First preliminary results on track reconstruction in the hybrid setup

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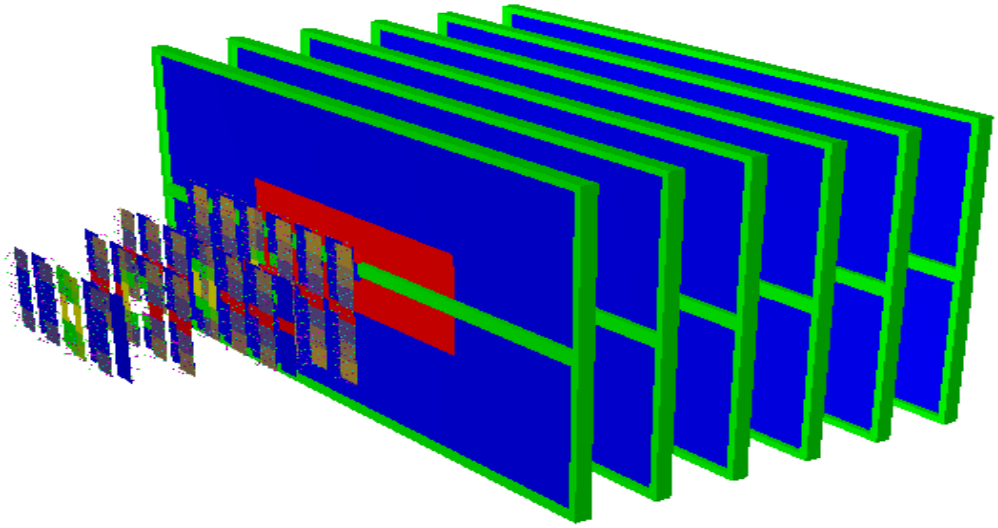
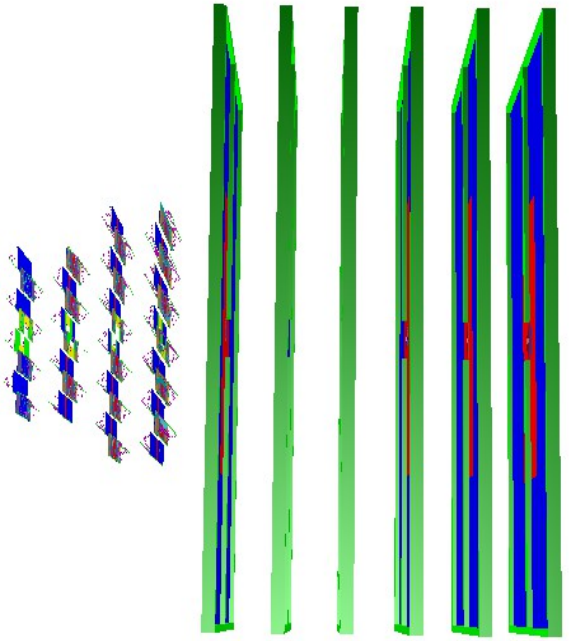
Geometry





Stations (target at 0):

Si	30 cm	45 cm	60 cm	75 cm		(version “b” from E.Lavrik)
GEMs	95 cm	115 cm	135 cm	155 cm	175 cm	195 cm

