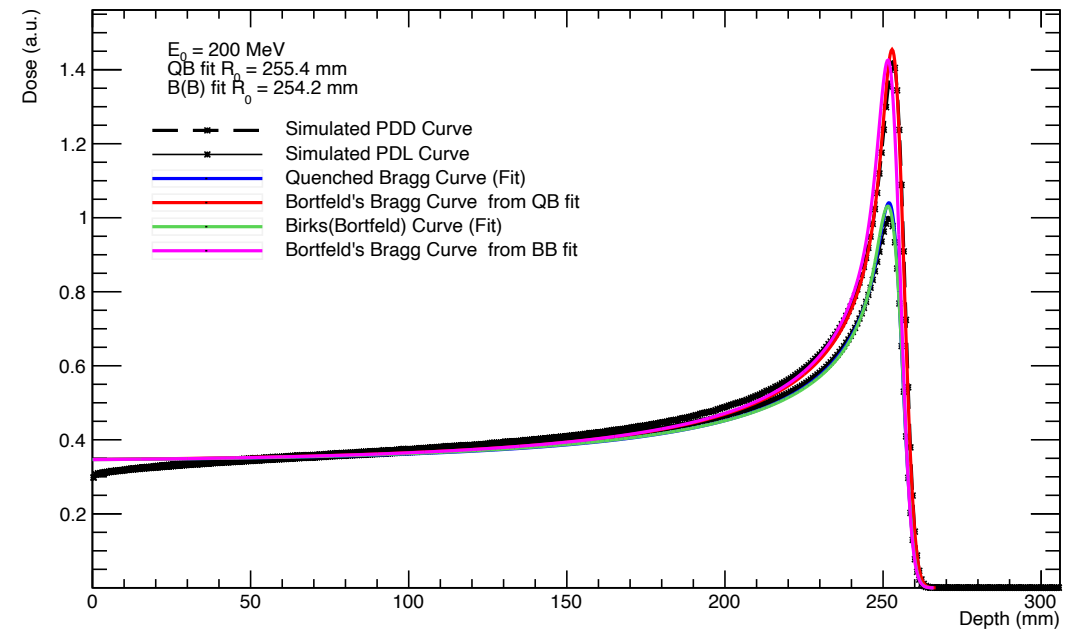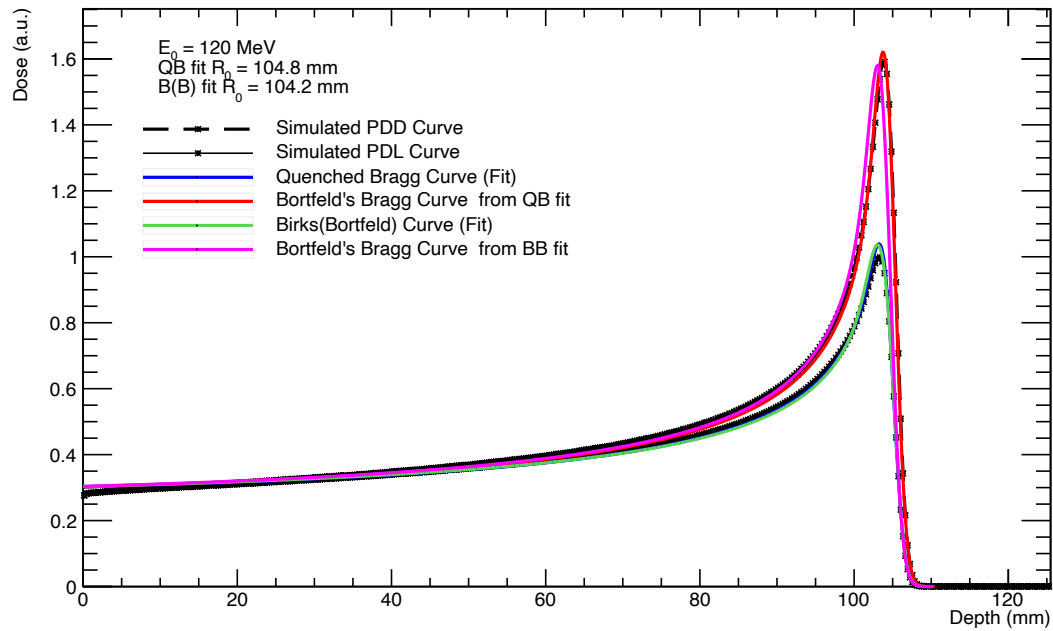
- PDD and PDL from Laurent's G4 simulation
- PDL fitted independently using two functions:
  - Quenched Bragg curve (blue)
  - Birks(Bortfeld) S/(bragg^-1 +kB) (green)
- Two Bortfeld's Bragg curves drawn independently using the two set of fit parameters

Graph

Graph

2

- HIT proton data fitted independently using two functions:
  - Quenched Bragg curve (blue)
  - Birks(Bortfeld) S/(bragg^-1 +kB) (light blue)