W + N Jets Study

Varsha Ramakrishnan

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Talk Outline

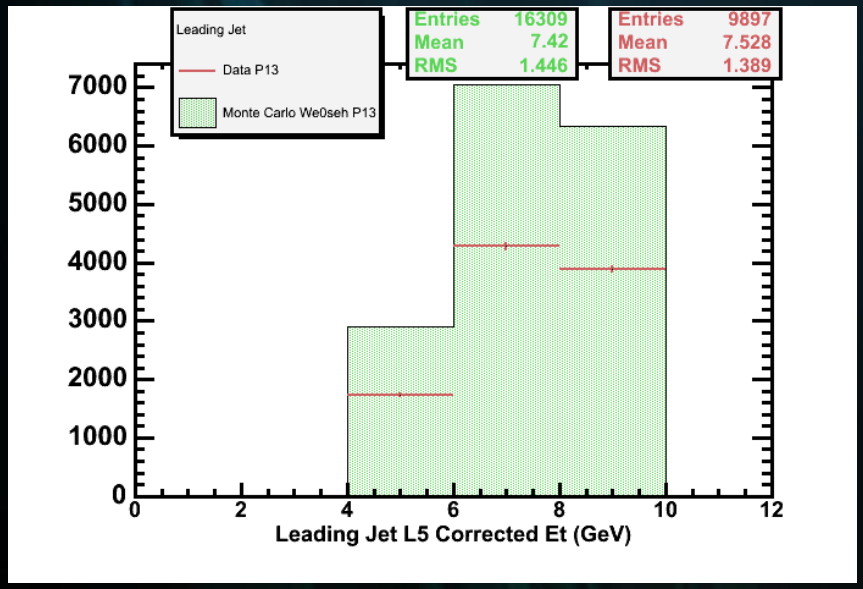
. Jets with L5 Corrected Et between 5 and 10 Gev studied

1. Ask for atleast ONE Track in the above jets
2. Look at Jet Variables and 2D plots after 1. is applied

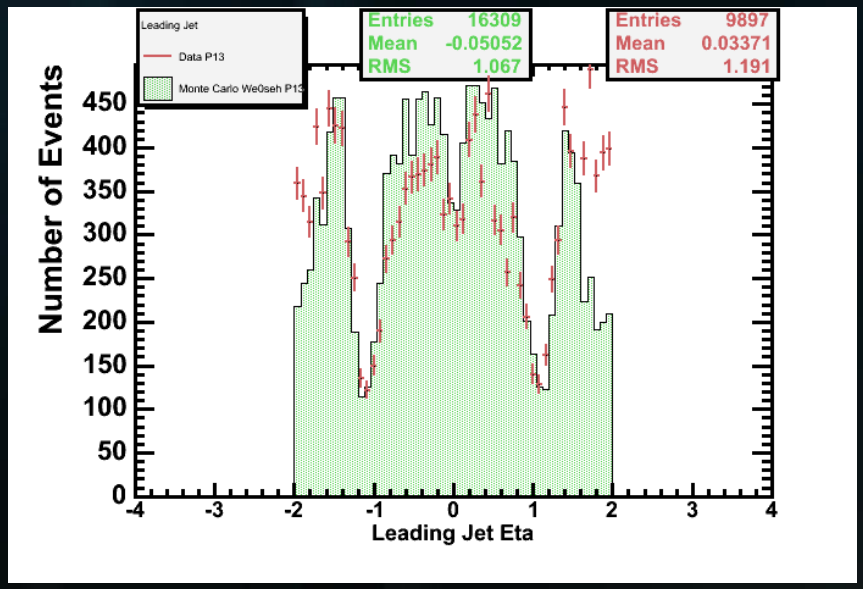
- Track Algorithm 4 ,11 and 22 Studied
  1. Track Algorithm 4 = Outside In
  2. Track Algorithm 11 = Outside In 3D
  3. Track Algorithm 22= Outside In Stereo

