

Tracking Pseudo-Efficiency

R18b vs R16b

Definition of Pseudo-Efficiency

- Requiring 10 SVT hits

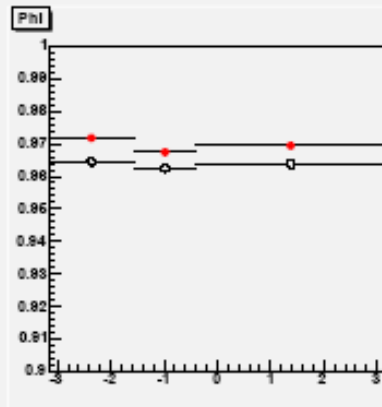
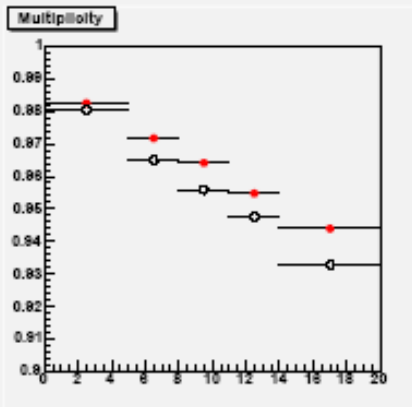
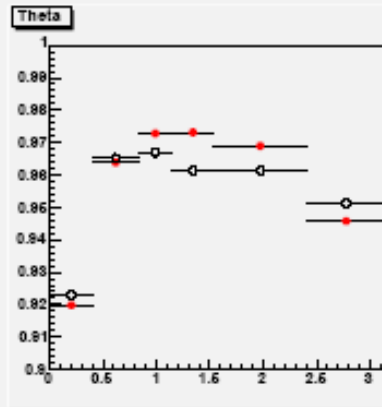
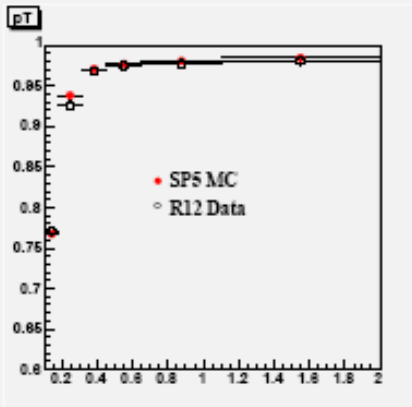
$$e = \frac{n_{GTL}}{n_{GTVL}}$$

- GTVL (GoodTracksVeryLoose) does not require DCH hits.
 - GTL (GoodTracksLoose) require 12 DCH hits.
- In this study
 - AllEventsSkim R16b and R18b are used

R16b vs R18b Run2

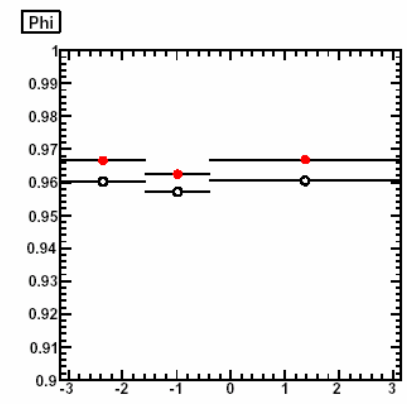
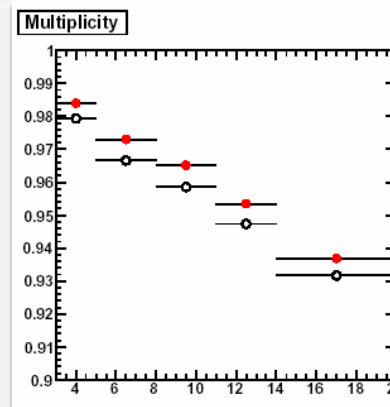
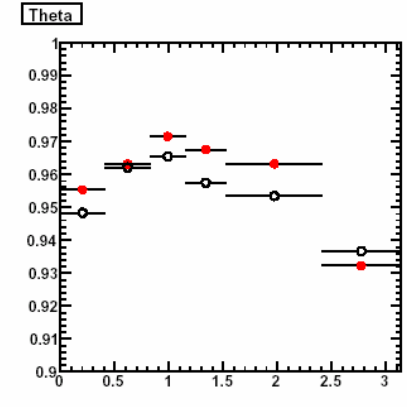
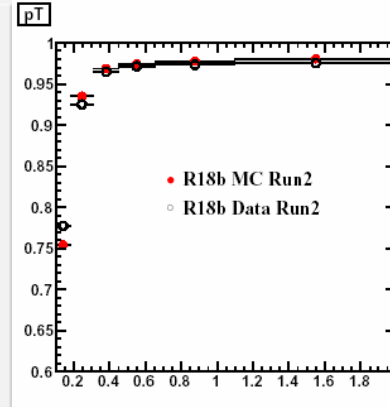
○ Data ● MC

