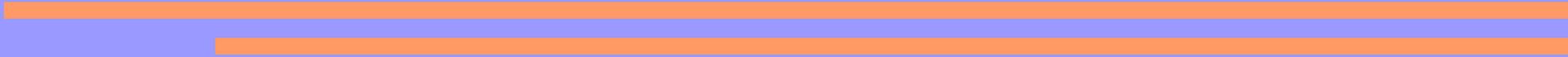


NuMI Target Data Compared to Fluka

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Introduction

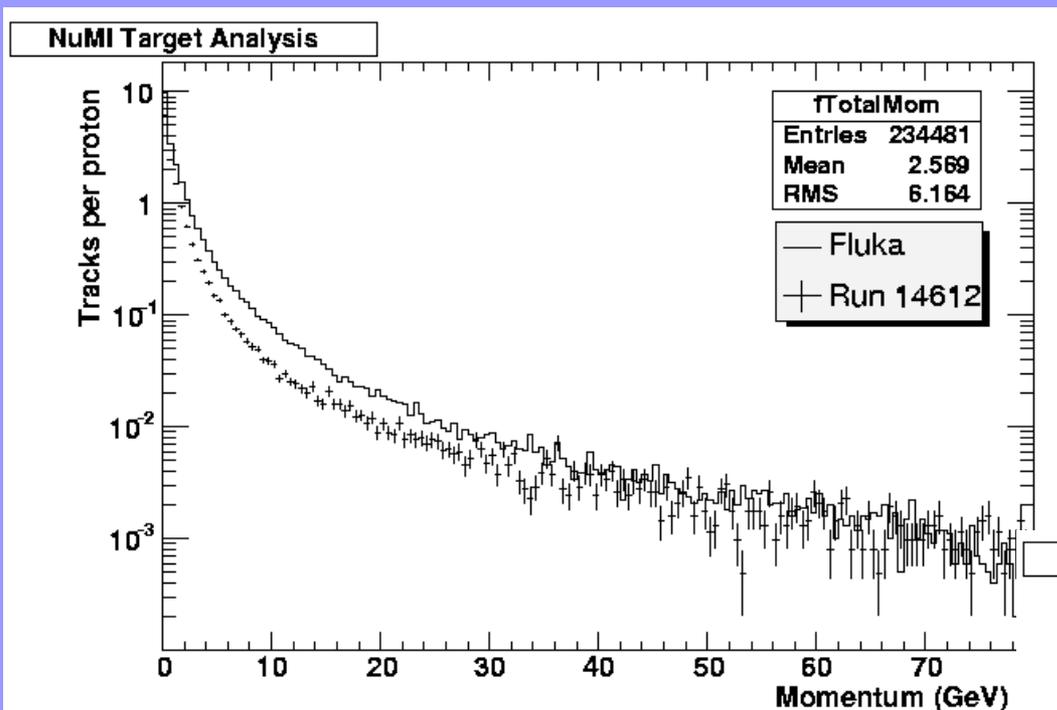
Fluka simulation of NuMI target

- 10,000 incident protons
- Electromagnetic transport simulated
- All particles projected to TPC window
- Cut all particles that do not reach TPC