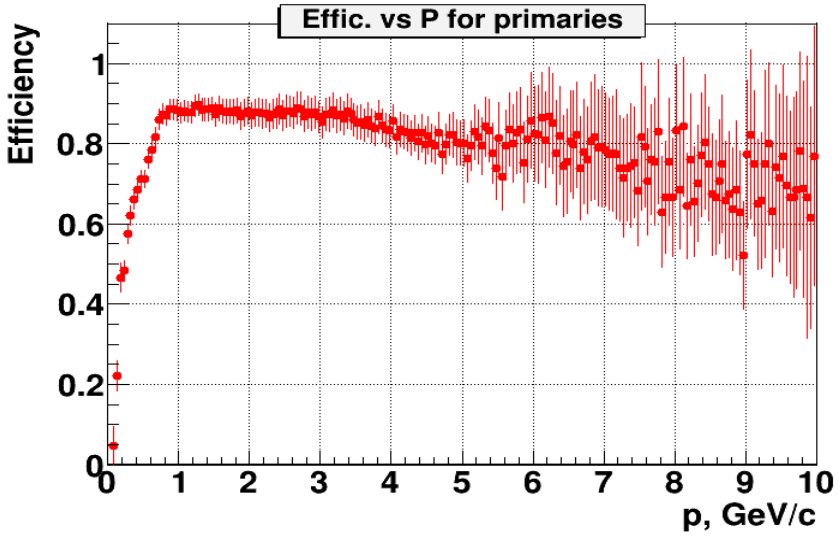
Field: ~0.8 T

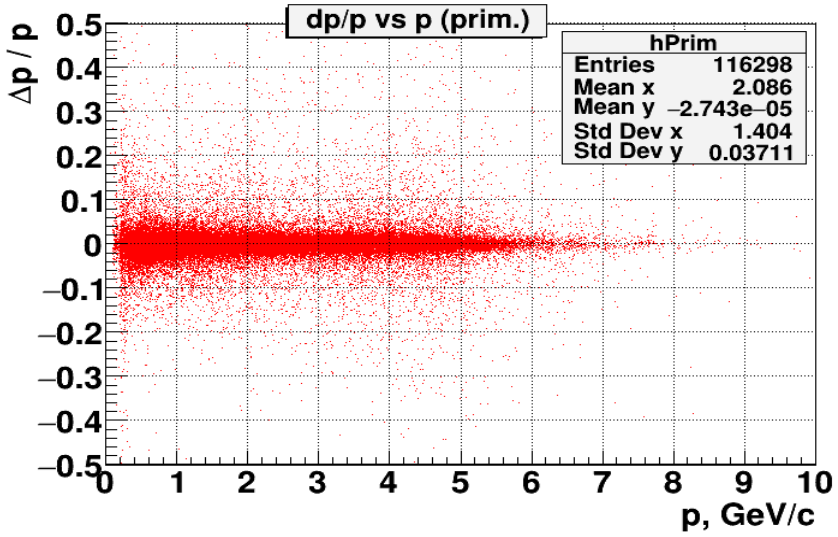
Event sample

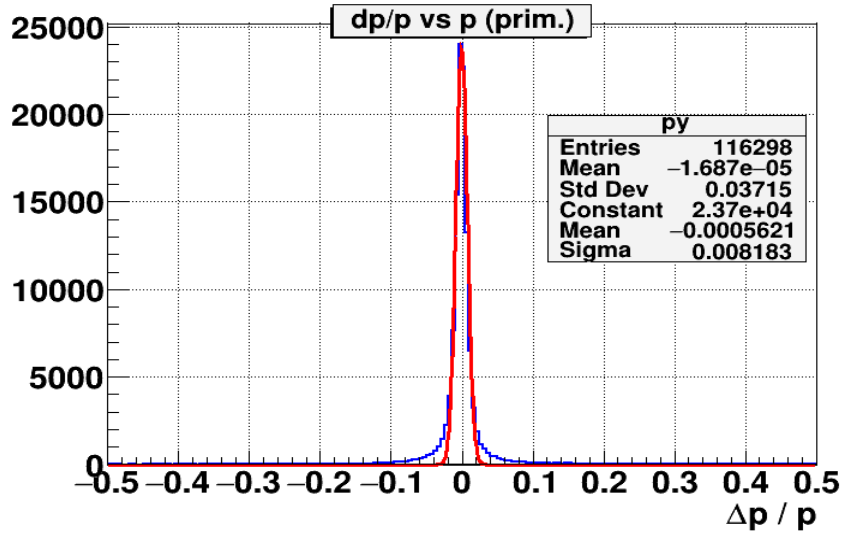
Event sample:

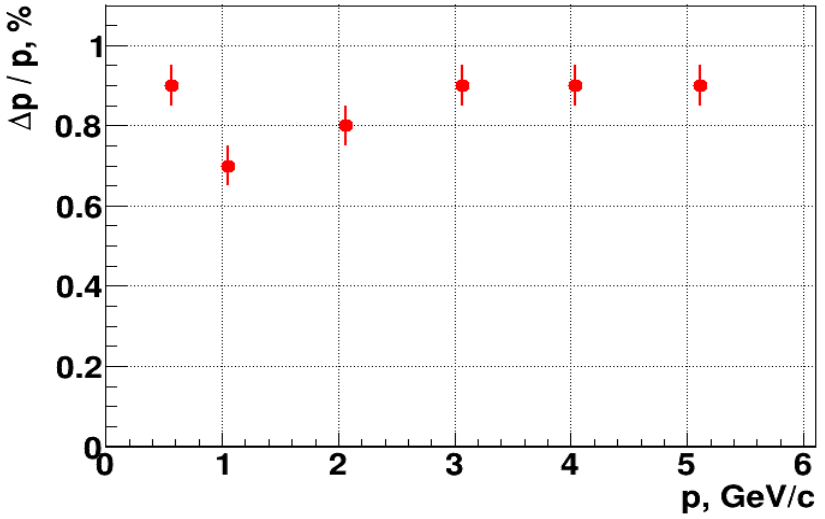
1k DCM-QGSM Au+Au central events at T = 4 GeV

