



CSC Resolution vs Luminosity with 2016 collision data

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Spatial Resolution: selection



Pre-report before *CMS Week* report

Pressure & Luminosity for each RUN from V. Perelygin

Software: CMSSW_8_0_20

Datasets: /SingleMuon/Run2016H-ZMu-PromptReco-v2/RAW-RECO
/SingleMuon/Run2016H-ZMu-PromptReco-v3/RAW-RECO



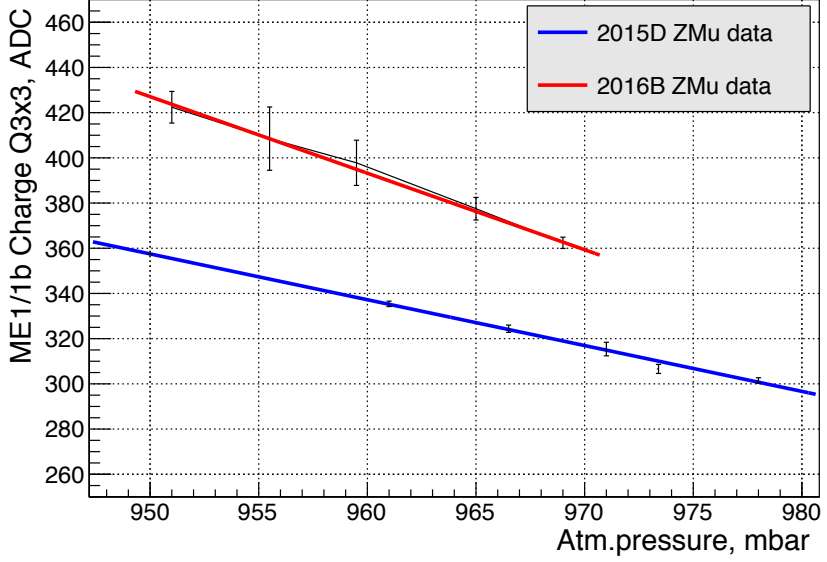
CSC Gas Gain & Resolution vs Atm. Pressure



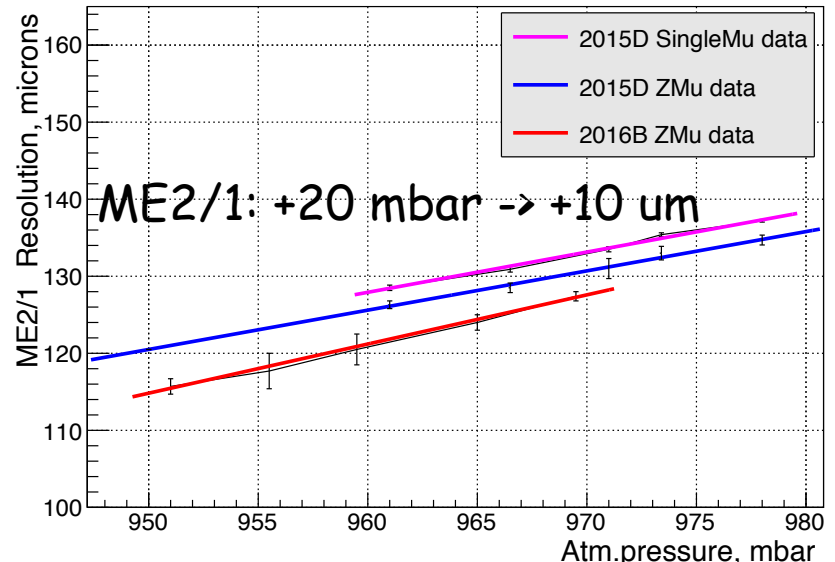
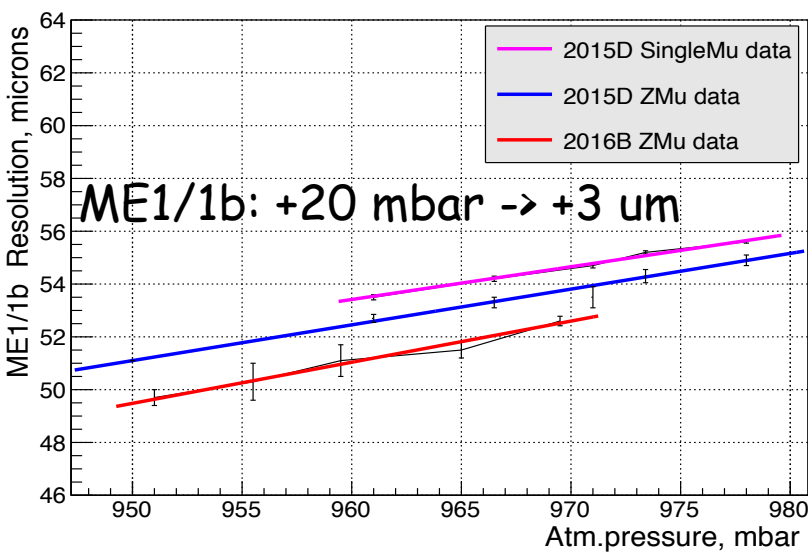
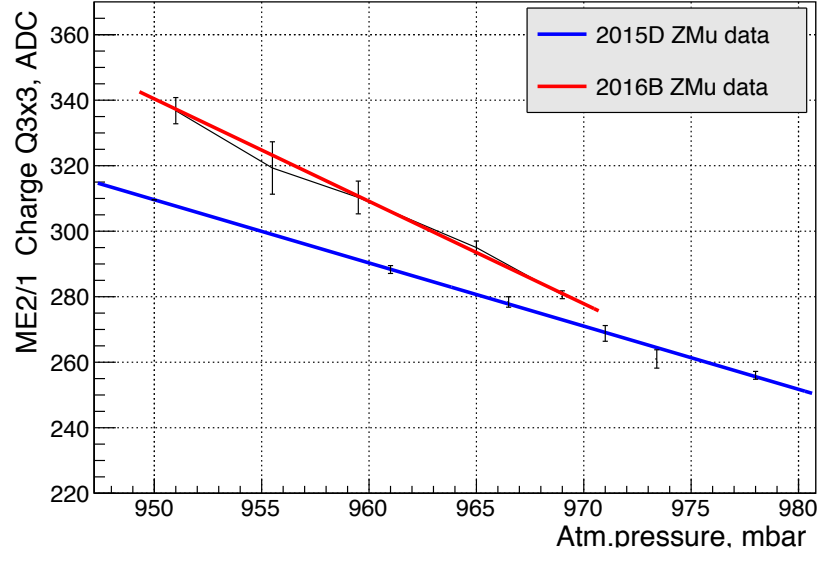
(From CMS Week CSC General meeting, June 21, 2016)

