



Refining GFLASH with the 15 GeV/c single track trigger data

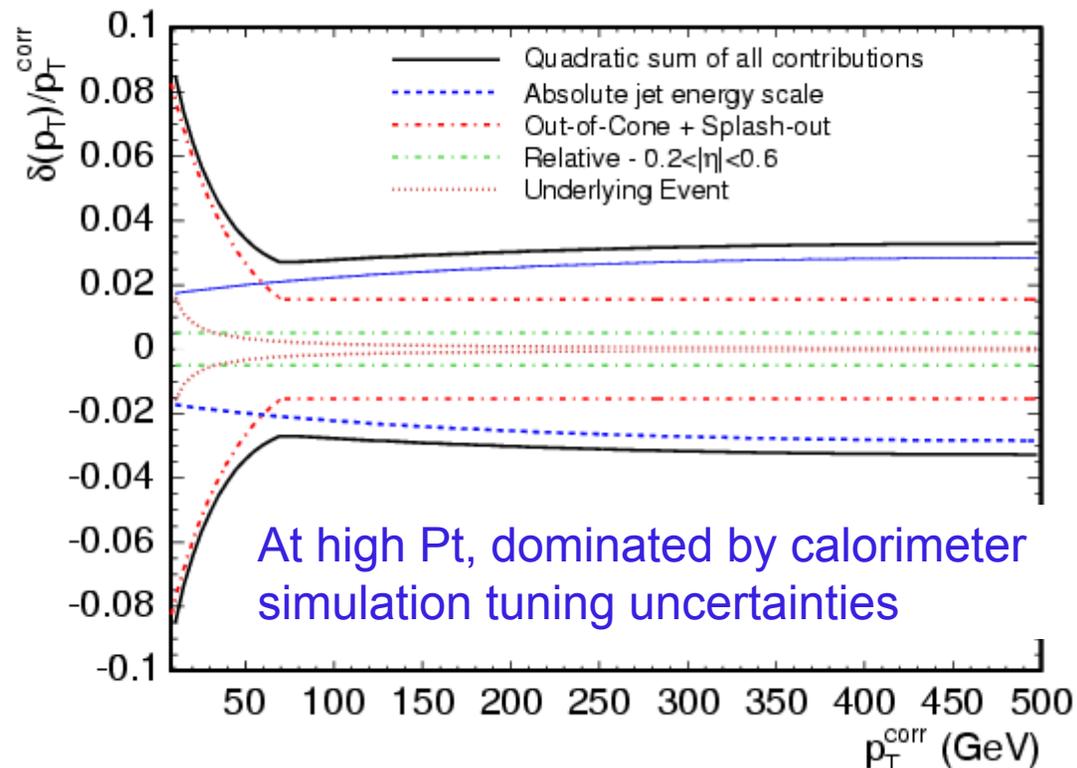
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Simulation meeting



Introduction

- The main source of systematics in many CDF analyses is the jet energy scale (JES)
- The calorimeter simulation tuning uncertainty is the main source of the JES uncertainty
- High Pt hadronic response is tuned based on the 20-year old test beam data. We'd like to expand the in-situ measurement based tuning range and reduce systematics.

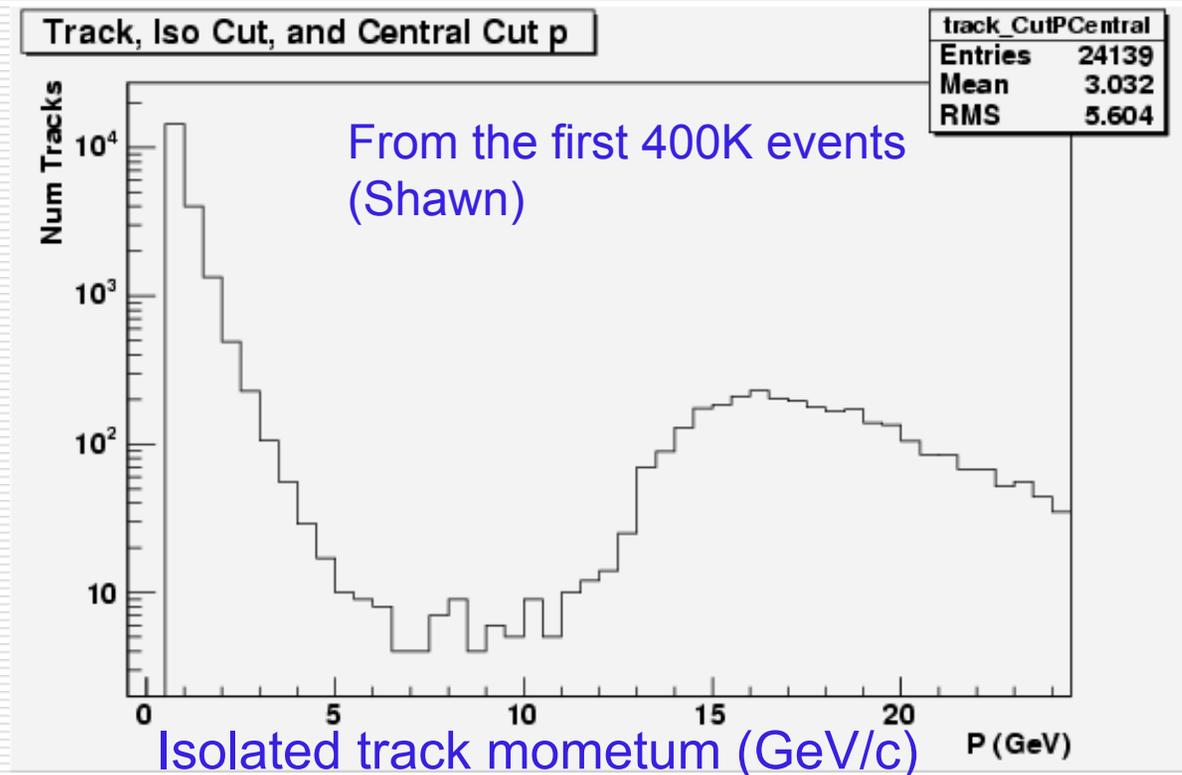


15 GeV/c single track trigger

L1: Luminosity $< 40E30$ & XFT track Pt > 10 GeV/c

L2: XFT track Pt > 15 GeV/c
& SVT track Pt > 15 GeV/c

L3: ---



15 GeV/c single track data summary

- Period: June 28 – Sep 4
- Events: 6.3M

If we scale the Shawn's results from the initial 400K events.

Isolated tracks	Number of events	
	400K events	6.3M events
$P > 15 \text{ GeV}/c$	3546	~ 56000
$14.5 < p < 15.5$	360	~ 5700
$19.5 < p < 20.5$	240	~ 3800

10 times more than we currently use for GFALSH tuning.

Plan

Calibration & Ntupling

- Data up to July 20: Final calibrations done.
Ntuples in a couple of days
- Data up to Sep 4 : Final calibrations by the end of Sep.
Ntuples by mid October.

Overall plan for GFLASH tuning and validation

- Test the Pedro's new lateral profile tuning (extracted from the already-available data) effect on E/p and dijet balance
- Using the new 15 GeV/c single track data:
 - Check the central E/p
 - Check the hadronic lateral profileFurther E/p and/or lateral profile tuning if necessary
- Final validation by dijet & photon-jet balance etc

We should try to finish the final GFLASH tuning by Dec 15, 2005 in order to use it for 2006 summer results.