R16b



Data Eff 96.02 %
MC Eff 96.77 %
Ratio 0.9922

R18b

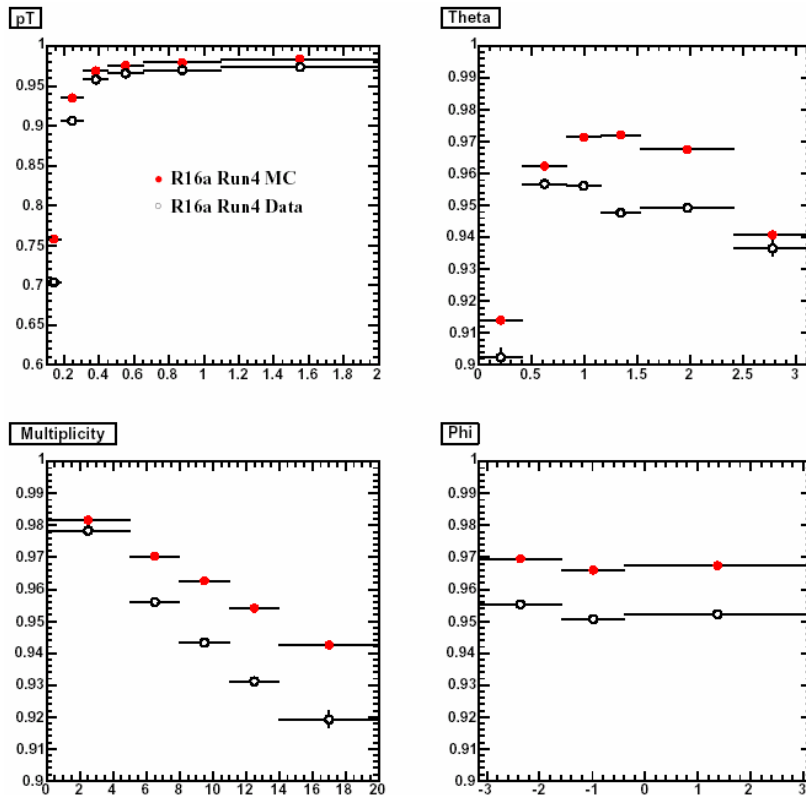


Data Eff 95.98 %
MC Eff 96.60 %
Ratio 0.9936

R16b vs R18b Run4

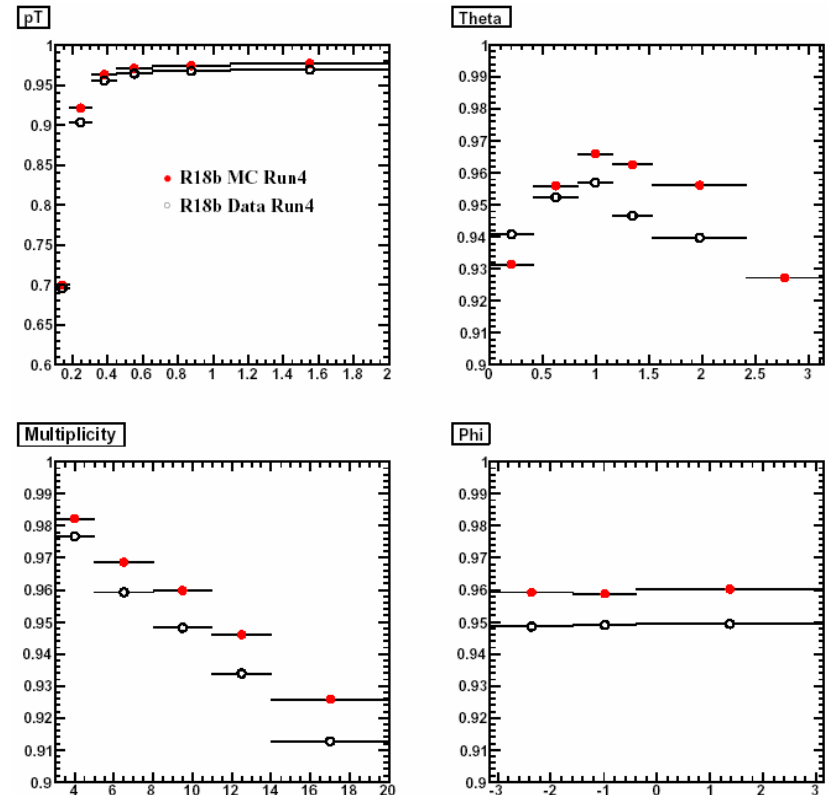
○ Data ● MC

R16b



Data Eff 95.38 %
MC Eff 96.77 %
Ratio 0.9856

R18b



Data Eff 94.91 %
MC Eff 95.97 %
Ratio 0.9890

R18b Run1 – Run5

	Data Eff	MC Eff	Ratio
Run1 1900V	95.44 %	96.30 %	0.9911
Run1 1960V	96.44 %	96.58 %	0.9986
Run2	95.98 %	96.60 %	0.9936
Run4	94.91 %	95.97 %	0.9890
Run5 pre-fix	93.80 %	95.93 %	0.9777
Run5 post-fix	94.66 %	96.11 %	0.9849

Summary

- Improvements in R18b
 - Overall efficiency
 - Data-MC agreement
- Problem of R18b
 - Low Pt efficiency ($Pt < 180$ MeV)