

Λ^0 Digits Embedding for the Inner Tracker Optimization: ADC Amplitude rescaling

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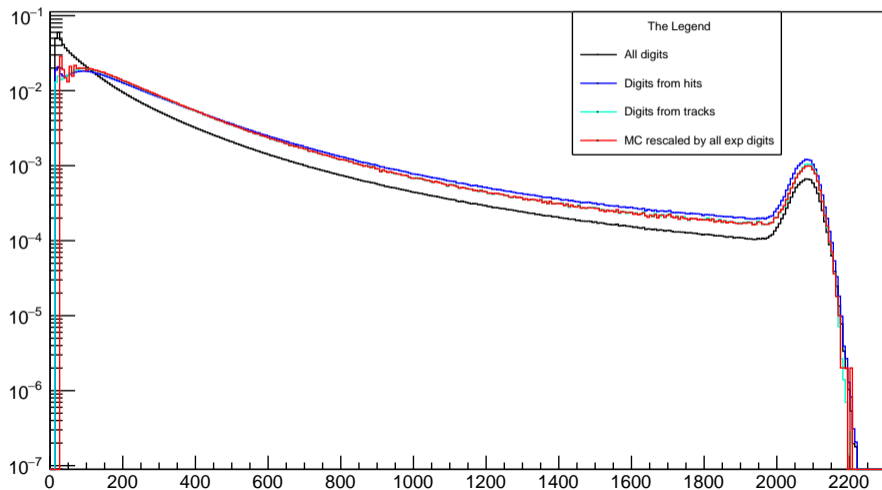
Dubna June 8, 2020

Short status

- Lower threshold cut fixed
- Hit/Track digits extraction fixed [Currently implemented only for GEMs]
- Sample macro updated

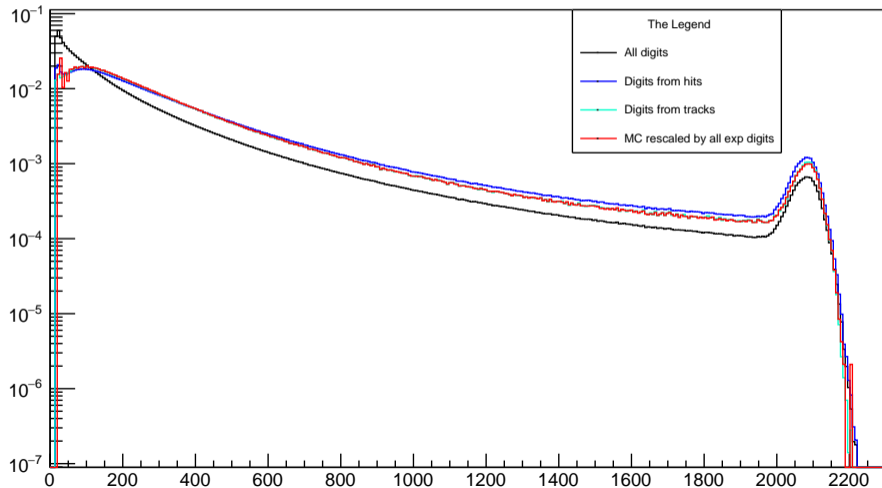
GEM Rescaled.