Leading Jet Variables

Leading Jet L5 Corrected Et

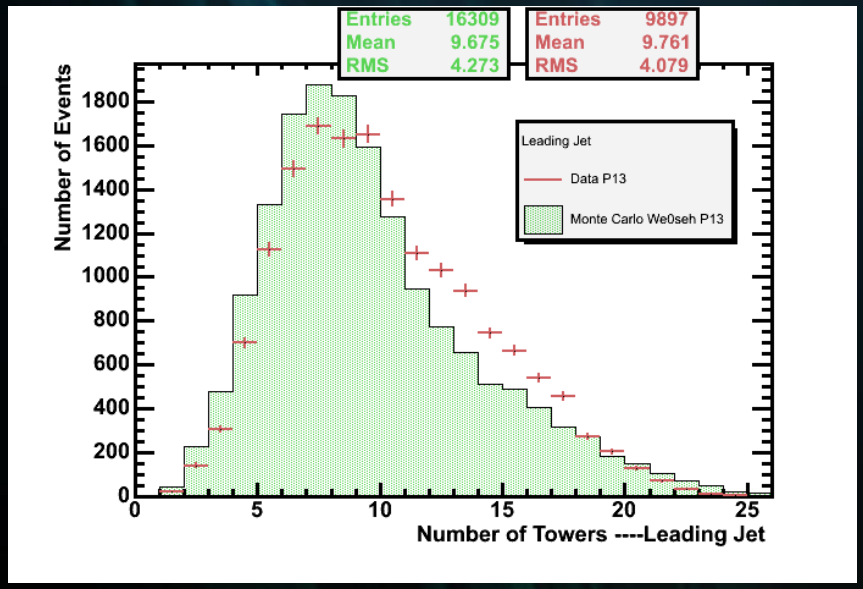


η

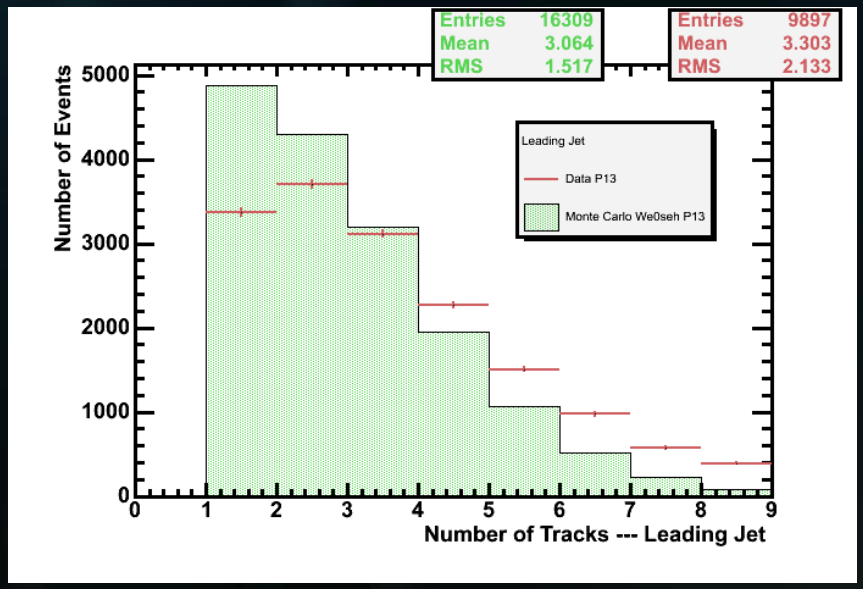


Leading Jet Variables

Number of Towers

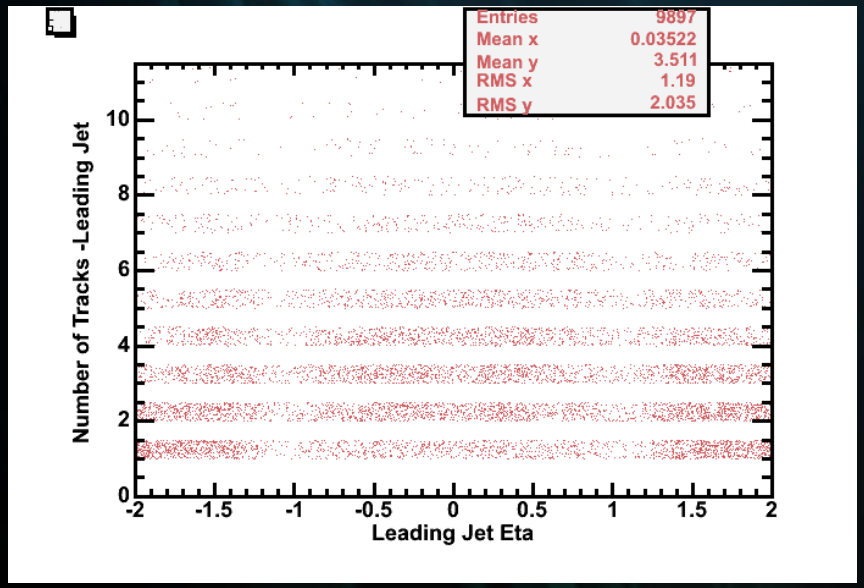


