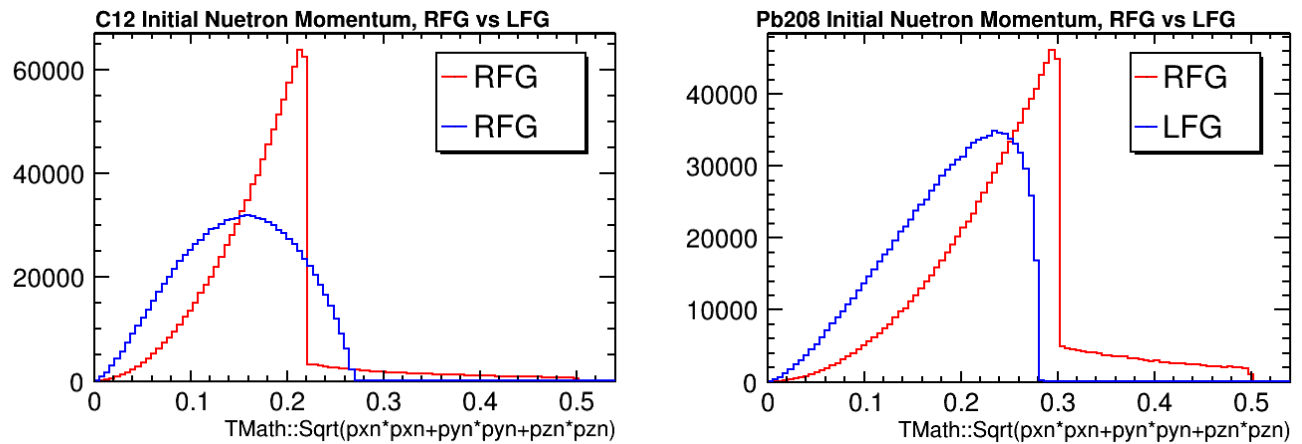


LFG model

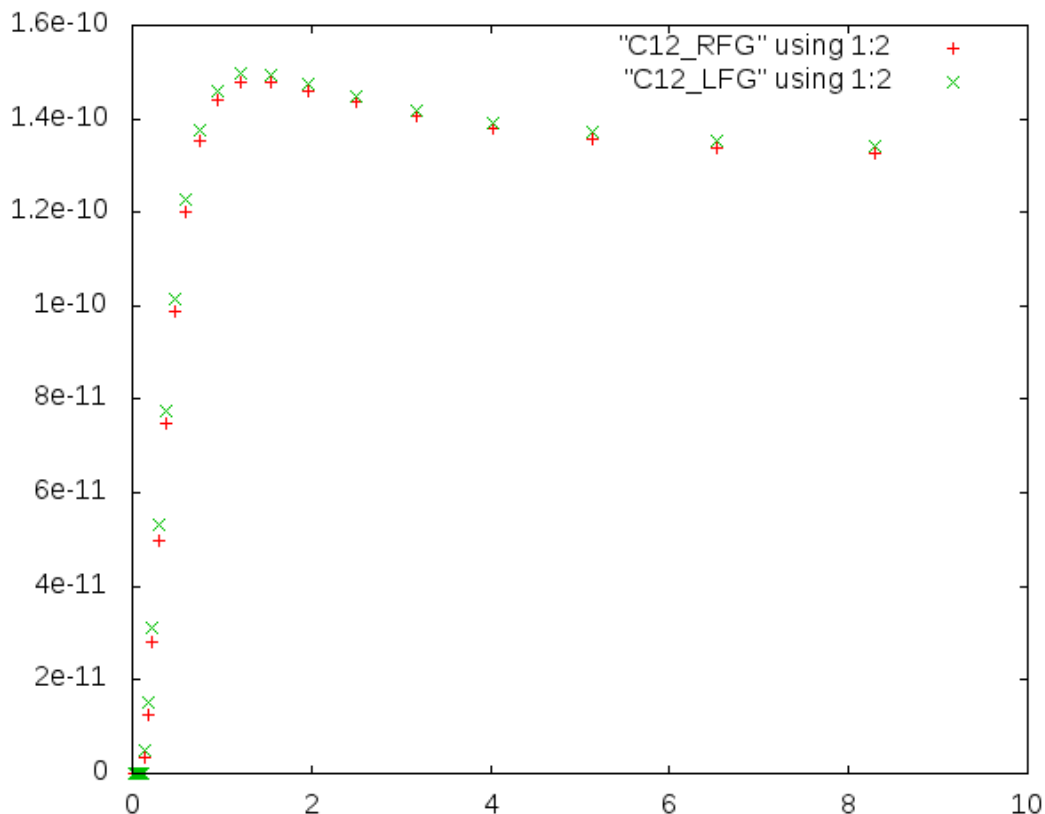
- Uses a local Fermi gas when generating a target nucleon in the nucleus (Fermi momentum depends on position in the nucleus).
- Uses LFG with Pauli Blocker to determine if the final nucleon escapes the nucleus
- Uses LFG when calculating the nuclear suppression factor
- When generating splines, the model averages over many nucleons when calculating the cross section for a given neutrino energy. In each iteration, a radius is generated first, then a nucleon is generated.