Reconstruction results

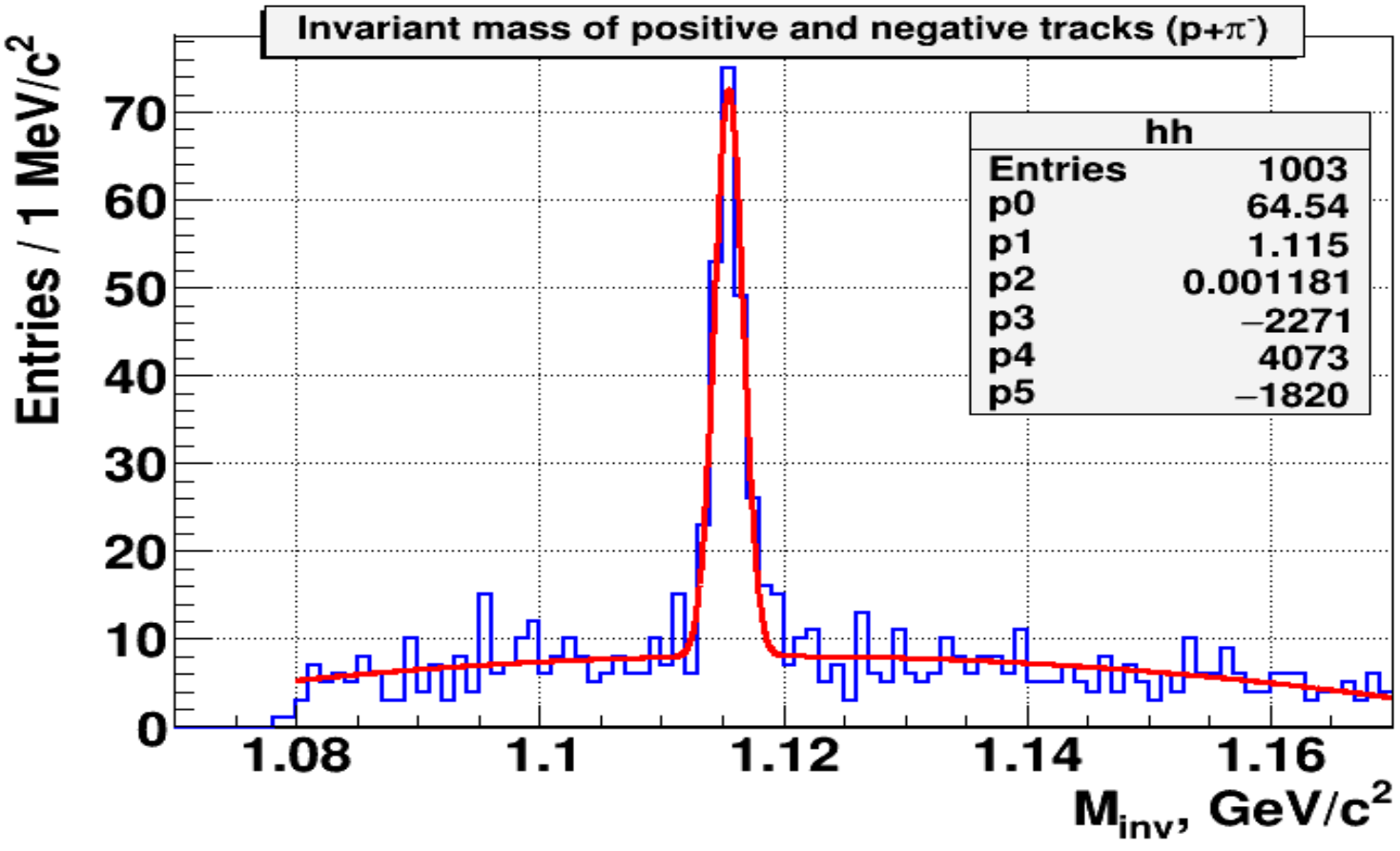








Lambda

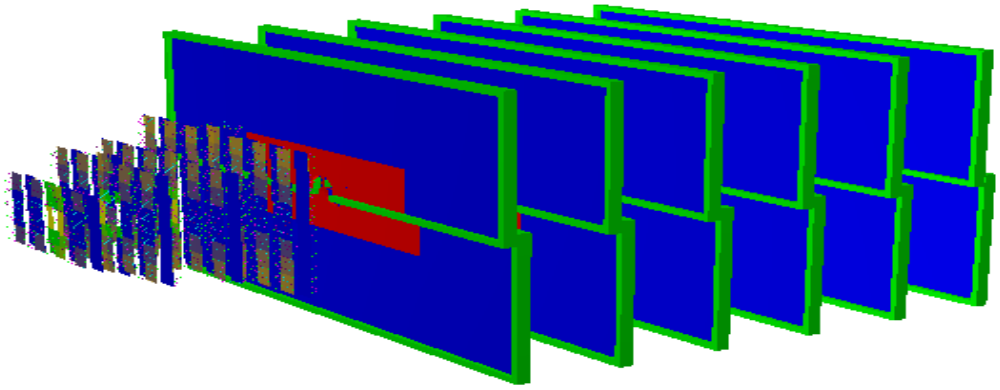


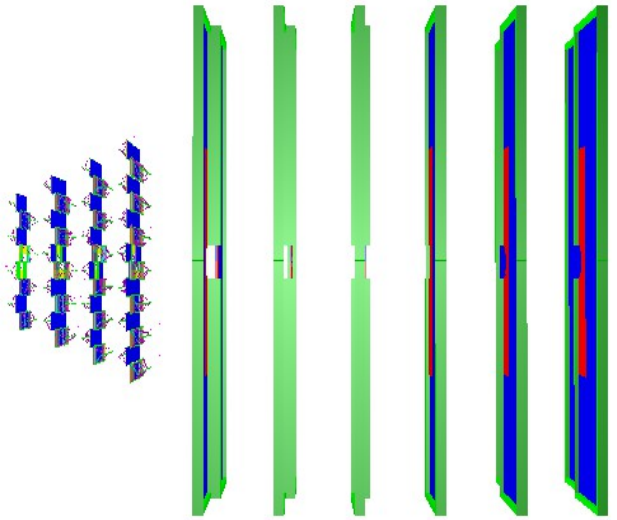
Selection cuts are not optimized

Next steps

- GEM geometry description is not completely actual – inter-station distances should be adjusted; there is no overlap of upper and lower half-stations (dead zone is present);
- Lorentz-shift in GEMs is underestimated – simulated for magnetic field ~0.6 T;
- CA track finder might not be the most optimal for the whole setup – the modified approach (CA for Si stations and track propagation through GEMs should be tried);