Data

- Run 14612
 - ~11400 events
 - No cuts
-
-

Momentum Distributions

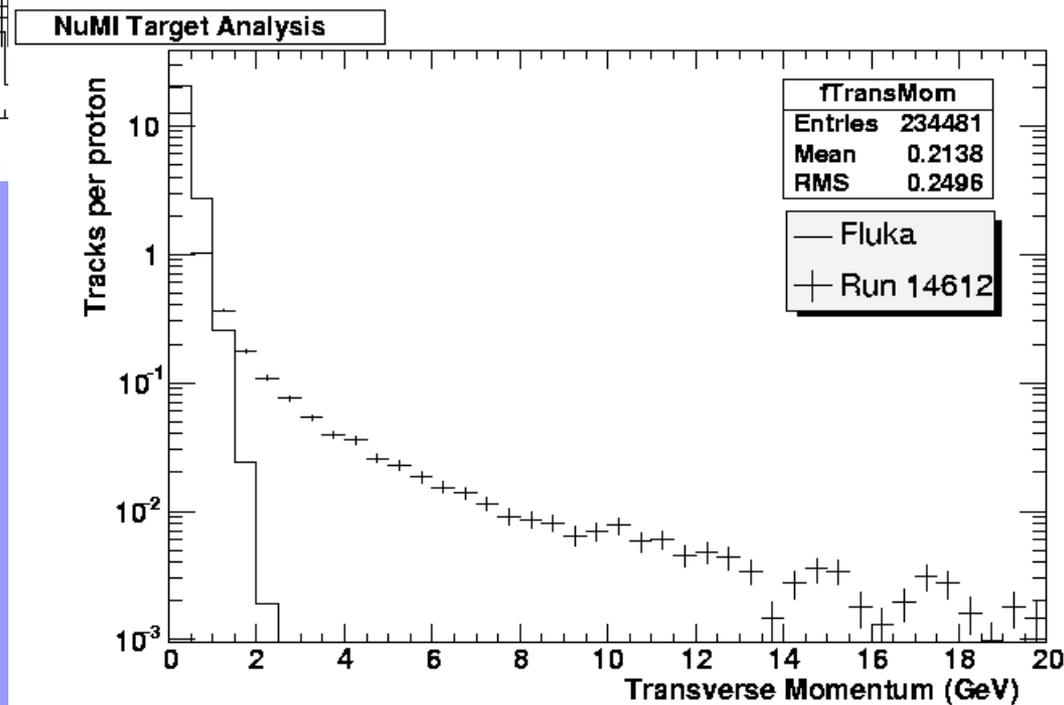


Data and Fluka show