Small Protvino TB shashlik simulation + cosmics

Gemma Tinti

12/03/2024

Shashlik parameters

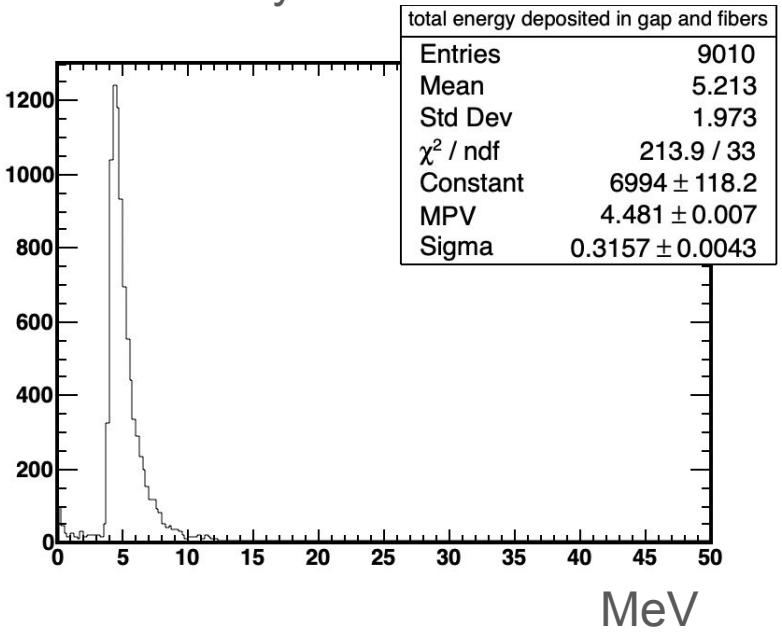
- Scintillators Polystyrene 55 * 55 * 1.5 mm^3
- Pb thickness 0.275*mm
- Tyvex 0.1 mm
- Pb - Tyvex - Scintillator - Tyvex x16 times
- Gaps 1.3 mm diameter, 9.3 mm between gaps
- Fibers Y11 (1 mm diameter, PS+PMMA 10 cm longer than calo

So far I only look at the deposited energy (no optical photon propagation yet)

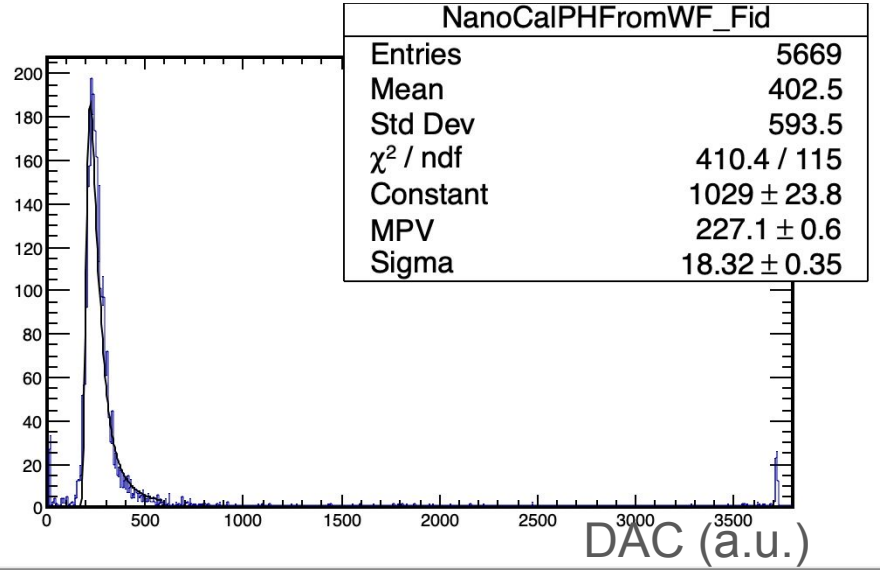
Summed the contribution of the deposits in scintillators to the ones in fibers