Geometry



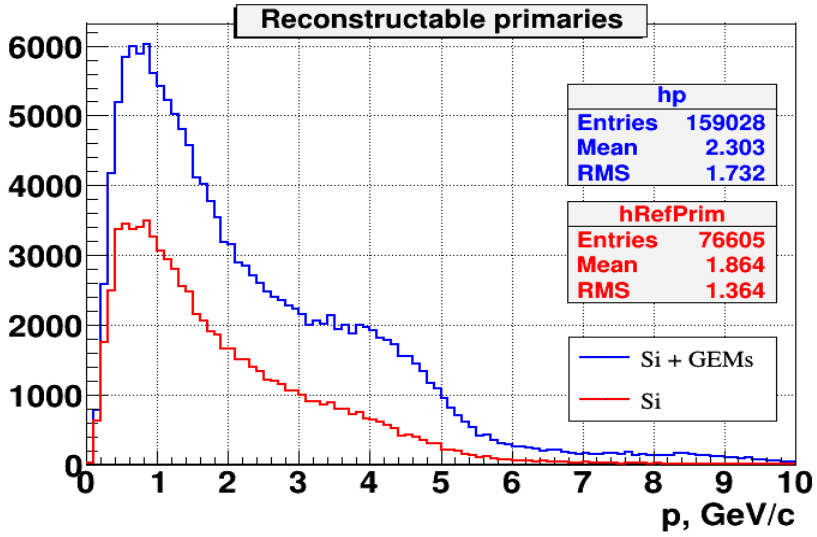


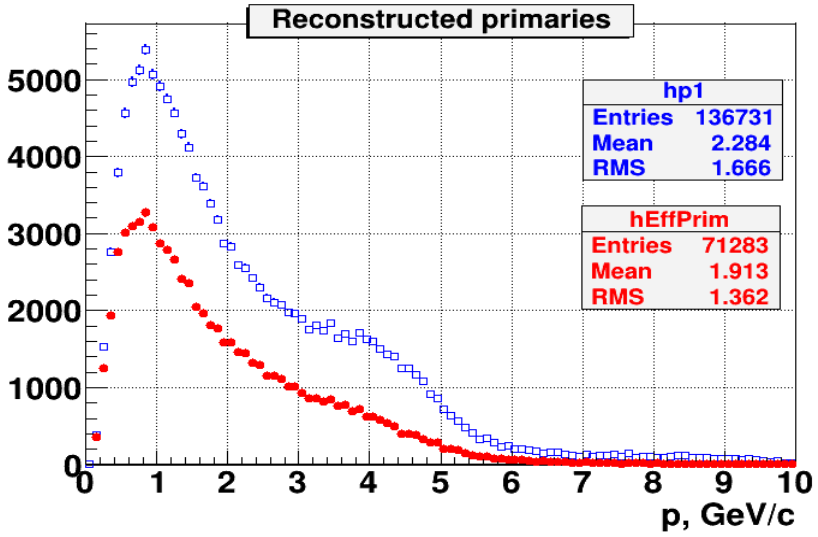
Stations (target at 0):

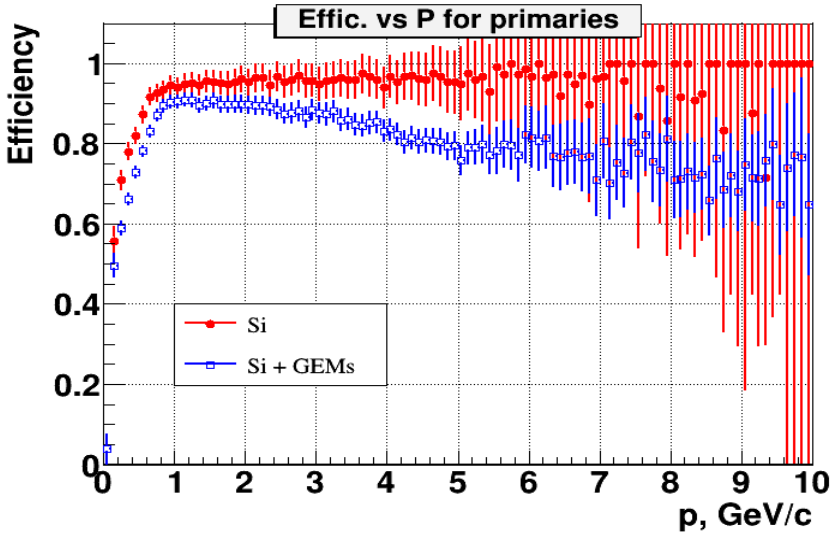
Si	30 cm	45 cm	60 cm	75 cm		(version “e” from E.Lavrik)
GEMs	105 cm	135 cm	165 cm	195 cm	225 cm	255 cm