similarly shaped distributions for p

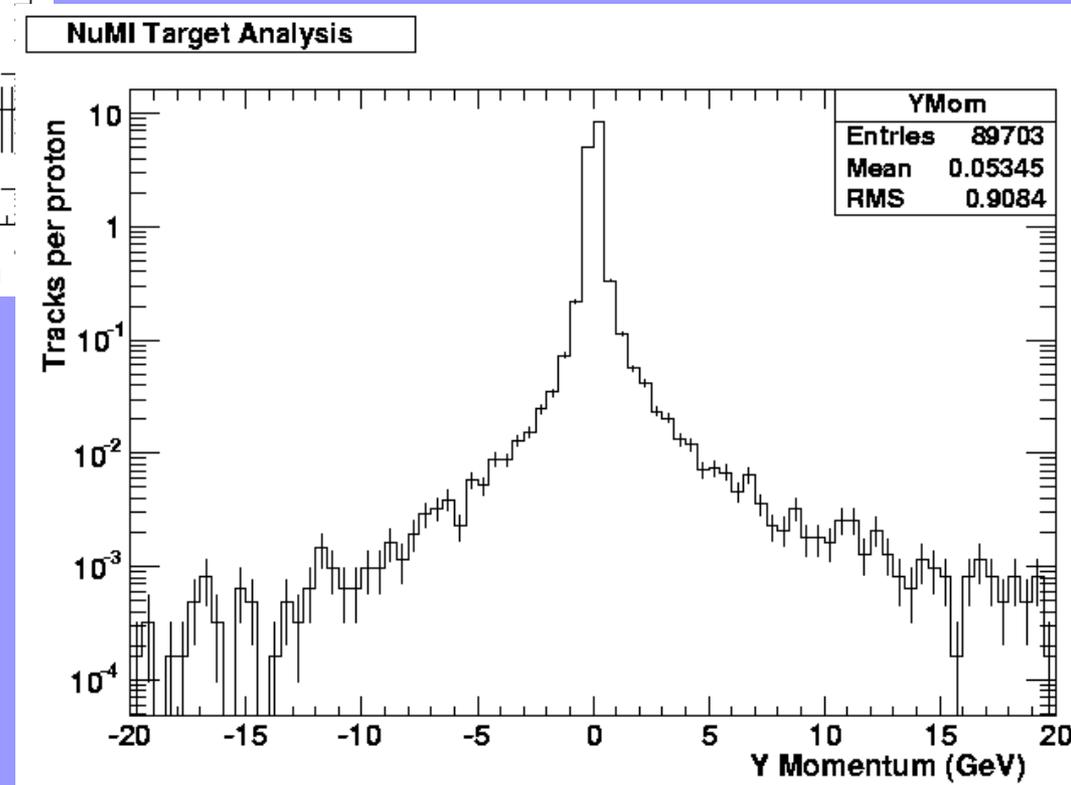
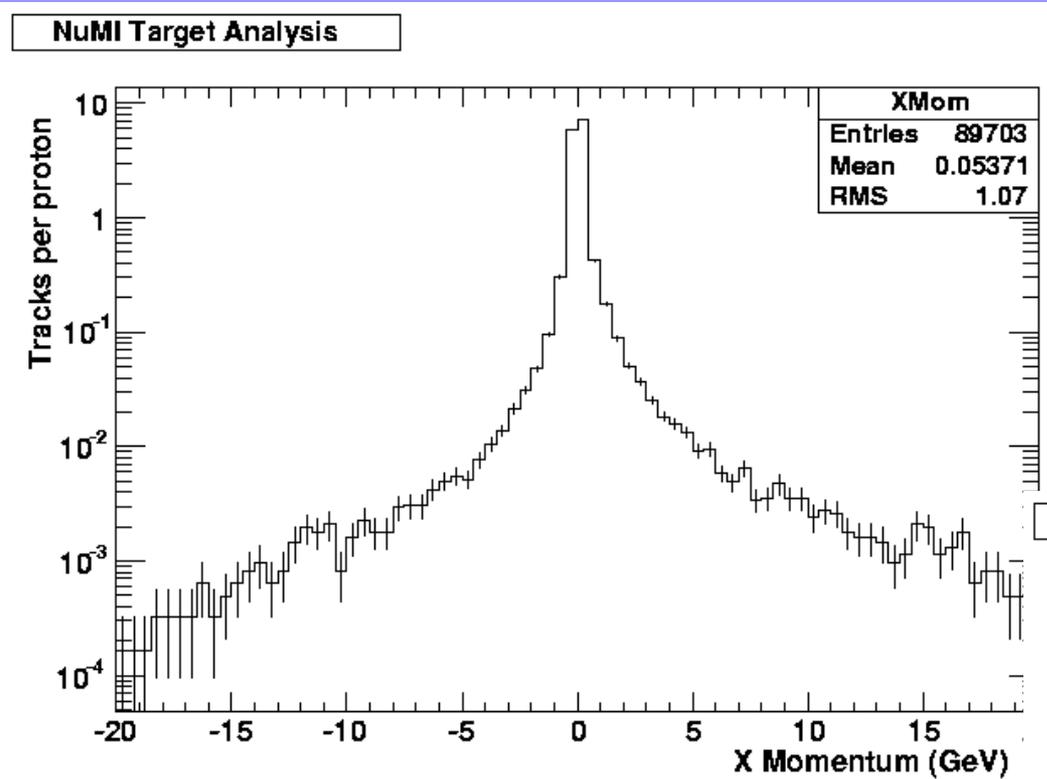
Large disagreement in p_t