GEM Exp



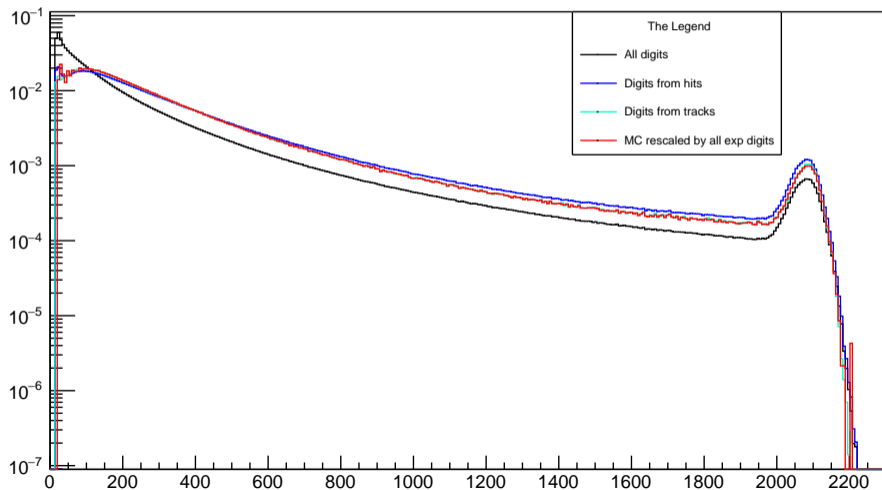
GEM Rescaled Threshold 2

GEM Exp



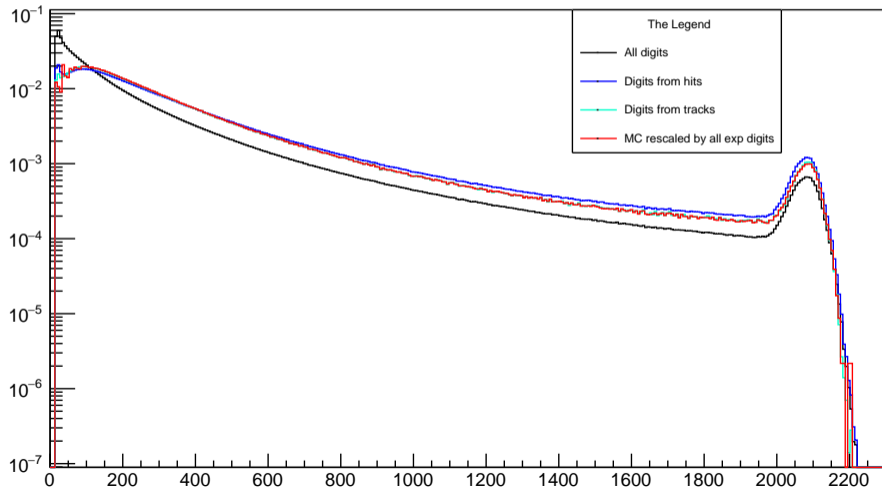
GEM Rescaled Threshold 3

GEM Exp



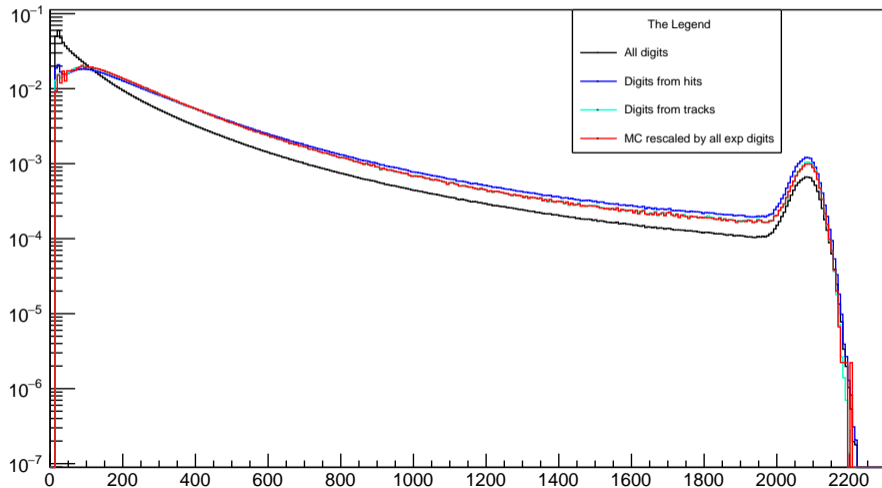
GEM Rescaled Threshold 4

GEM Exp



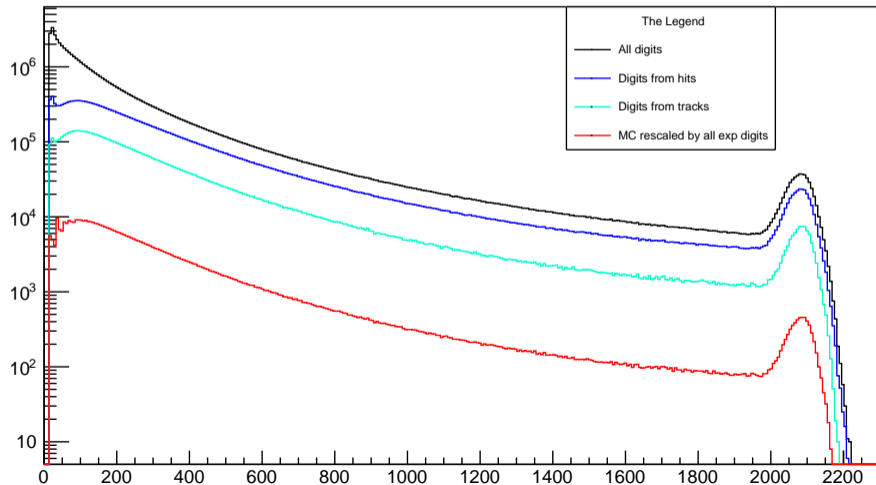
GEM Rescaled Threshold 6

GEM Exp



GEM Rescaled Threshold 4. No normalization draw

GEM Exp



Code usage: /macro/howto/rescaleAmplitude.C

Create functions

```
TF1 * mc = BmnRecoTools::GetSignalDistribution(fInTreeMC, digiMC
    nullptr, nullptr, nullptr, nullptr, lowThreshold, nBins);
TF1 * ex = BmnRecoTools::GetSignalDistribution(fInTreeEx, digiEx
    [treeDST, gemHits, gemTracks, tracks]);
TF1 * funcRescale = BmnRecoTools::GetRescaleFunc(name, mc, ex);
```

Iteratively run

```
double mc_signal = funcRescale->Eval(src->GetStripSignal());
```