

SiD00 calorimeter sampling fractions

A first attempt at calculating sampling fractions for SiD00 using Geant4v8 with the isolated detector studies yields the following results:

EM particles in the EM calorimeter:: L0-L19: $E = E_{\text{raw}}/.01663$

L20-L29: $E = E_{\text{raw}}/.008445$

Hadronic in the EM calorimeter:: L0-L19: $E = E_{\text{raw}}/.01505$

L20-L29: $E = E_{\text{raw}}/.007807$

Hadronic in the HAD calorimeter:: $E(\text{GeV}) = (\text{\#hits} + 4.612)/10.021$

I will update the sampling fractions in sid00. However, there are 2 caveats: only 1 number at the moment per subdetector, so will use the number for the first 20 layers of EM for EM particles. Also, if you are using simulation data on sid00 generated with v7 of G4, the sampling fractions will be inappropriate.