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ME1/1b

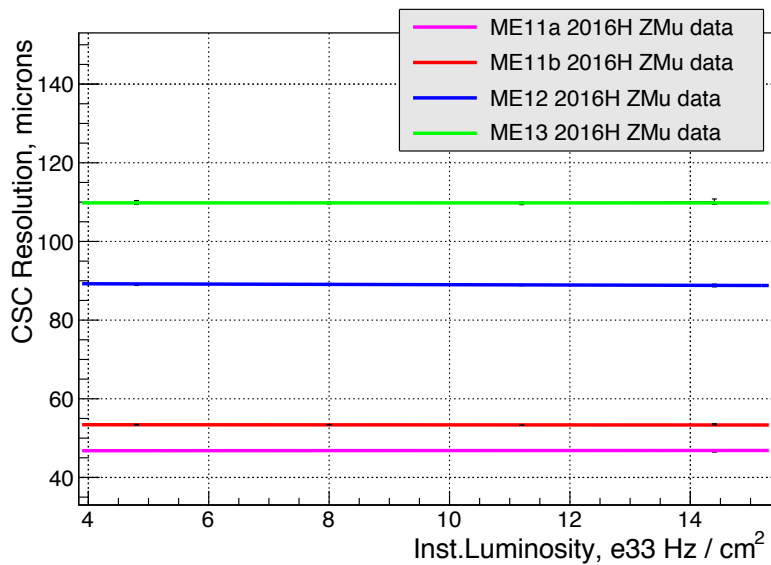


ME2/1

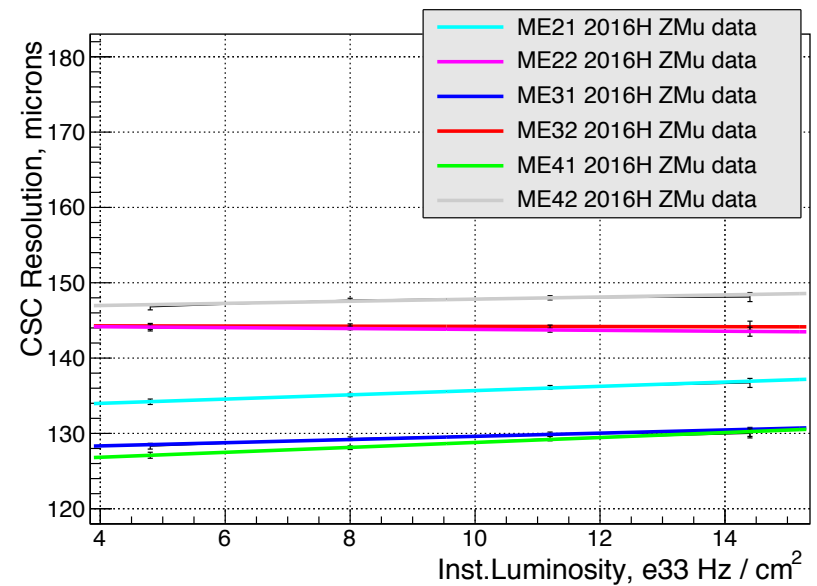


Resolution is normalized to atm.pressure = 965 mbar

Disk 1

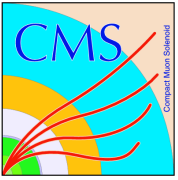


Disks 2,3,4





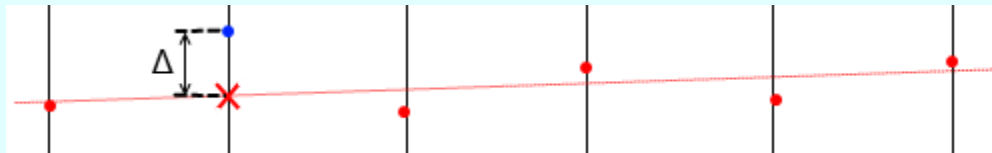
- Spatial resolution with 2016 collision data weakly degrades with instantaneous luminosity in ME 2/1, 3/1, 4/1 & 4/2 stations and doesn't differ in other stations



Backup

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