10 GeV μ^- (MIP like) 16 layers

MC 2 Pb layer

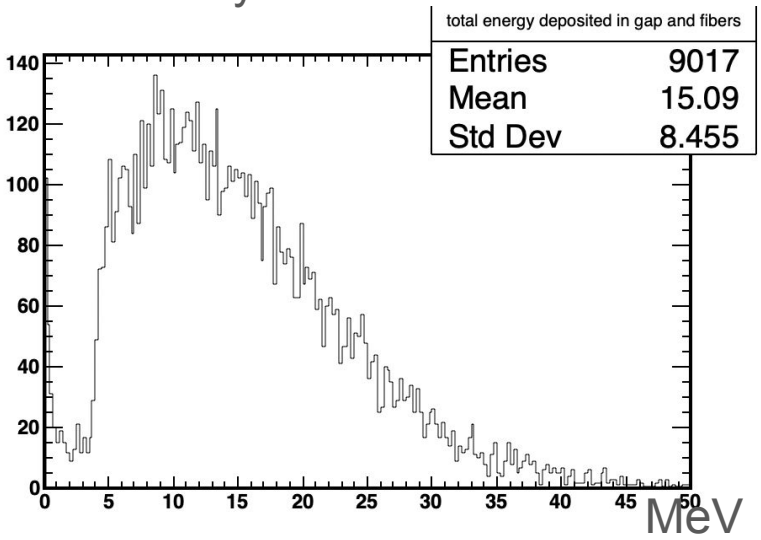


Data, TB June 2023

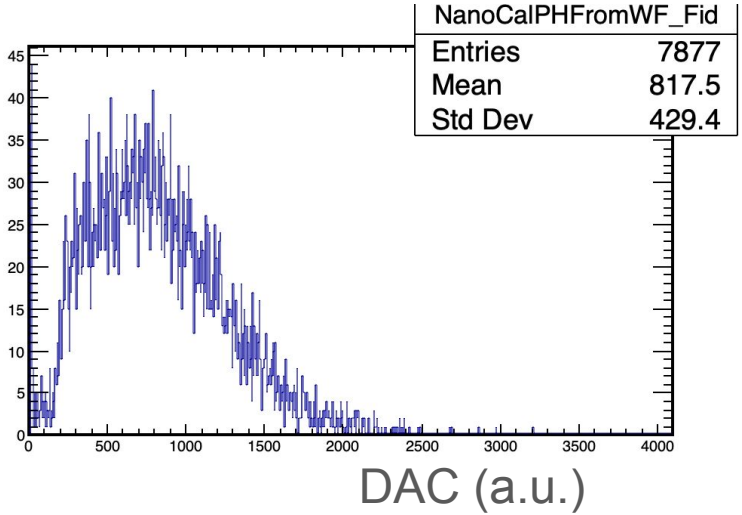


1 GeV e^+ 16 layers

MC 2 Pb layer



Data, TB June 2023

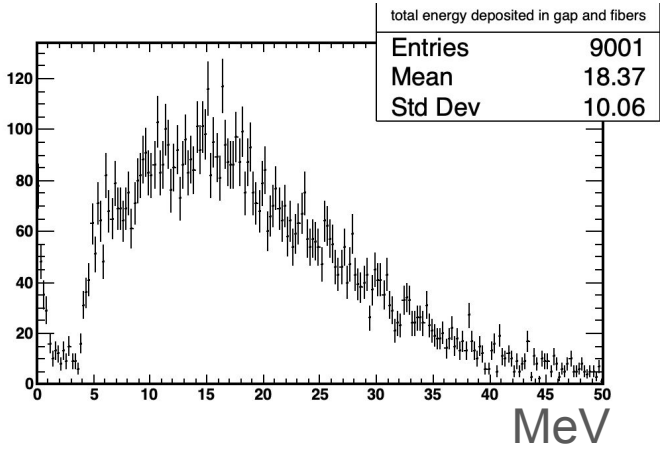


<1GeV e>/MPV MIP:

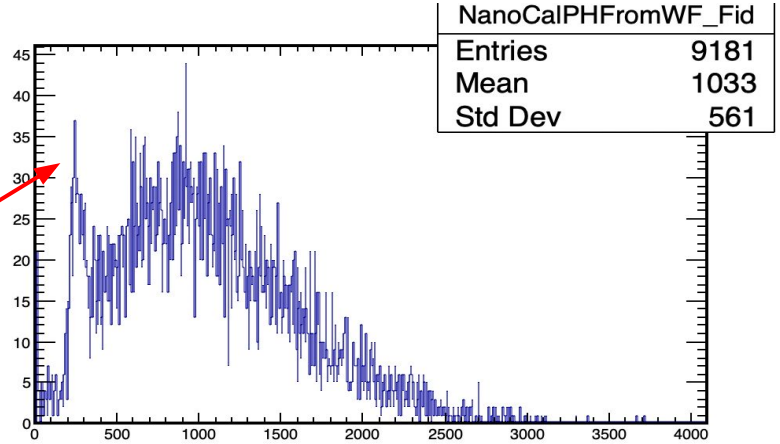
- 3.6 in data
- 3.3 in MC 2 Pb layers

2 GeV e^+ 16 layers

MC 2 Pb layer



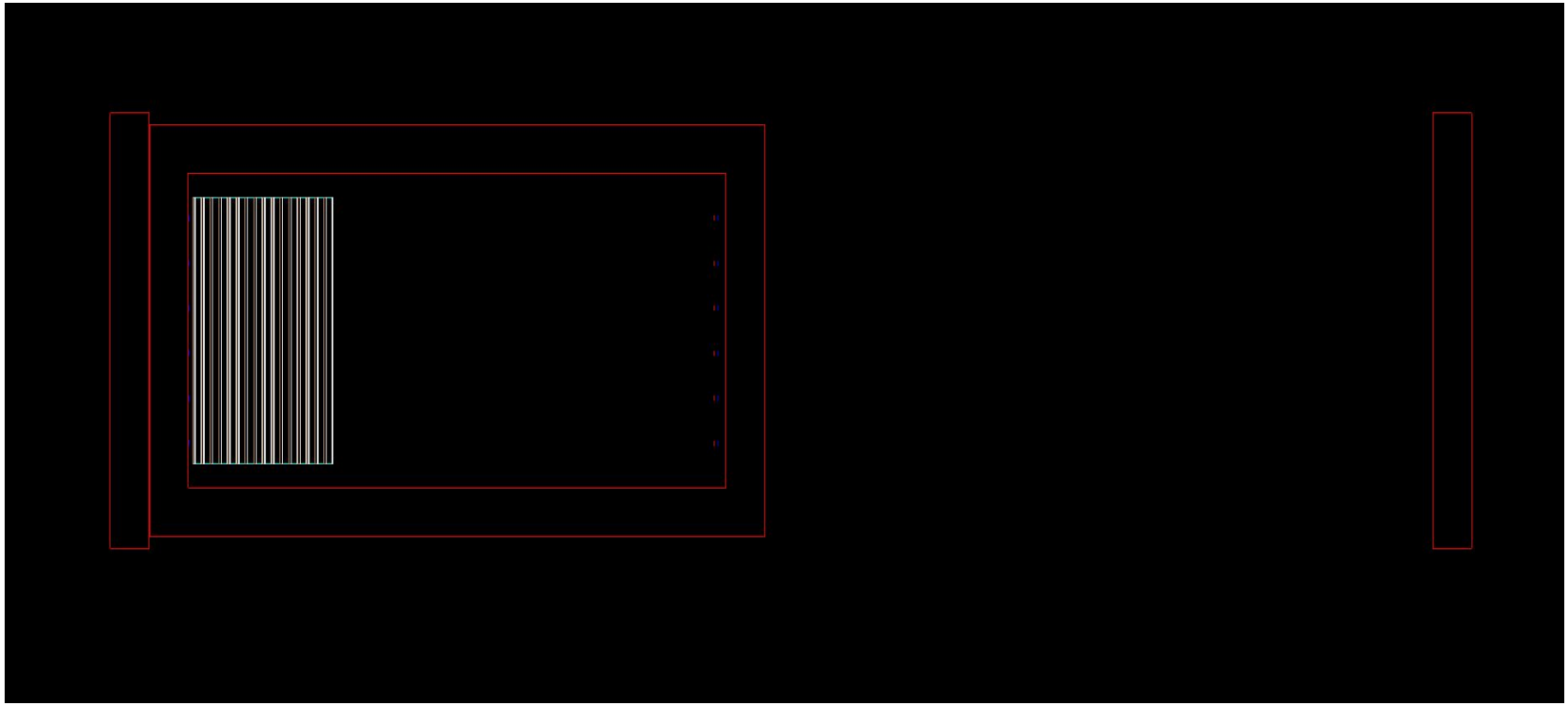
Data, TB June 2023



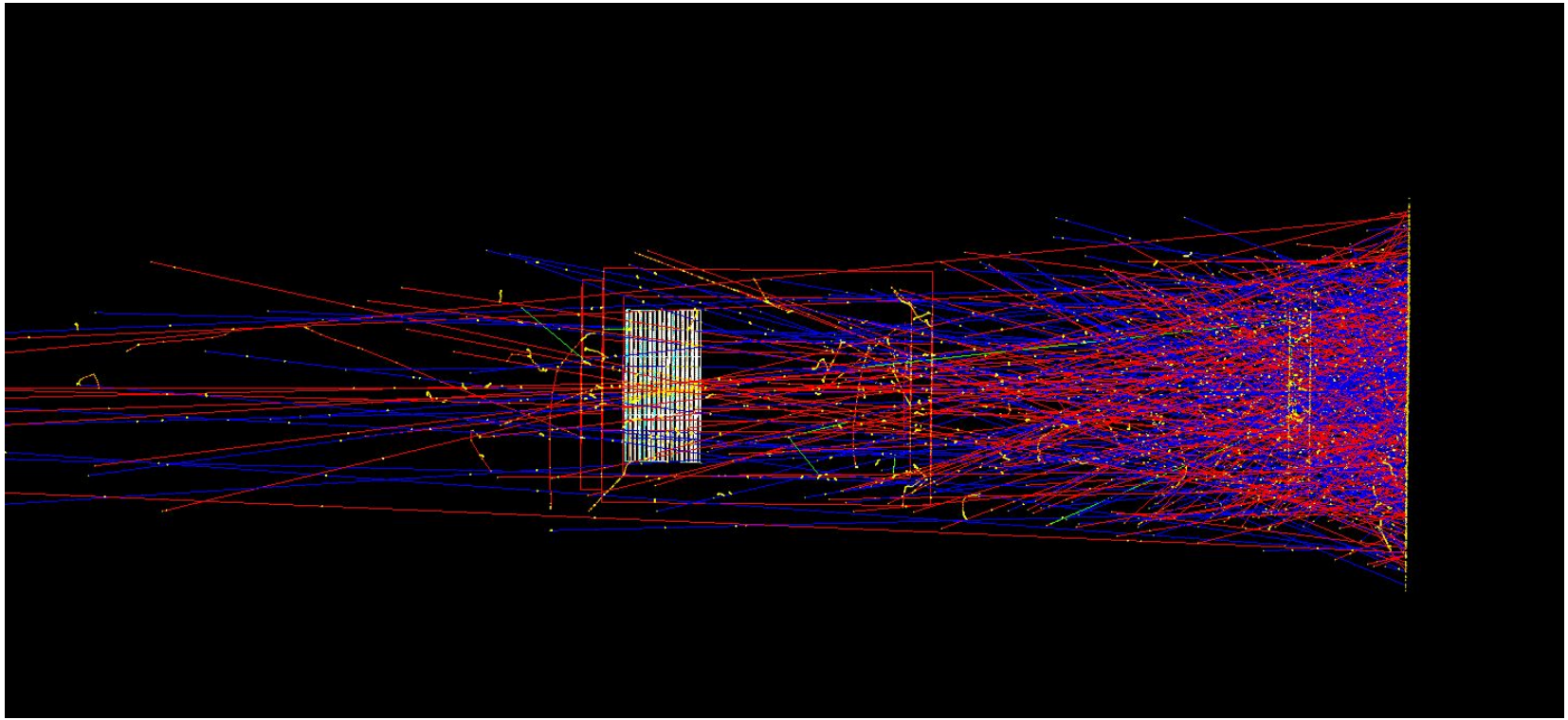
<2GeV e>/MPV MIP:

- 4.55 in data
- 4 in MC 2 Pb layers

Shashlik cosmic rays



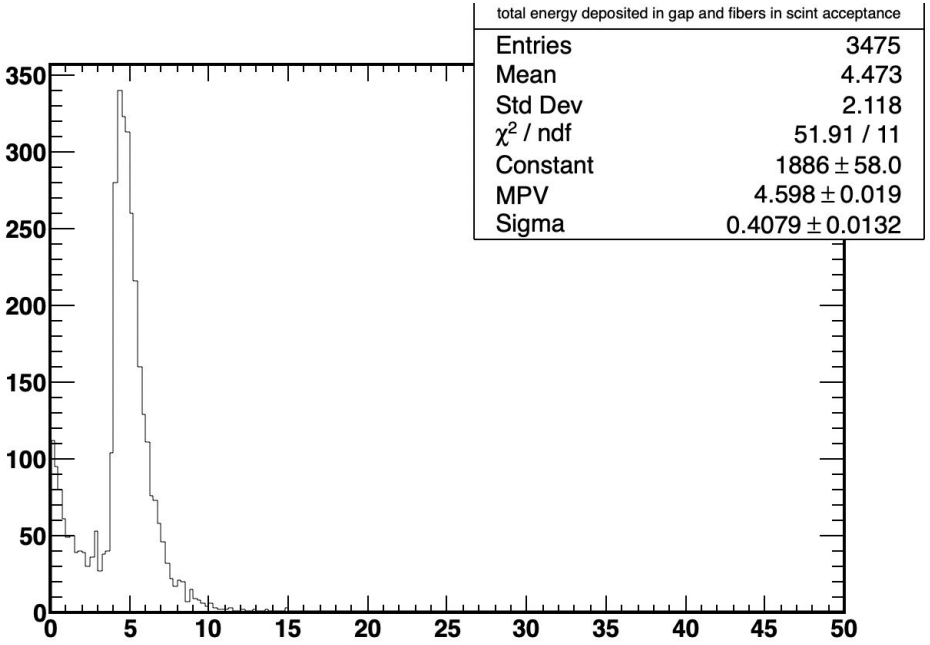
Shashlik cosmic rays

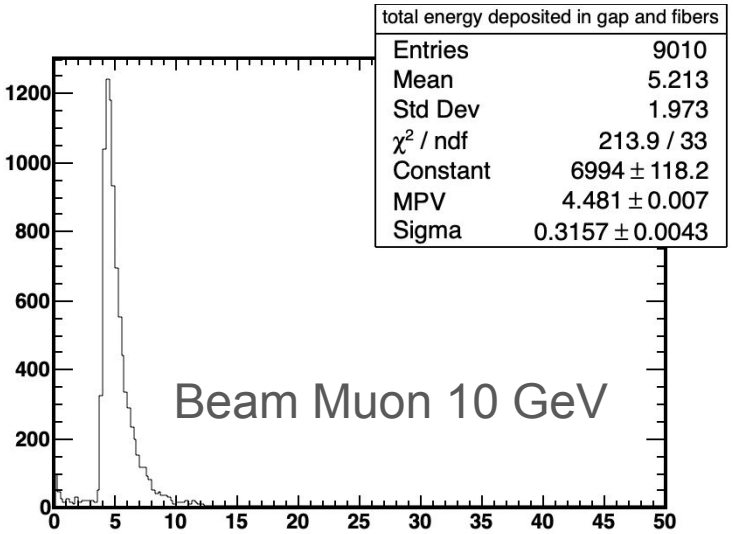


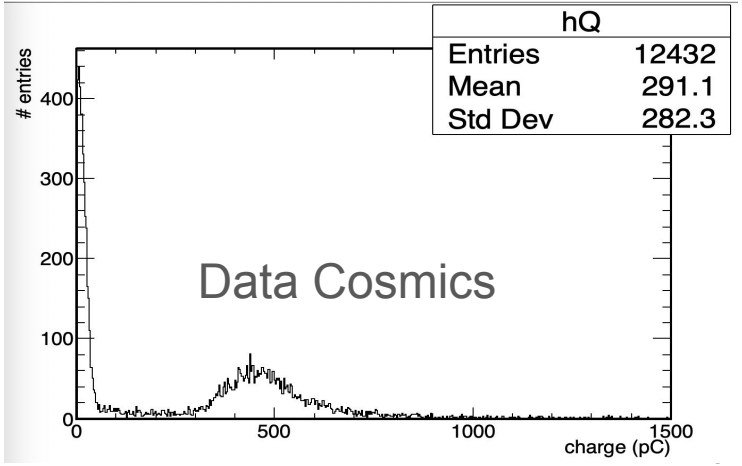
CRY cosmic ray generator interfaced with GEANT4

Shashlik cosmic rays

Cosmic muons







*Amplifier Gain not divided