Field: ~0.8 T

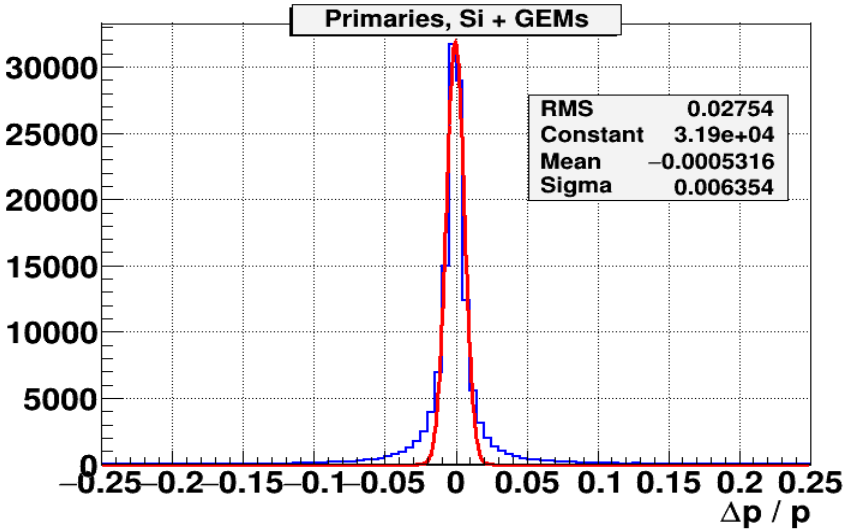
Reconstruction results

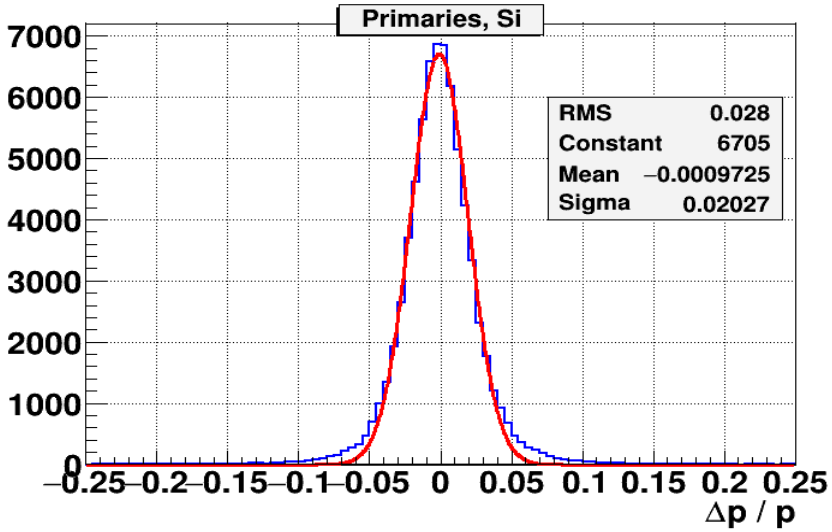




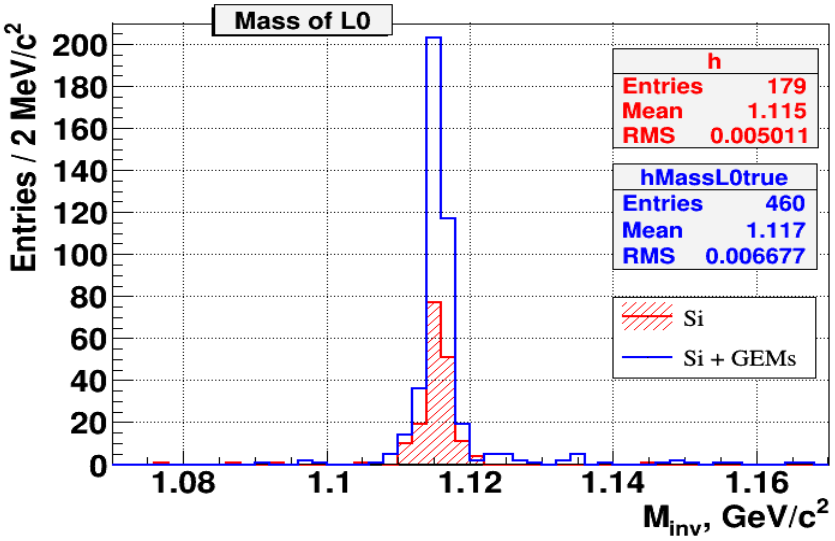


