Parametric nuclear interaction

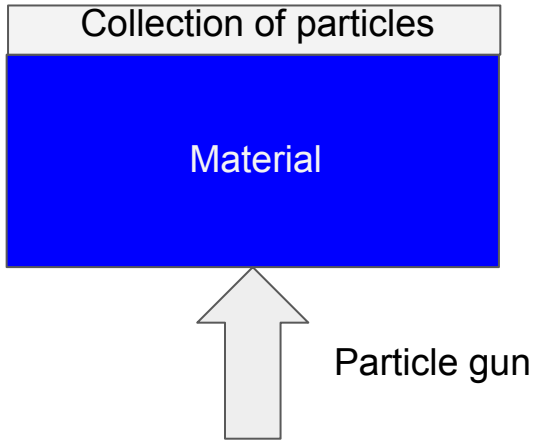
Implemented into Fatras by translating from Athena

Consists of 4 steps:

1. Dice if interaction occurs
2. Dice multiplicity
3. Dice particle composition
4. Build kinematics

Output compared with Geant4 in simple setup

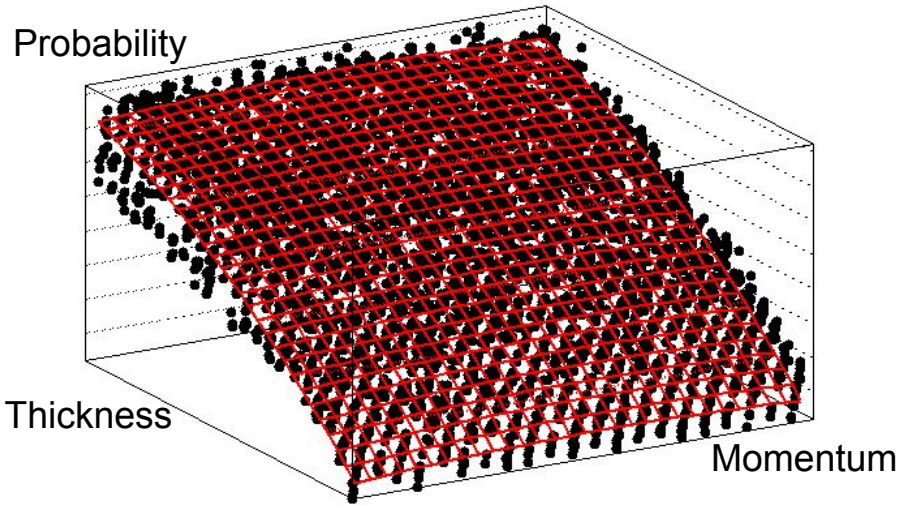
- ➢ Search for bugs
- ➢ Tune/replace parametrization

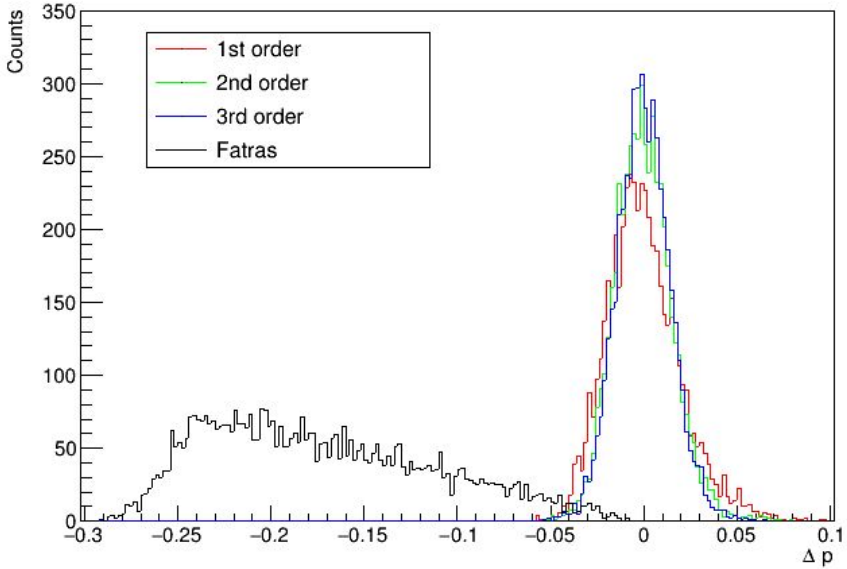


Does an interaction occur?

Fatras: Probability depends on thickness, p, L0, pid

Vary these parameters in Geant4 to investigate dependency → Pol. parametrization





Multiplicity

Fatras uses function with 5 parameters for the multiplicity sampling

➢ Optimise the parameter values