Number of Tracks

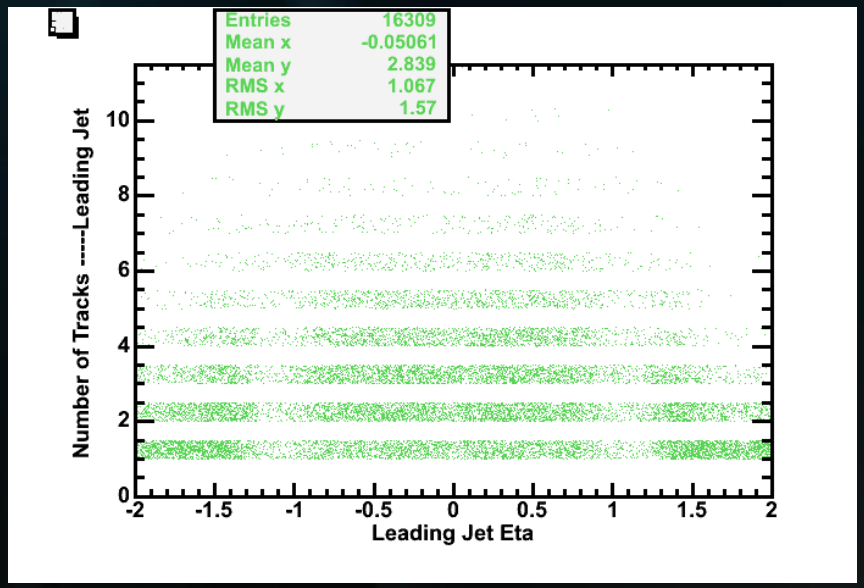


Leading Jet Variables

Data – Number of Tracks Vs Leading Jet Eta



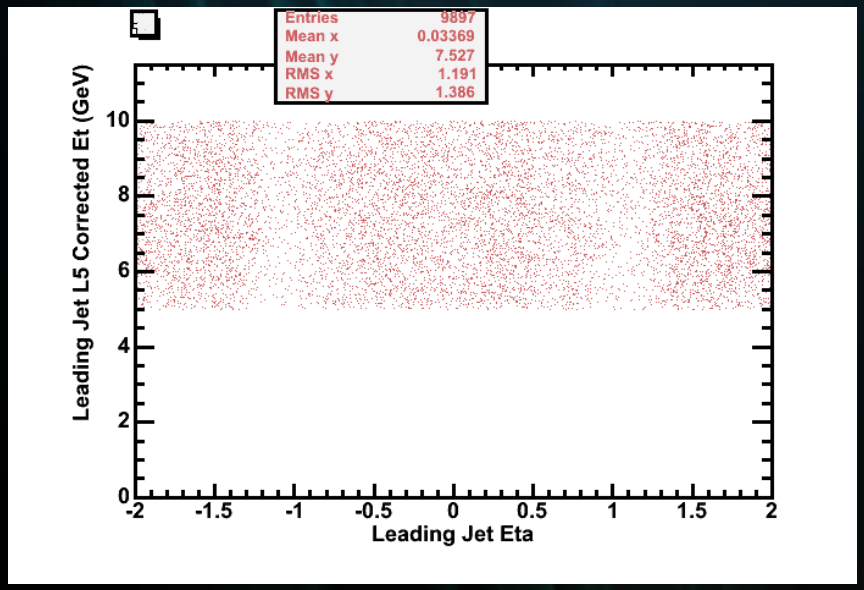
MC – Number of Tracks Vs Leading Jet Eta



