



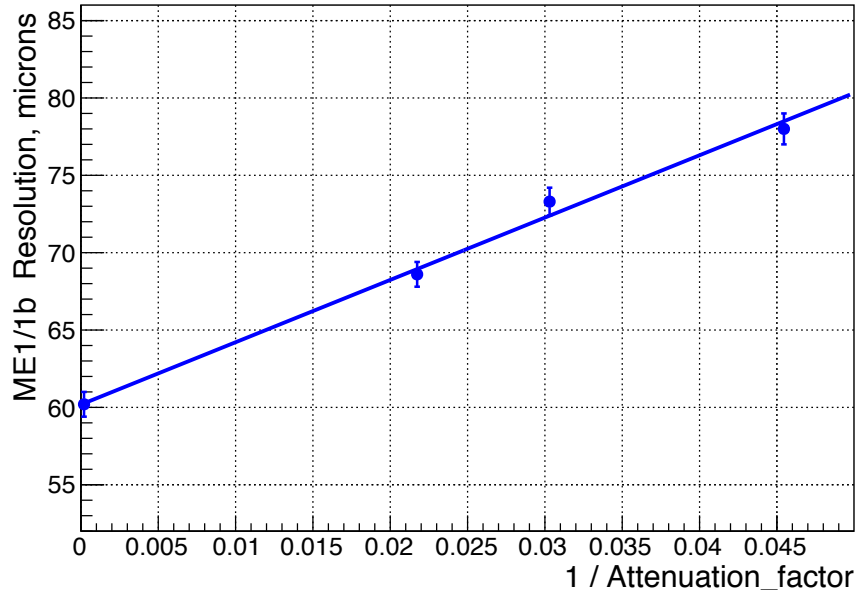
# CSC spatial resolution with GIF++ testbeam data (pre-approval)

Vladimir Palichik (Dubna-JINR)

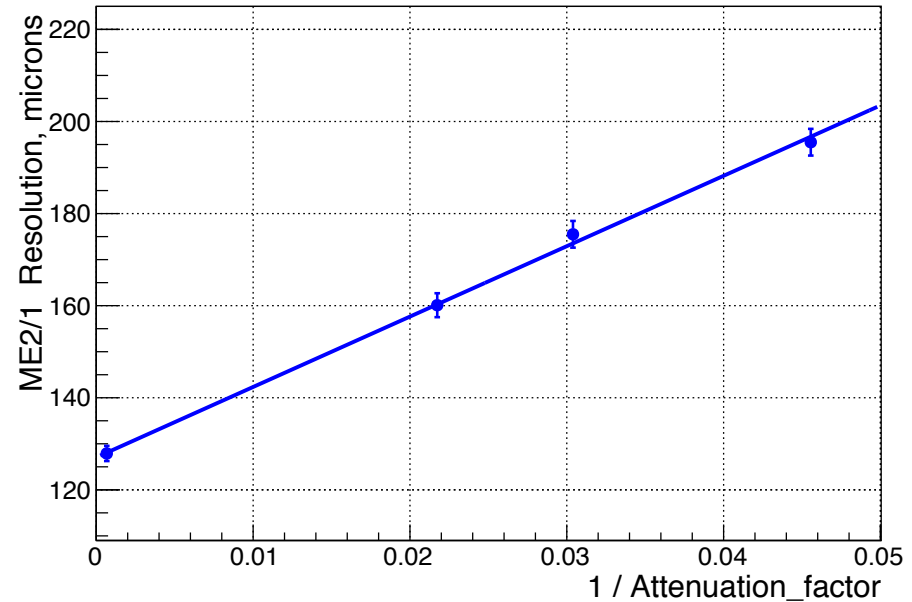
GIF++ CSC working meeting  
April 18, 2017

## Resolution vs Attenuation factor

ME11



ME21



## 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 between the measured strip coordinate and the predicted track coordinate from fit is used for resolution calculation.

