CSC spatial resolution with GIF++ testbeam data (pre-approval)

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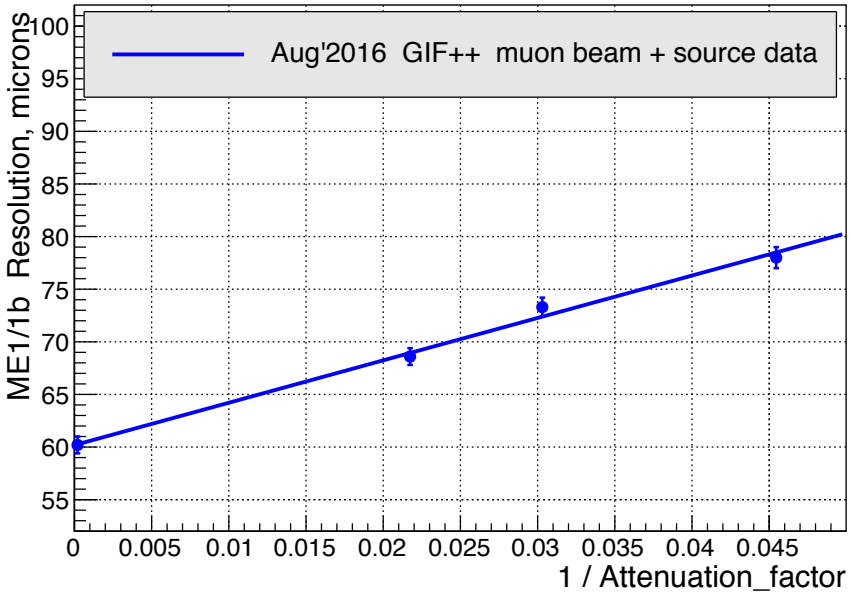
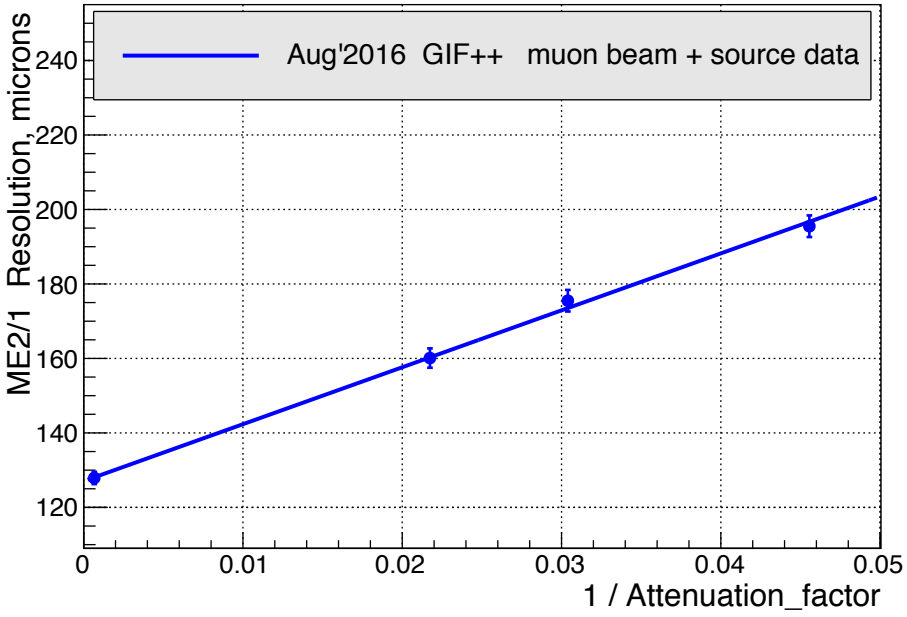
GIF++ CSC working meeting
March 28, 2017