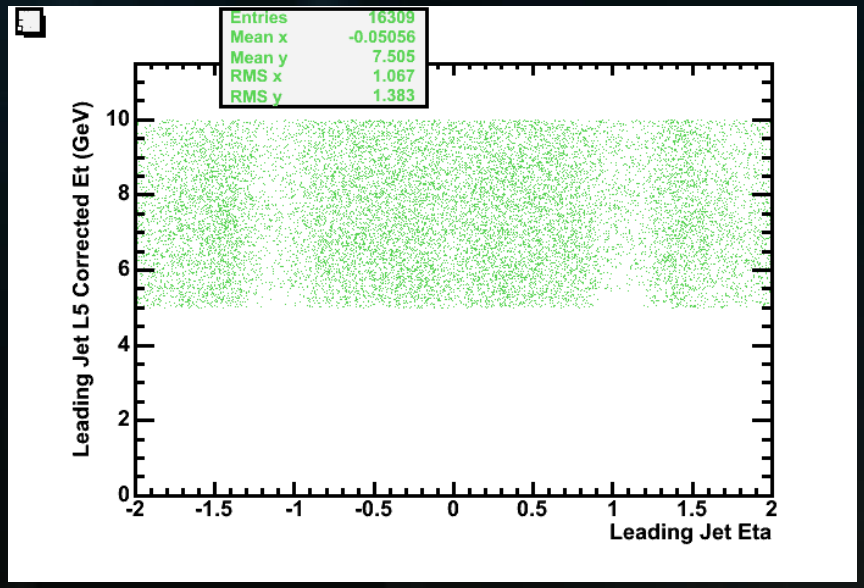
- Leading Jets has at least one Track

Leading Jet Variables

Data – Jet Et Vs Jet Eta

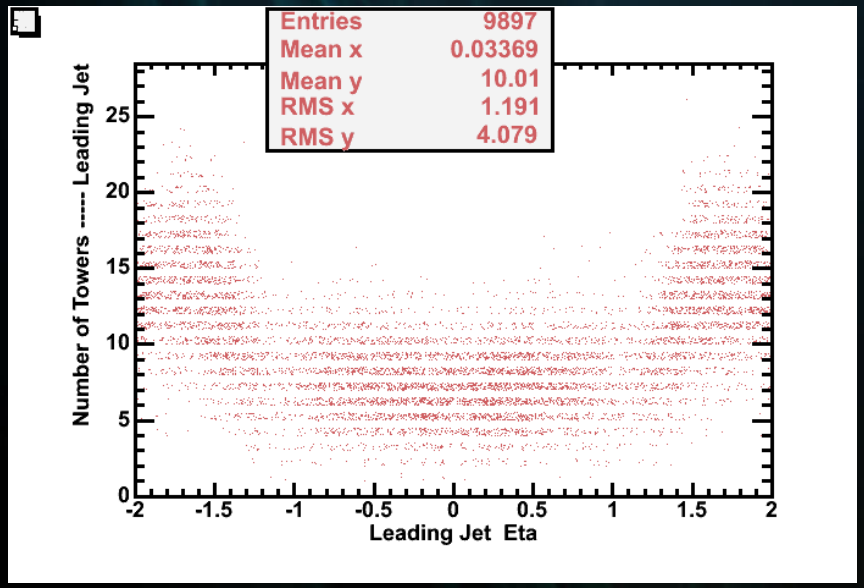


MC – Jet Et Vs Jet Eta