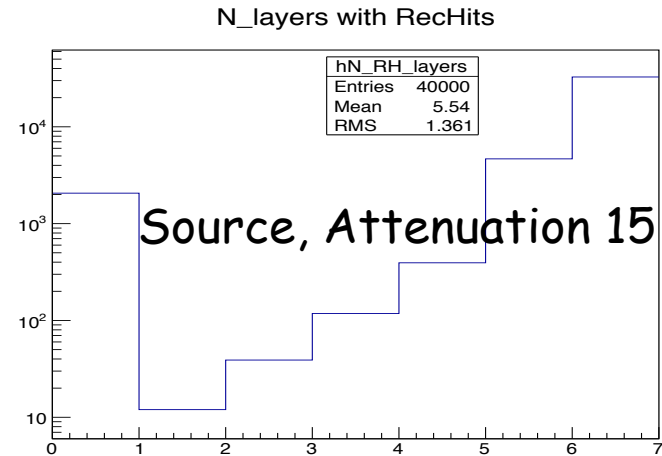
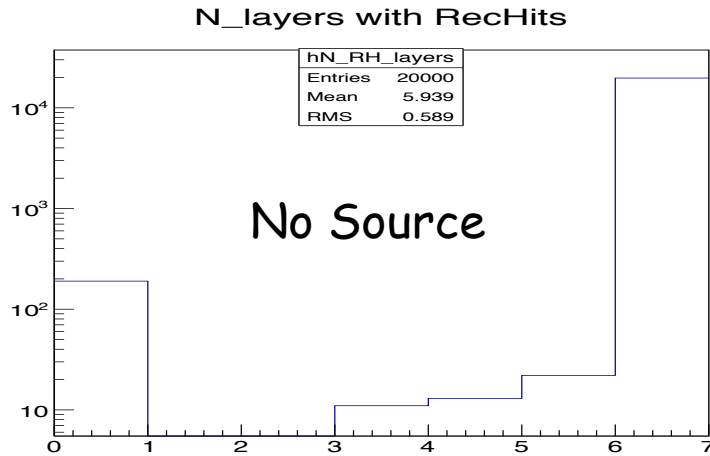


# GIF++ ME11 & ME21, test40, HVO, May2016 data

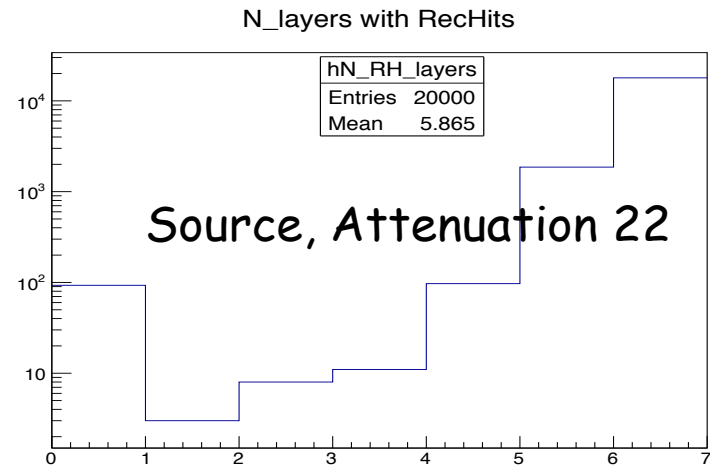
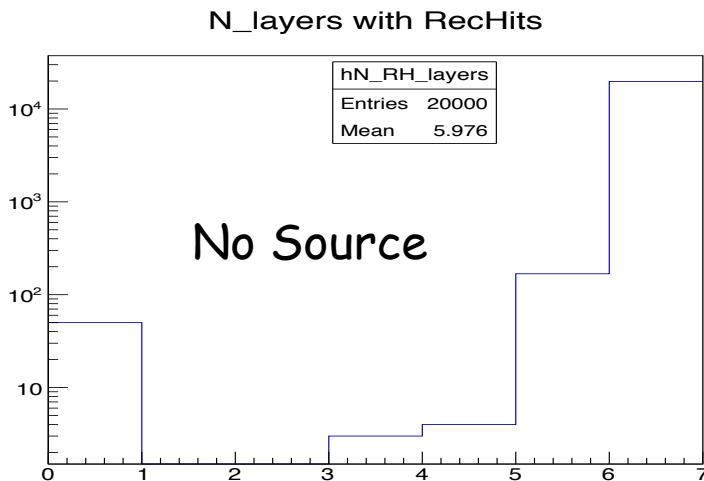


V. Palichik, V. Perelygin

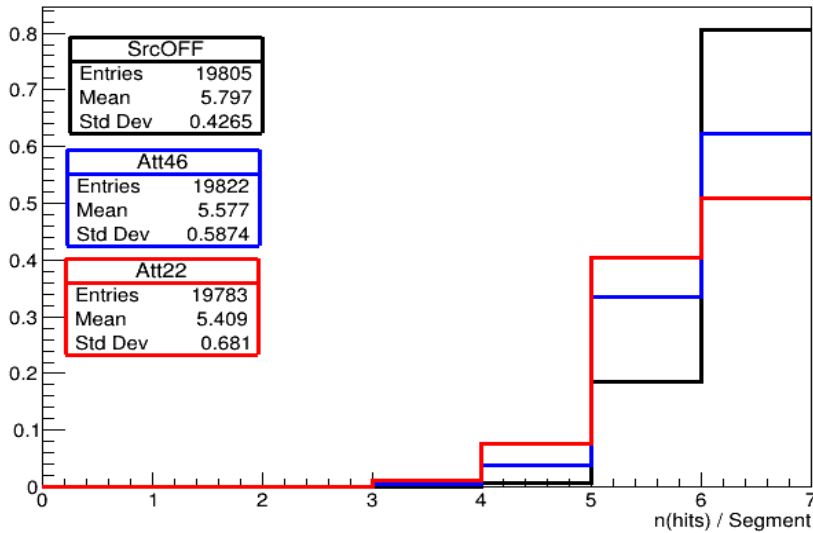
Number of working Layers in ME2/1 w/o Source and with Filter=15\*