GIF++ ME11 & ME21 Resolution test40, HV0, Aug2016 data

Resolution vs Attenuation factor



ME11

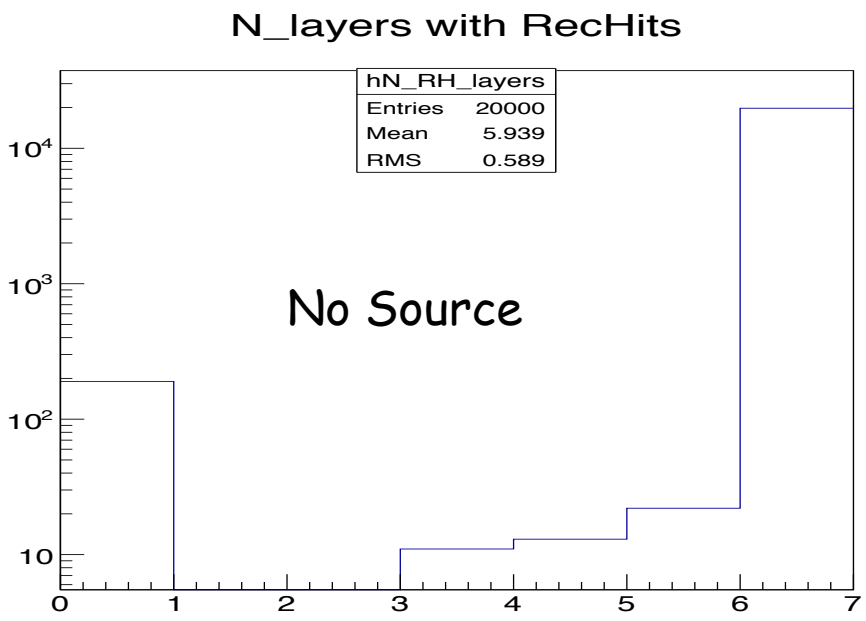


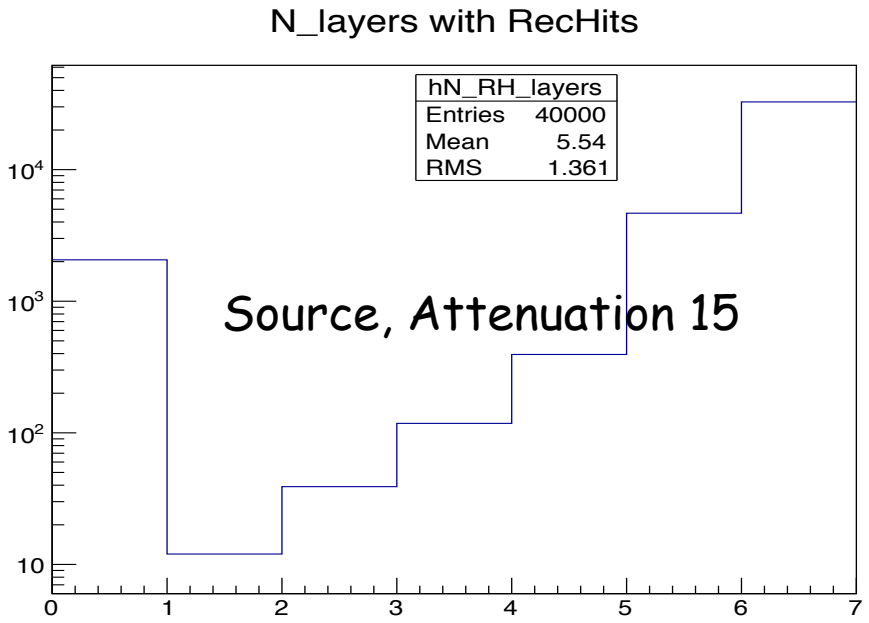
ME21

GIF++ ME21, test40, HV0, May2016 data

V. Palichik, V.Perelygin

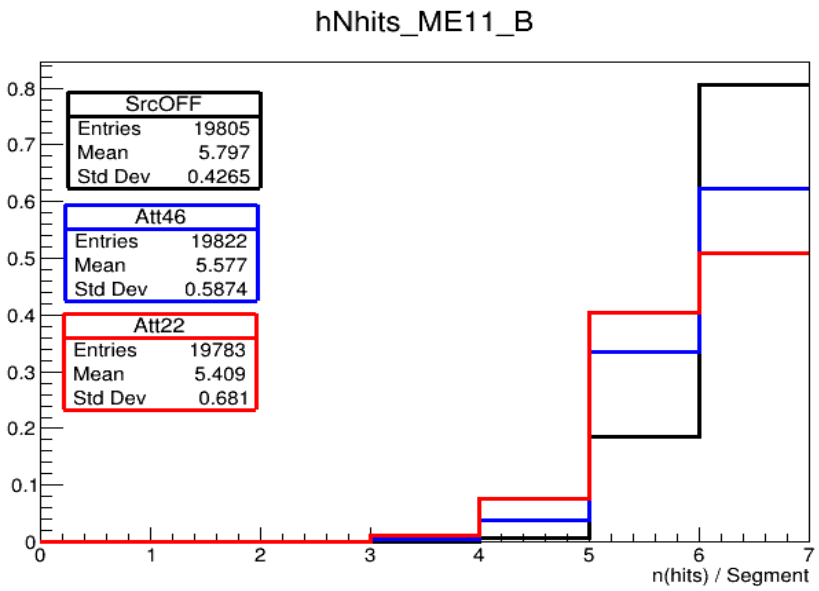
Number of working Layers w/o Source and with Filter=15*



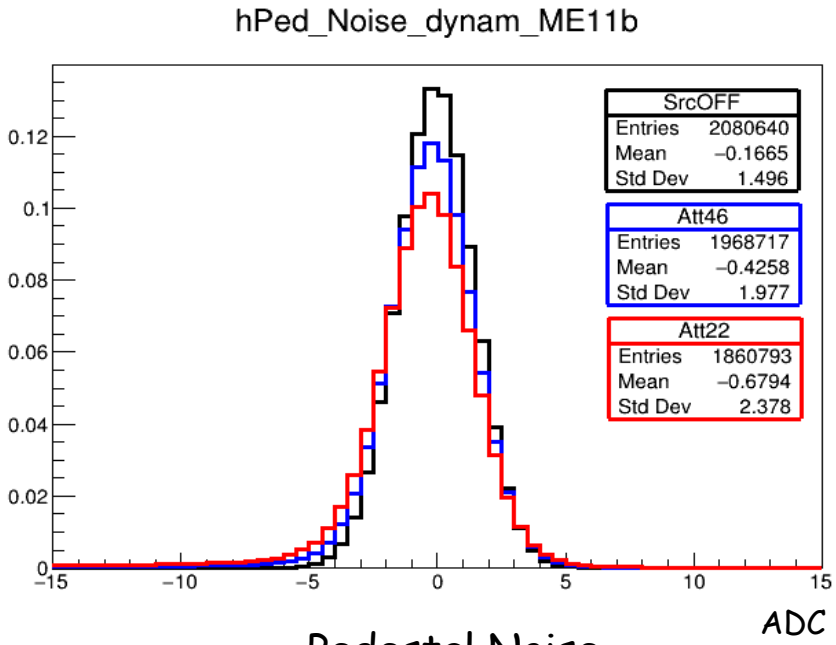


ME11b_gif, test40, HV0, May2016 data

V. Palichik, K.Kuznetsova



Nhits per segment



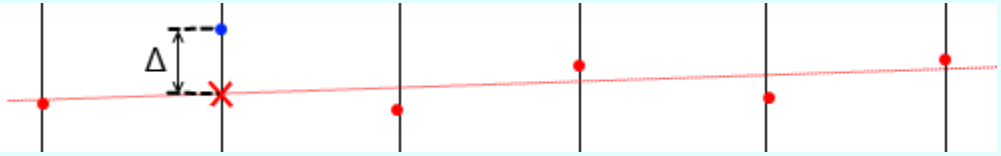
Pedestal Noise

Backup Slides

Spatial Resolution & Efficiency

Spatial resolution calculation:

- Only 6 & 5-point segments are considered;
- For each layer with hit a straight line fit is applied excluding the current layer and the residual (Δ) between the measured strip coordinate and the predicted track coordinate from fit is used for resolution calculation.