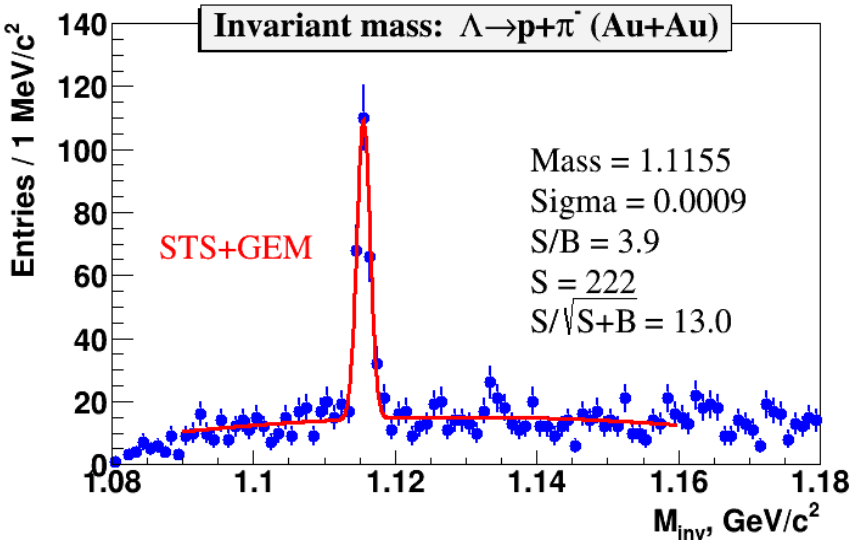
Momentum resolution

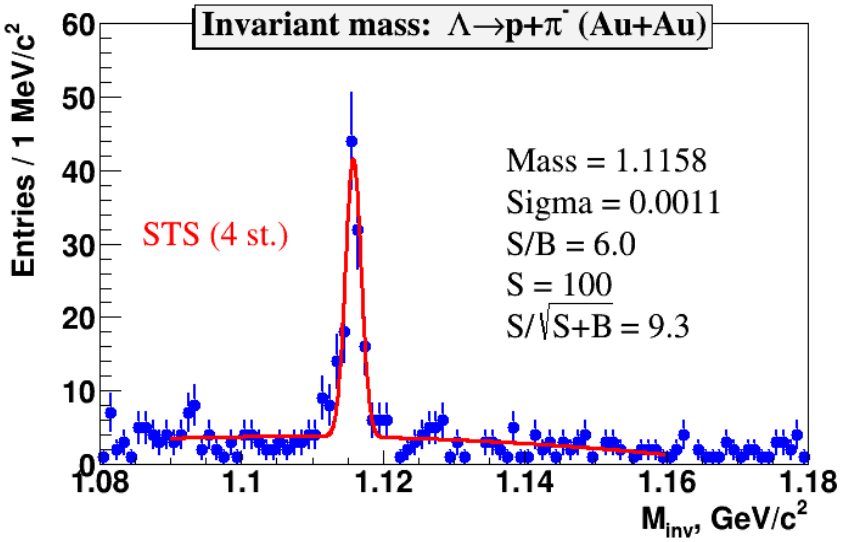




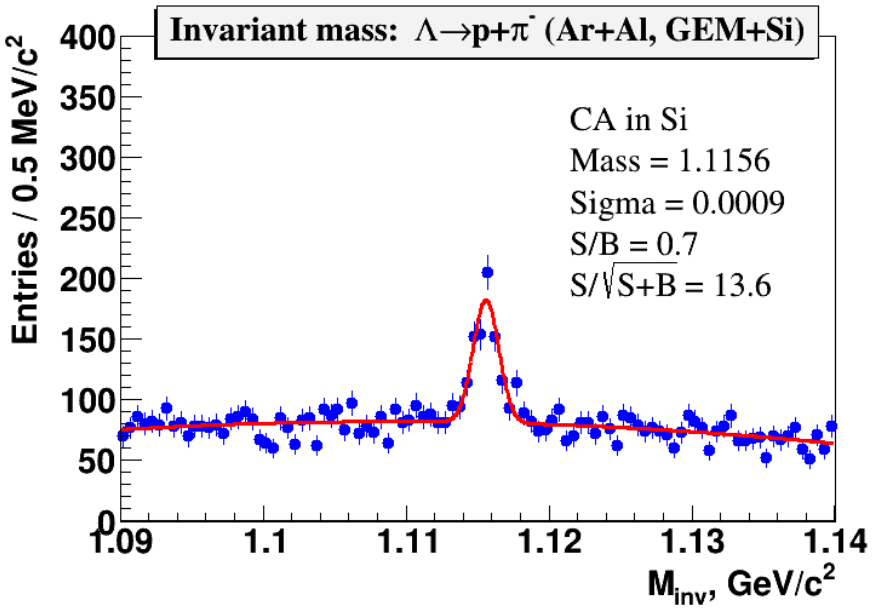
Lambda reconstruction results