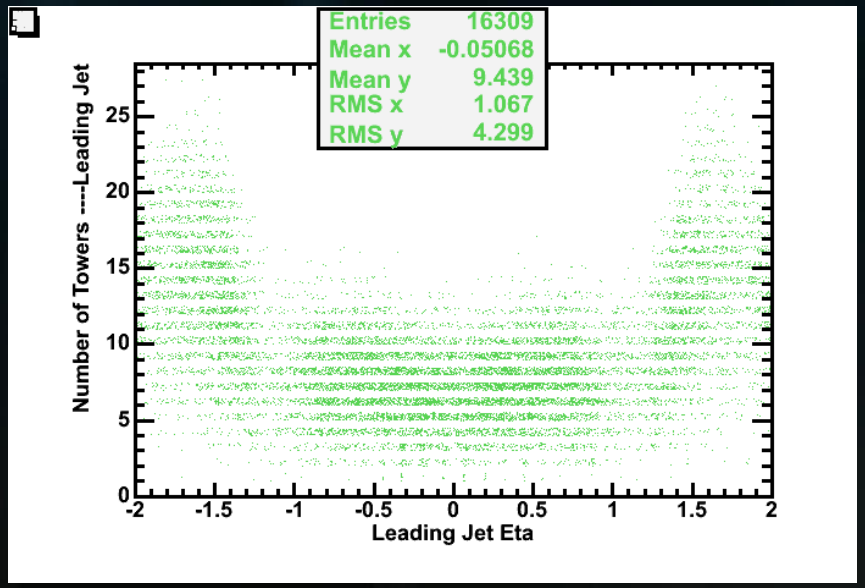


Leading Jet Variables

Data – Number of Towers Vs Jet Eta

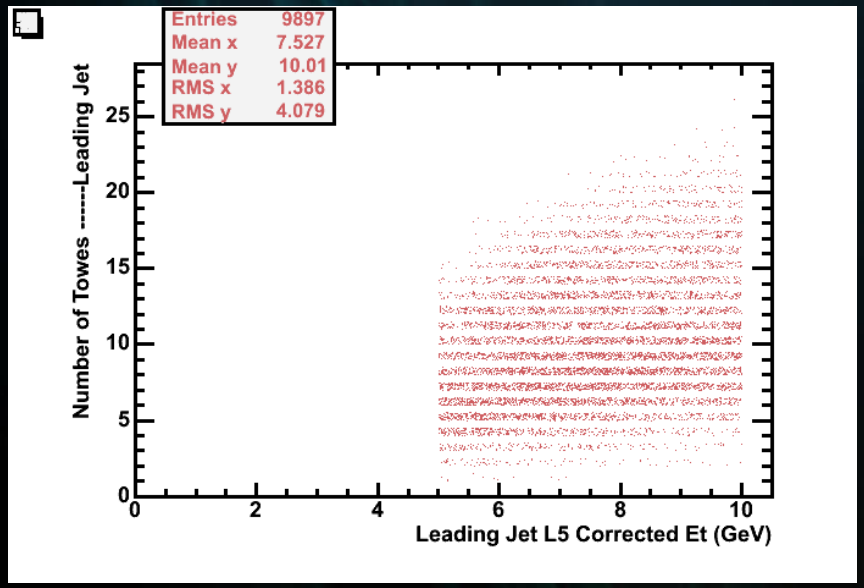


MC- Number of towers Vs Jet Eta