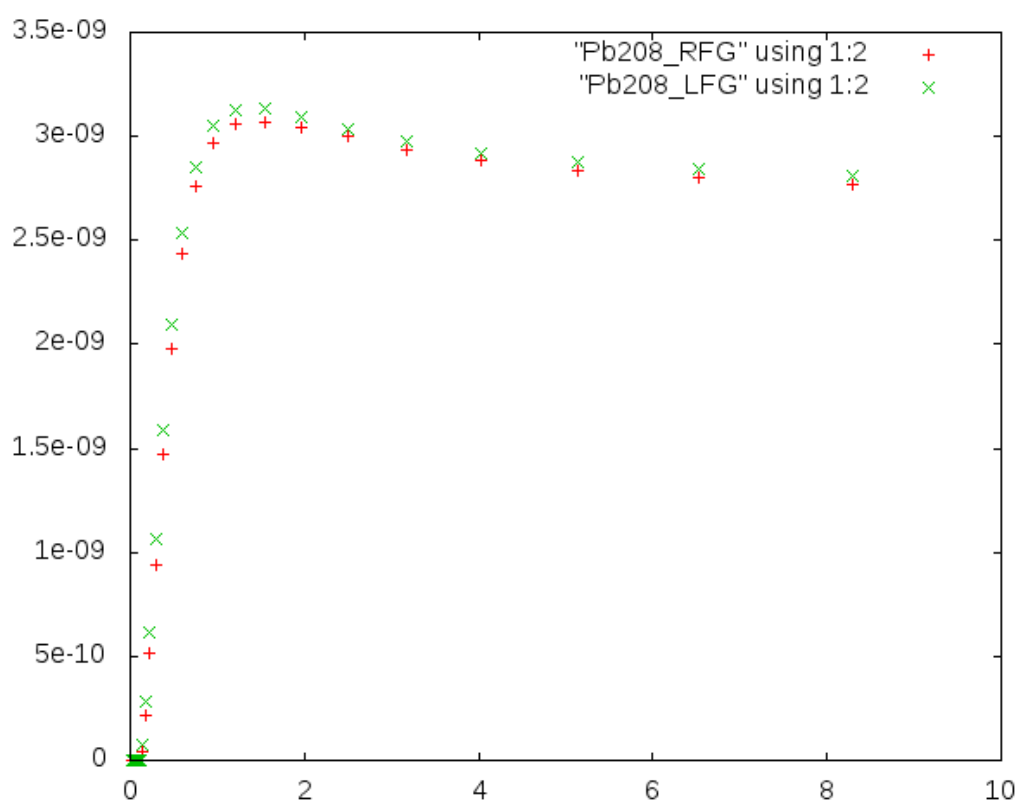
Plots:

Initial Nucleon distributions for a local Fermi gas vs a relativistic Fermi gas



Splines (The total cross section tends to be slightly higher for LFG because on average the Fermi momentum is lower, meaning that nuclear suppressions is less):





GENIE 2.10.0 RFG spline vs GENIE with the LFG model RFG spline (sanity check)