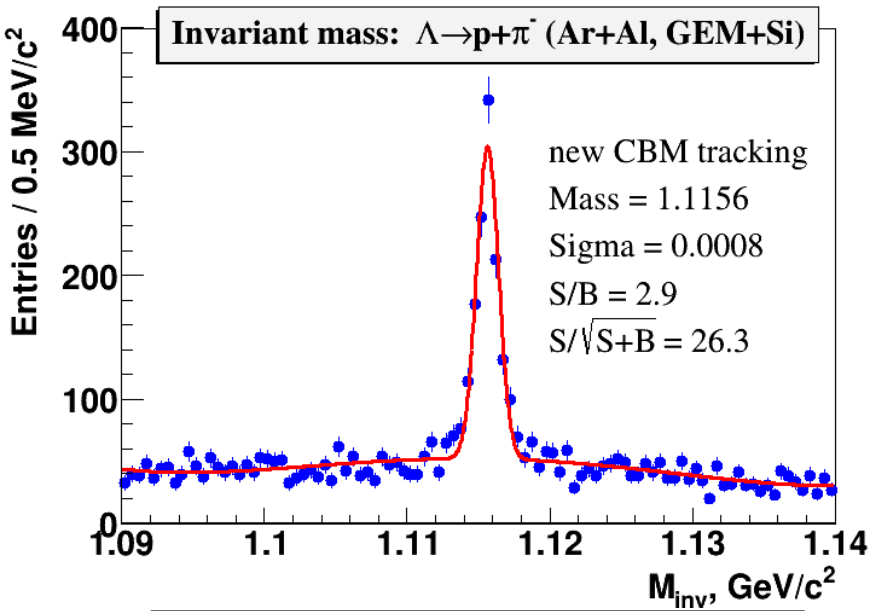


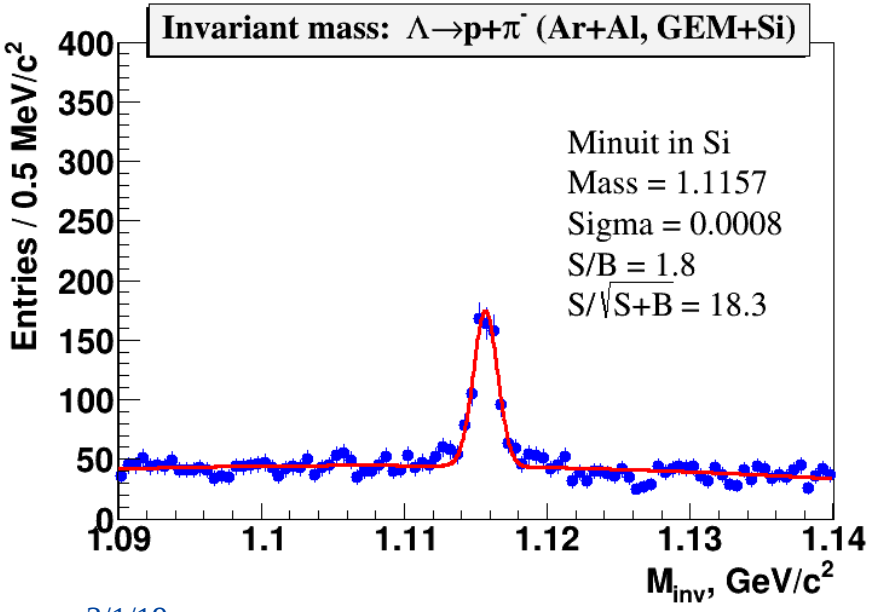


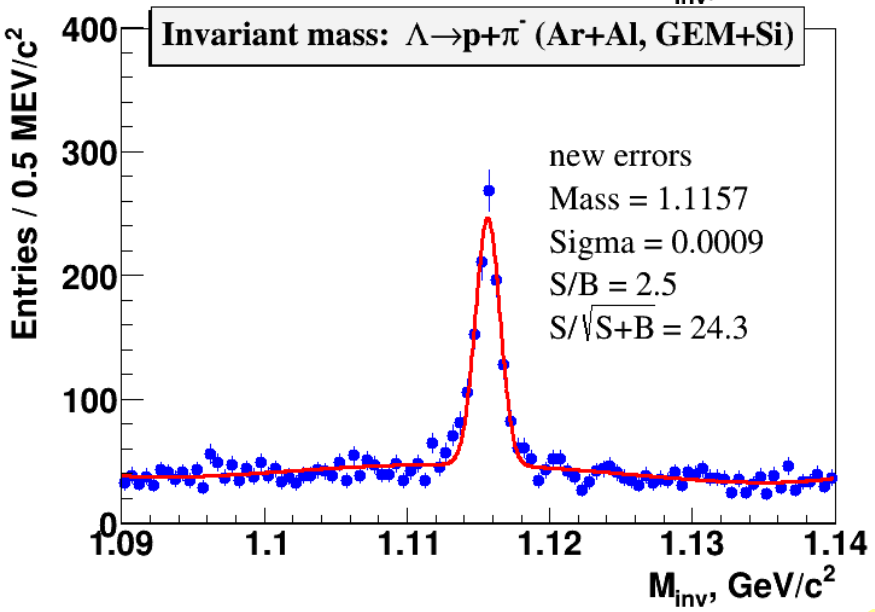


Run 7 MC Ar+Al 200k GEM+Si









Run 7 MC Ar+Al 200k GEM