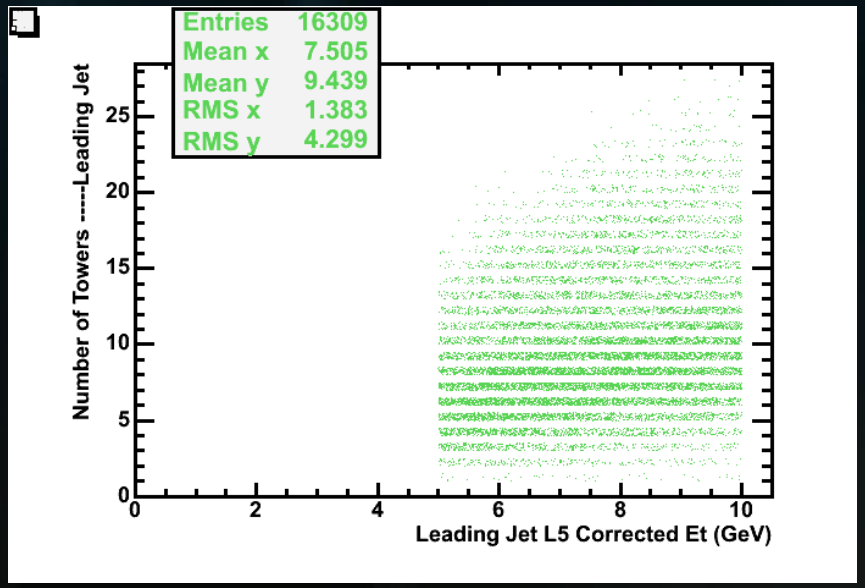


Leading Jet Variables

Data- Number of Towers Vs Jet Et

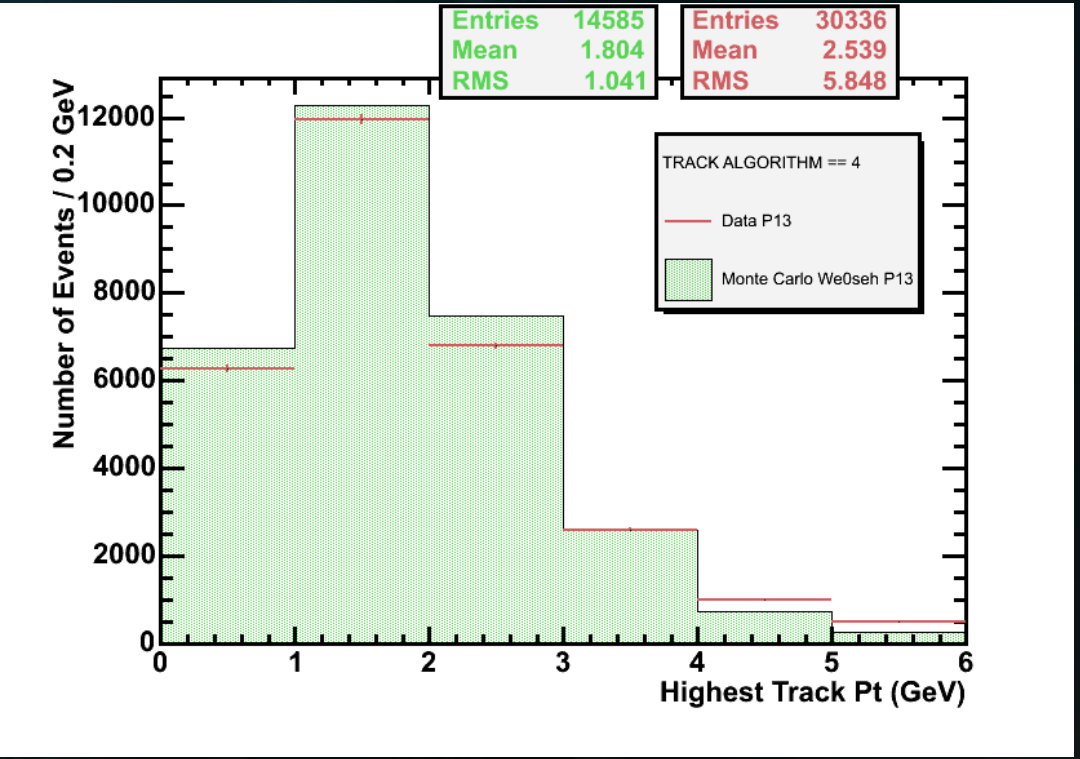


MC –Number of Towers Vs Jet Et



Track Algorithm 4 (Outside-In Tracks)