Number of working Layers in ME1/1 w/o Source and with Filter=22\*

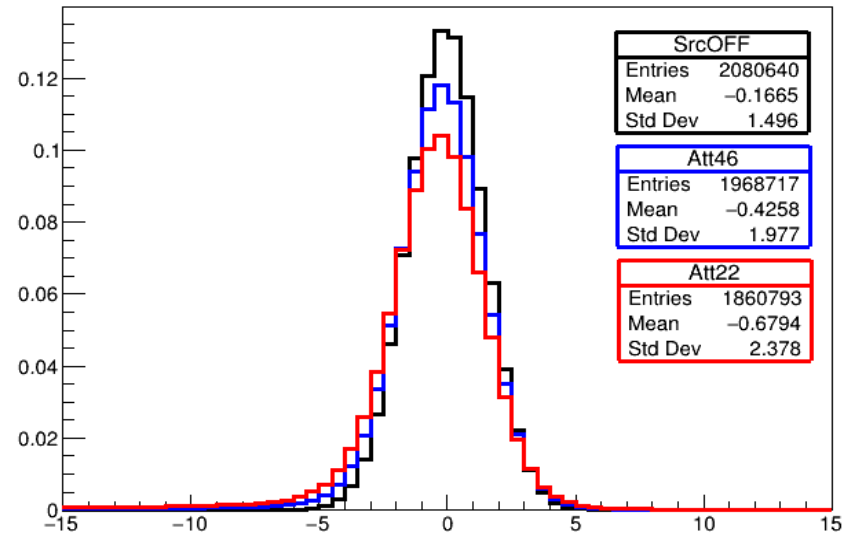


hNhits\_ME11\_B



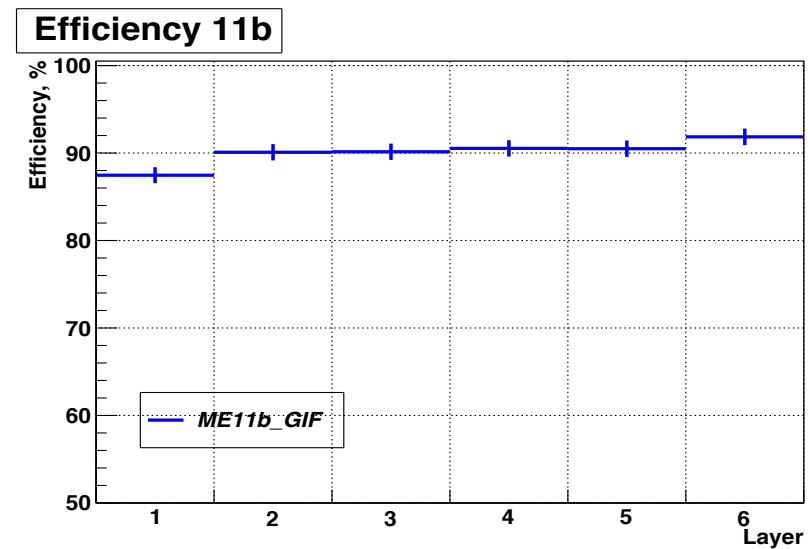
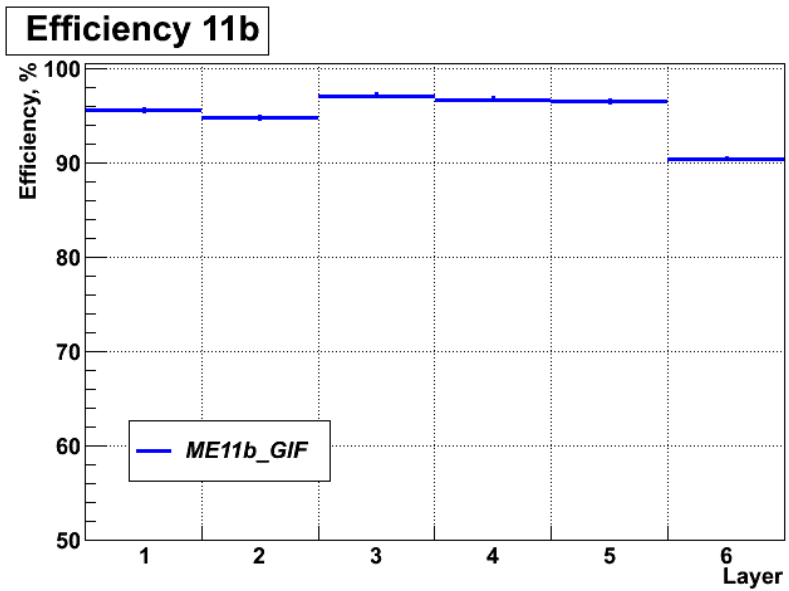
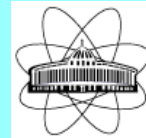
Nhits per segment