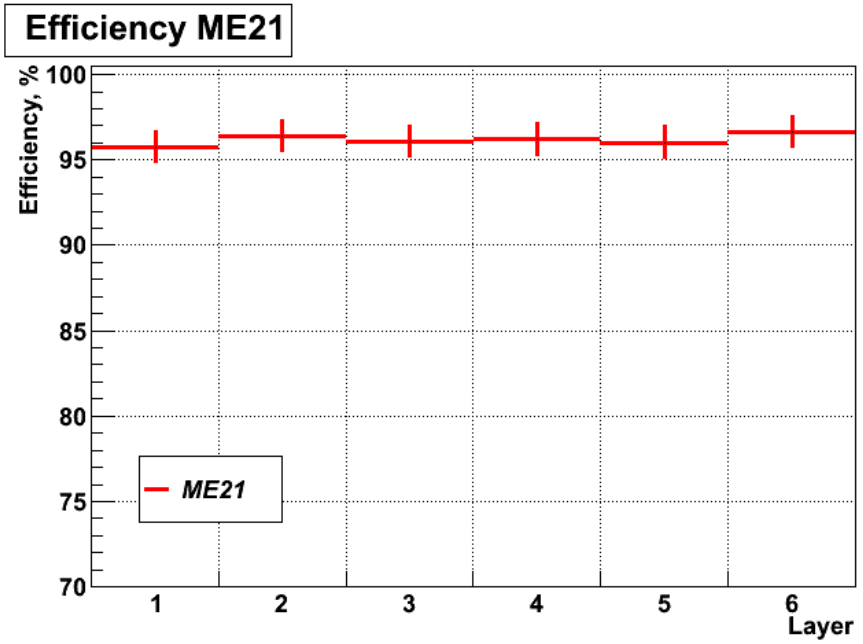
- hit used for fit
- hit excluded from fit
- predicted track coordinate

Efficiency per layer (from segments):

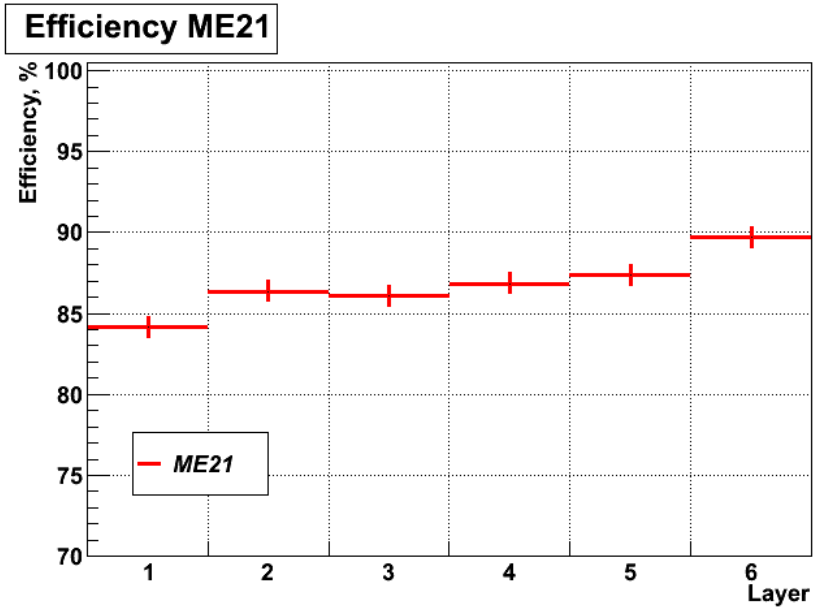
Numerator	1	1	1	0	1	0
Segment	x	x	x	o	x	o
Demoninator	1	1	1	1	1	1