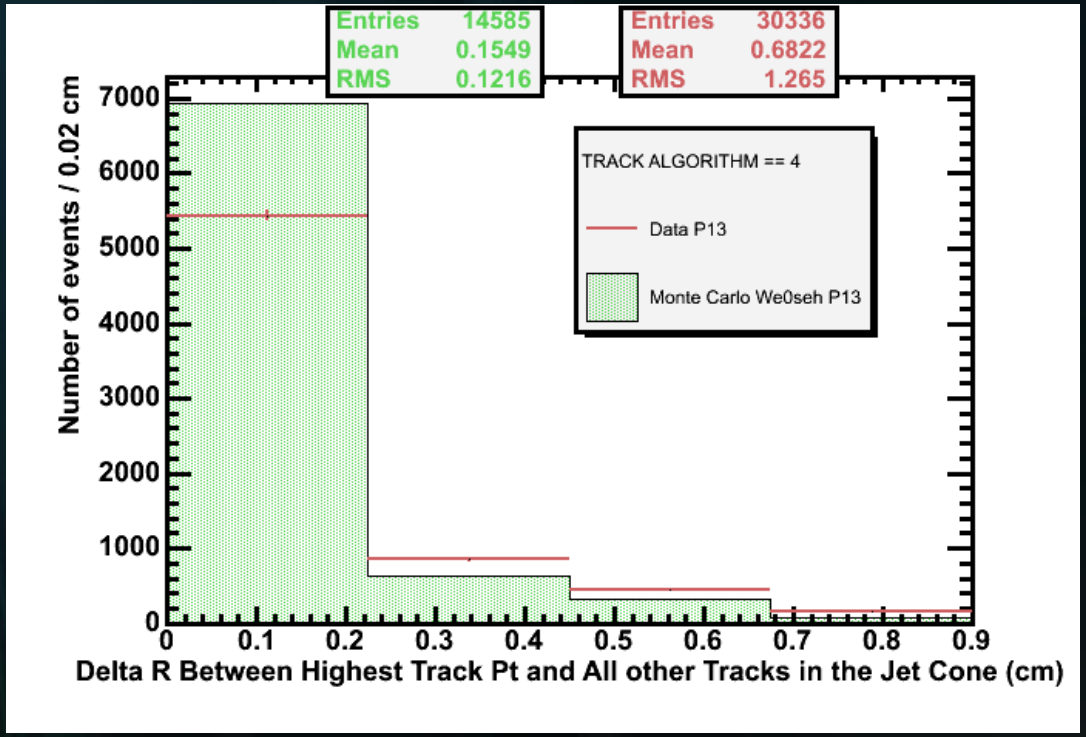
- Look at Tracks that are constrained in a Cone R=0.4 of the Jets
- Arrange them in descending order of Track Pt
- Pick and Maximum Track Pt and that is the variable plotted here



For a Jet with Minimum Et = 5GeV, the Highest Pt Track being ~ 1 GeV seems reasonable