hPed\_Noise\_dynam\_ME11b



Pedestal Noise

ADC



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

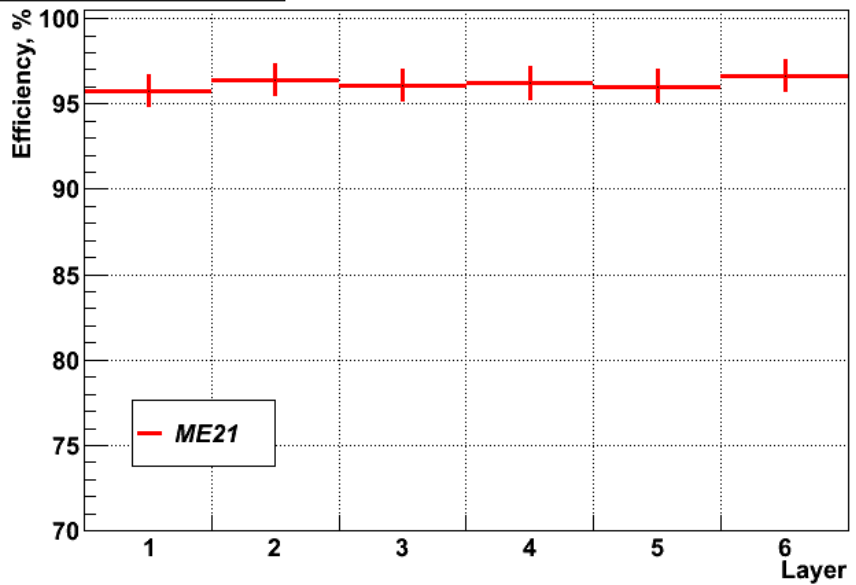
Source, Att22  
 Aver. efficiency per layer (1-6) 90.1%  
 Efficiency (layer 6) 91.9%



# ME21 RecHit Efficiency per layer, May 2016 data, test40, HVO

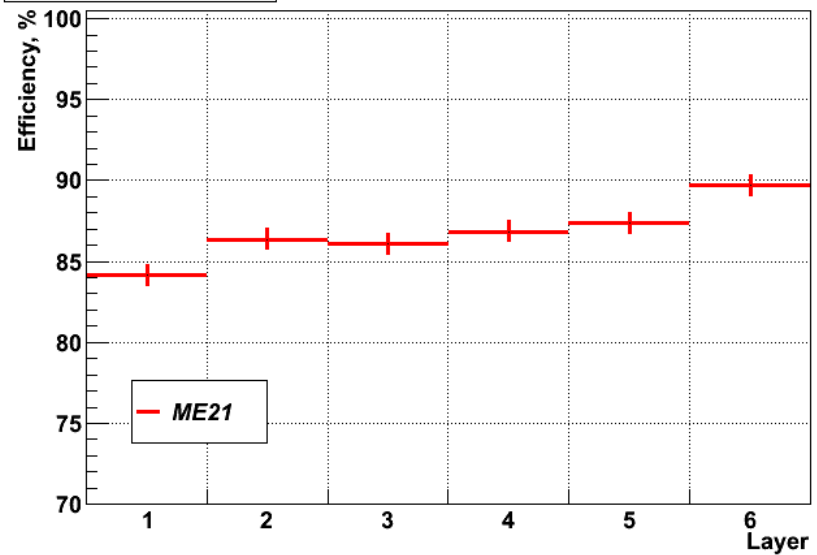


Efficiency ME21



No source  
Aver. efficiency per layer 96.2%

Efficiency ME21



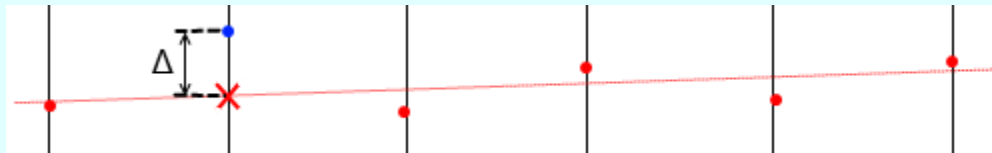
Source, Att15  
Aver. efficiency per layer 86.7%



## Backup Slides

## 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 ( $\Delta$ ) 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