Fluka limit is ~ 2.5 GeV

Data up to ~ 20 GeV

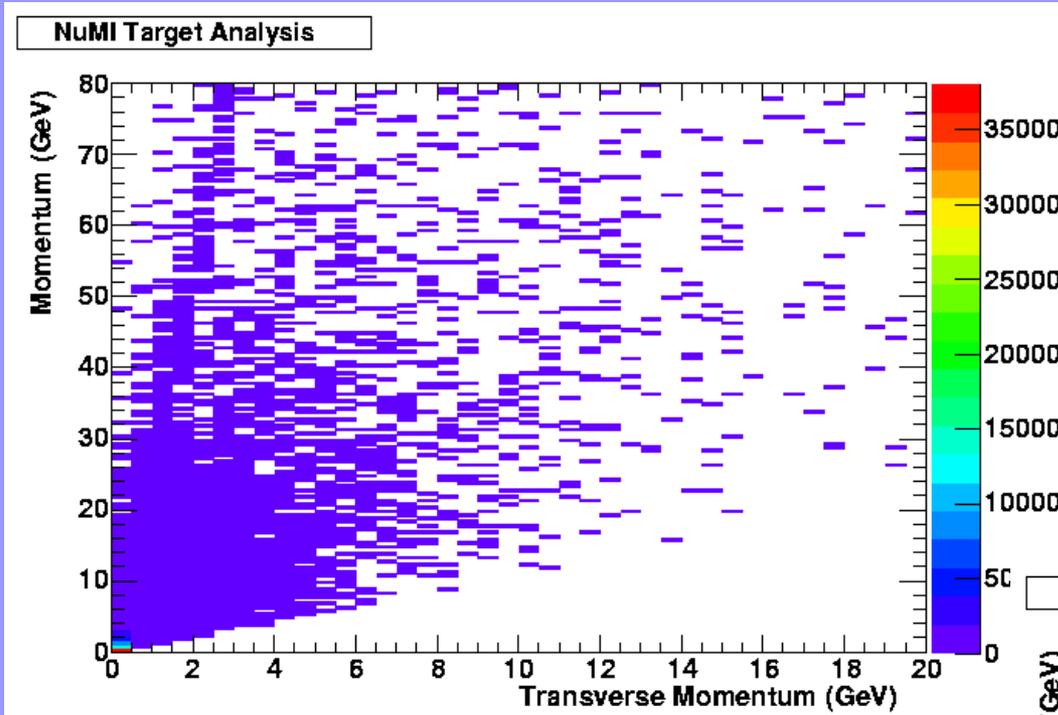


More On Pt



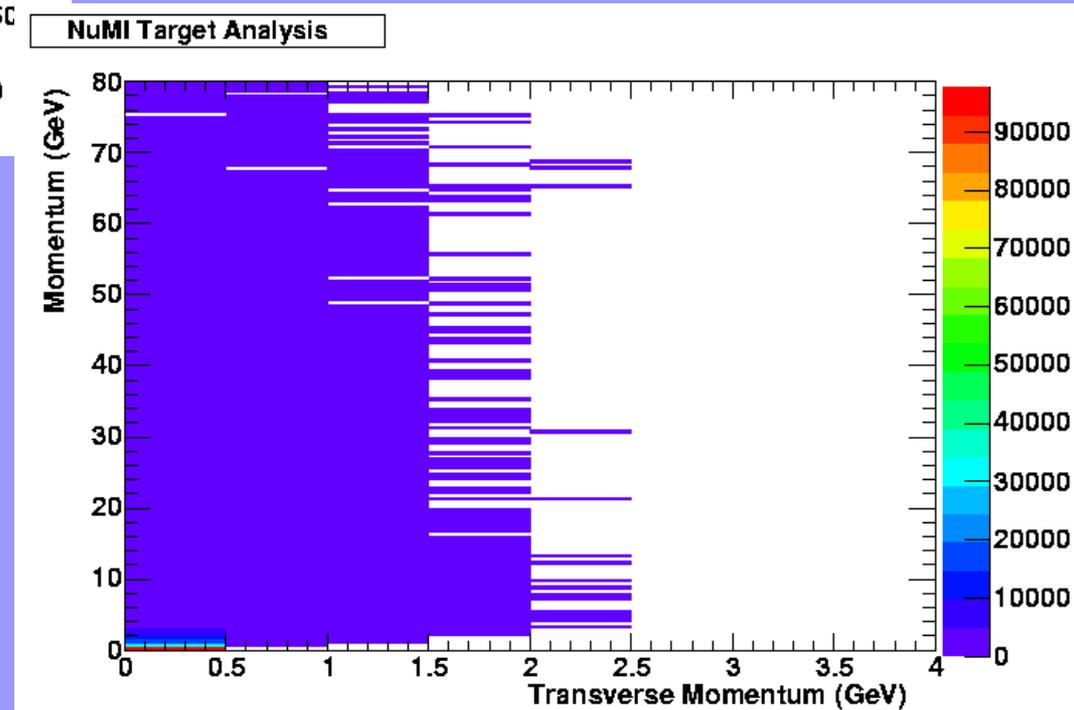
Both x,y distributions higher than expected