→ Efficiency

ME21 RecHit Efficiency per layer, May 2016 data, test40, HV0

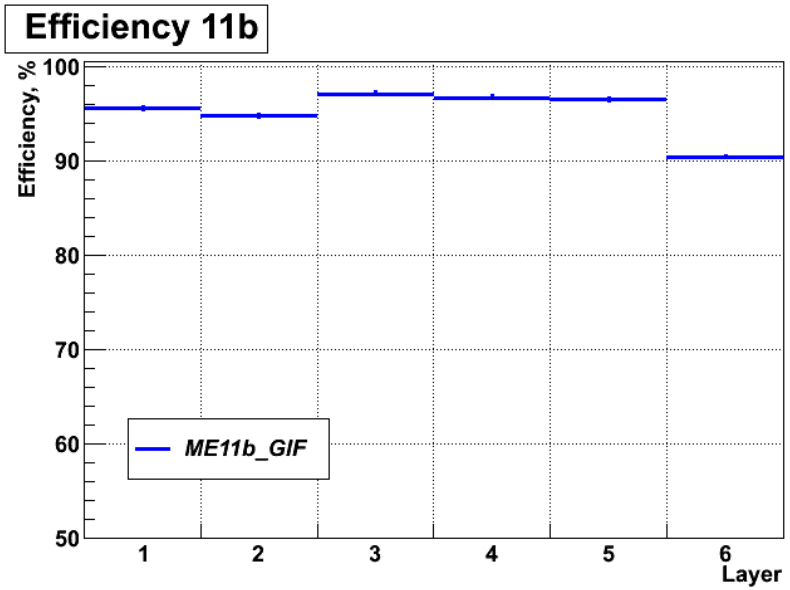


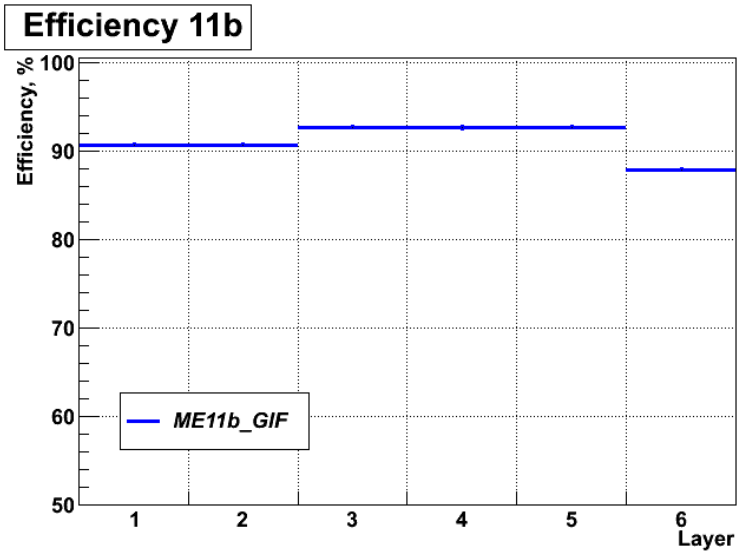
No source
Aver.efficiency per layer 96.2%



Source, Att15
Aver.efficiency per layer 86.7%

ME11b_gif RecHit Efficiency per layer (May 2016), test40, HV0





No source
Aver.efficiency per layer (1-5) 96.1%
Efficiency (layer 6) 90.4%

Source, Att46
Aver.efficiency per layer (1-5) 91.1%
Efficiency (layer 6) 87.8%