Tracking Pseudo Efficiency in Release 18

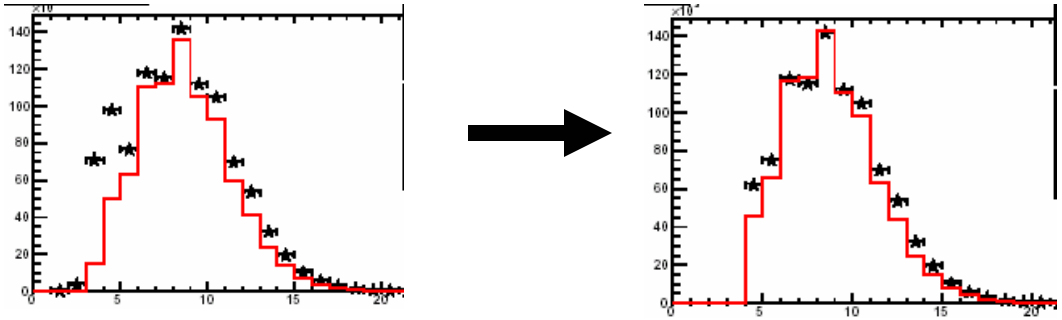
New Pseudo-Efficiency

- Definition of pseudo-efficiency.

$$e = \frac{nGTL}{nGTVL}$$

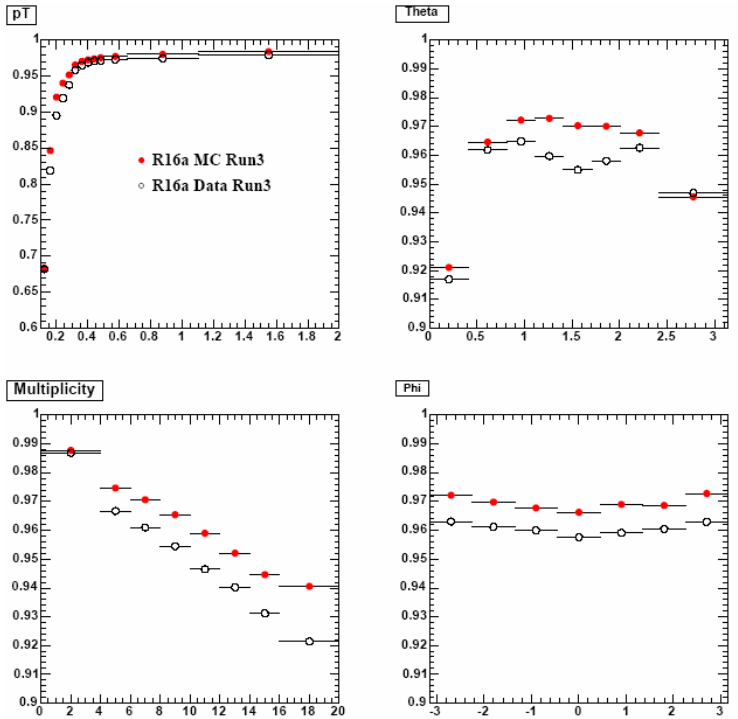
  - GTVL (GoodTracksVeryLoose) does not require DCH hits.
  - GTL (GoodTracksLoose) require 12 DCH hits.
- Bhabha veto is applied
  - Better agreement between selected tracks of Data and MC

Multiplicity



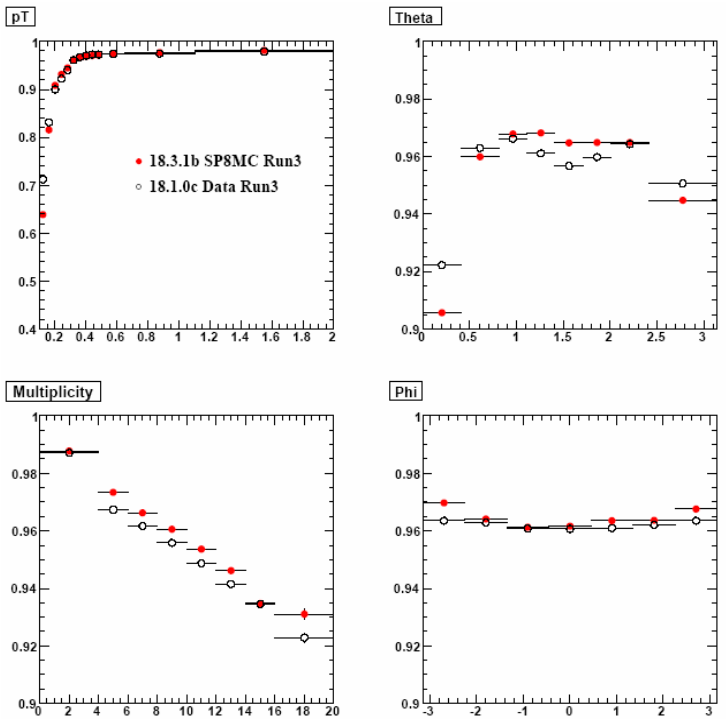
- No fake correction
  - Effect is negligible.

Comparison of R16 and R18



R16 (SP5/SP6)

Data efficiency : 96.09%
MC efficiency : 96.98%
Data/MC ratio : 0.9908



R18 (SP8)

Data efficiency : 96.21%
MC efficiency : 96.45%
Data/MC ratio : 0.9975
Better Agreement

Plan for Release 18

- Pseudo efficiency does not provide correction factors.
- Will be used for systematic study.