P Vs. P_t



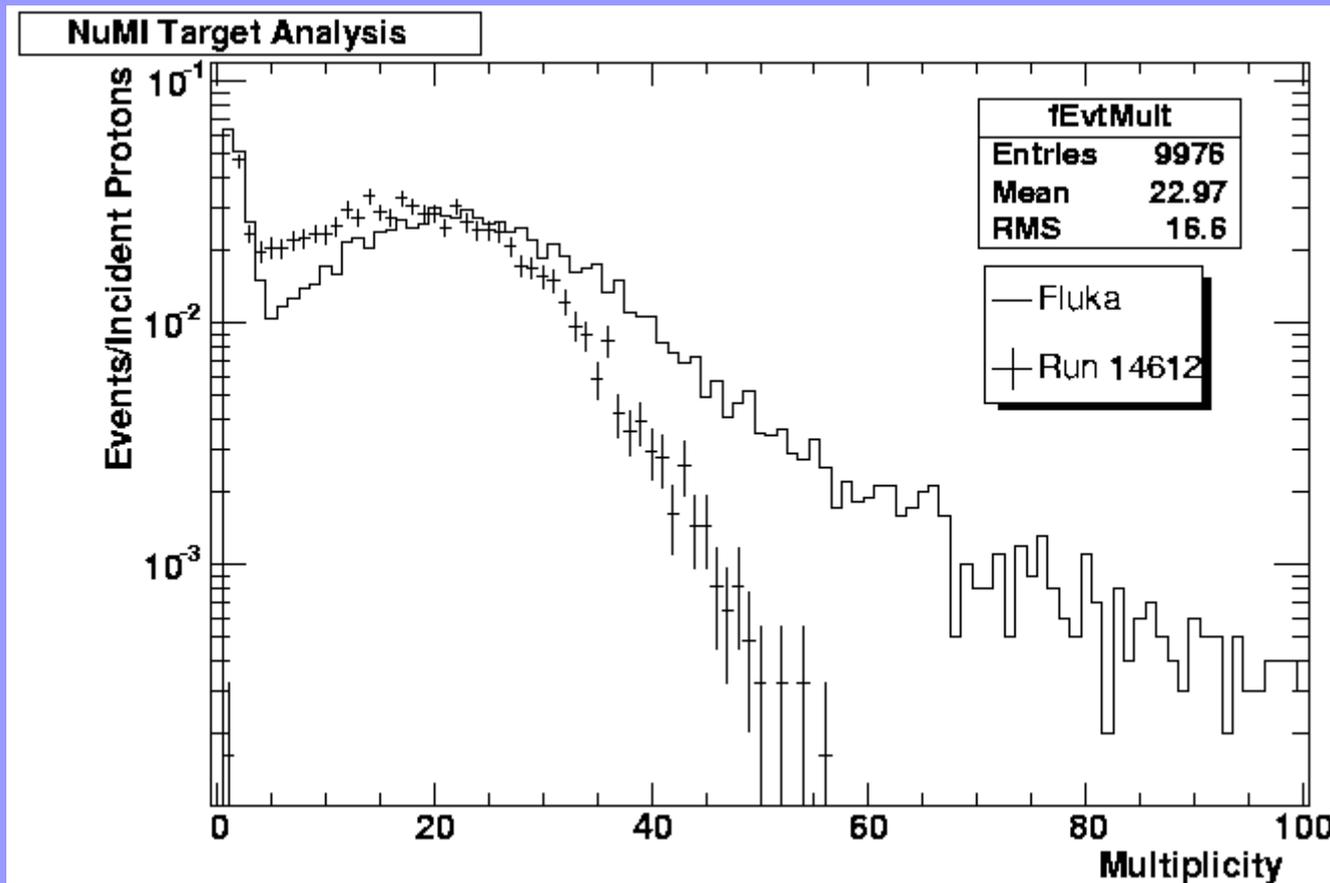
Disagreement at low p_t , high p

Possibly due to problems with p_t reconstruction?



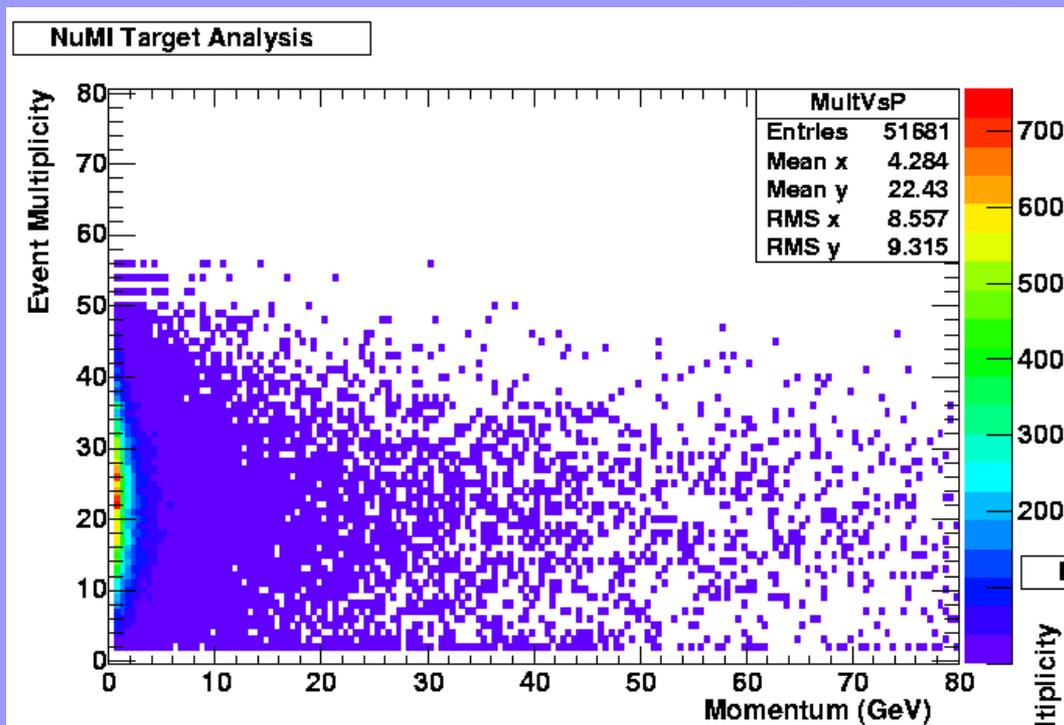
Top: Run 14612
Right: Fluka

Multiplicity

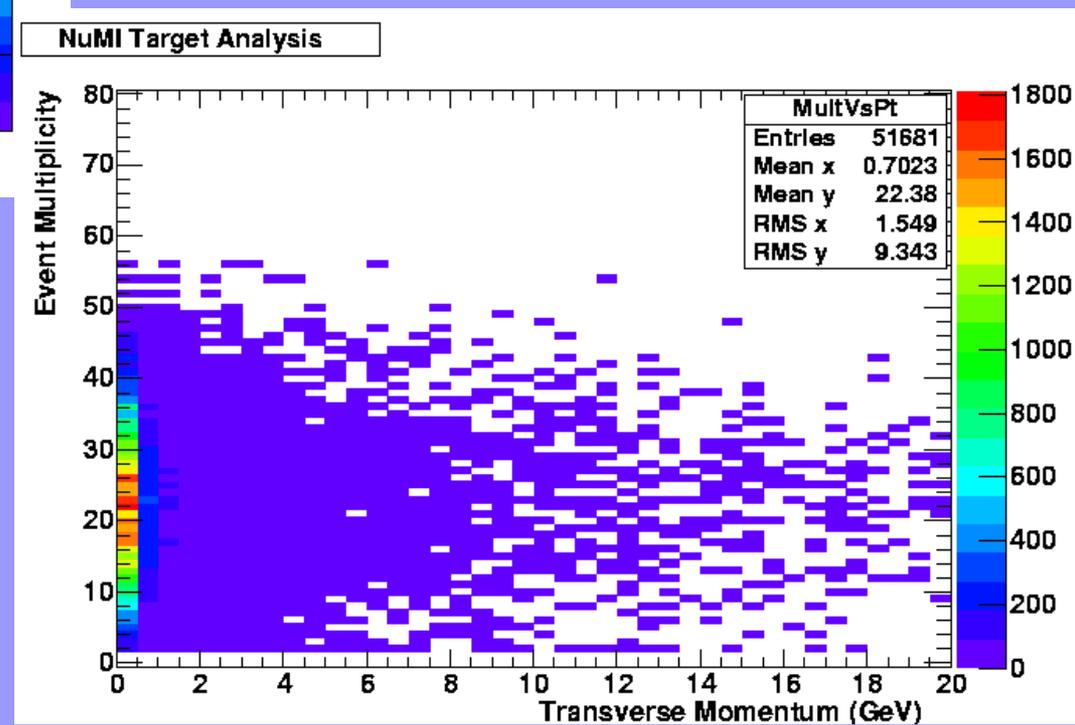


Fluka overpredicts high multiplicities
This may be due to low p tracks that don't get
picked up by reconstruction

Multiplicity Continued



X-Axis: Individual particle p (pt)
Y-Axis: Multiplicity of event in which particle was produced



In The Works...

- Vertex distributions in x, y, z
- Multiplicity vs. vertex z position
- Calculate efficiency of veto
- Run Fluka output through e907mc and reconstruction