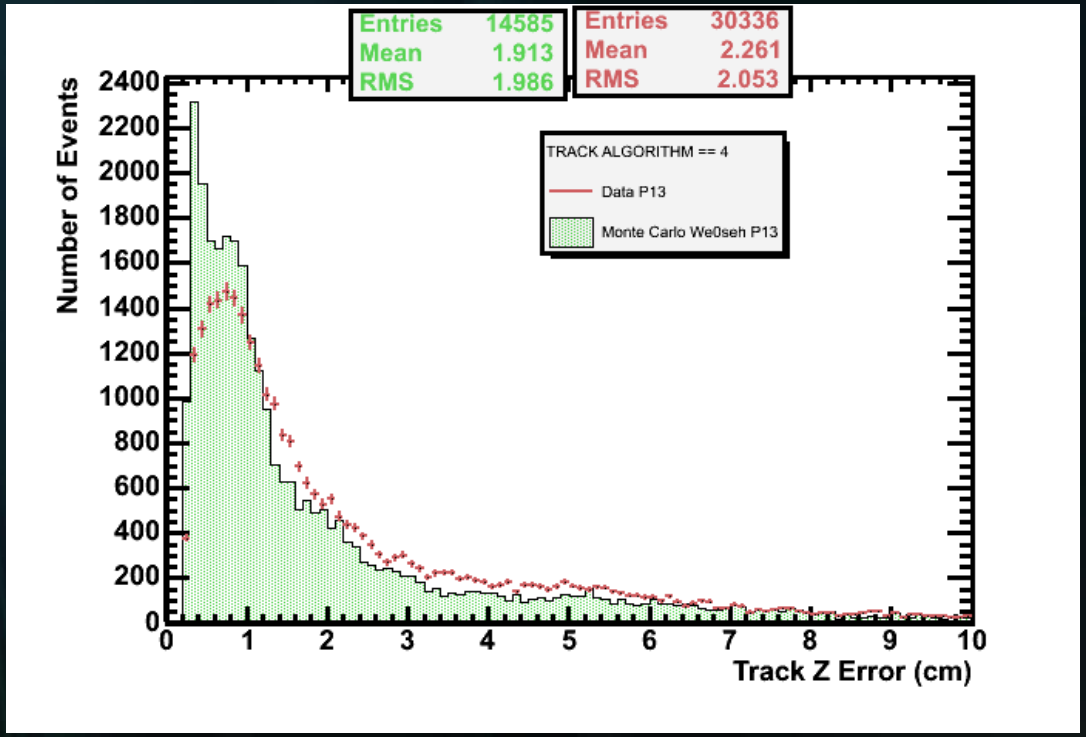
Track Algorithm 4 (Outside-In Tracks)

- η-φ Plane separation between Highest Pt Track and All other Tracks is plotted
- This variable is expected to be < 0.8 cm (R=0.4cm) for all Tracks that are inside the Jet cone
- Need to Look at the Impact parameter too for those tracks that are "Within" the Jet Cone



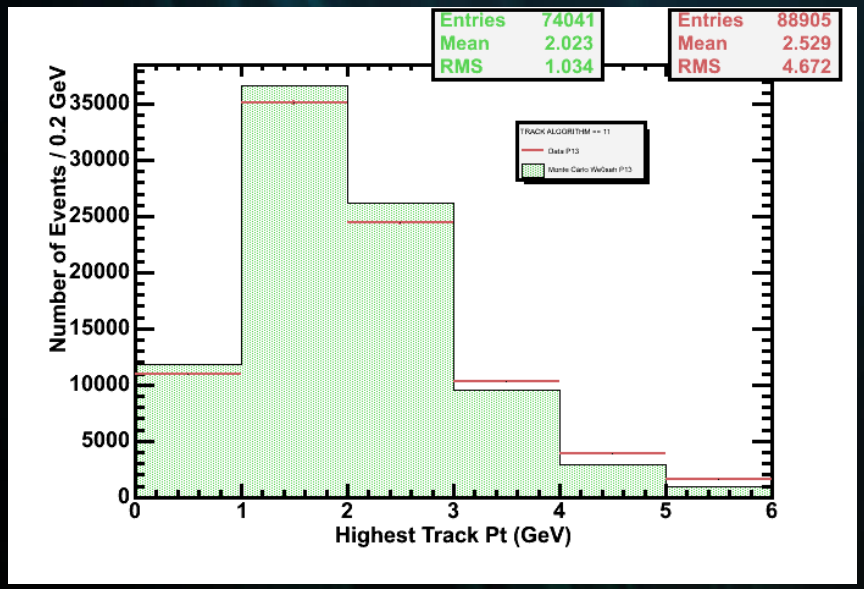
Track Algorithm 4 (Outside-In Tracks)

- Need more understanding on the Type of Algorithm used to understand the Poor Resolution

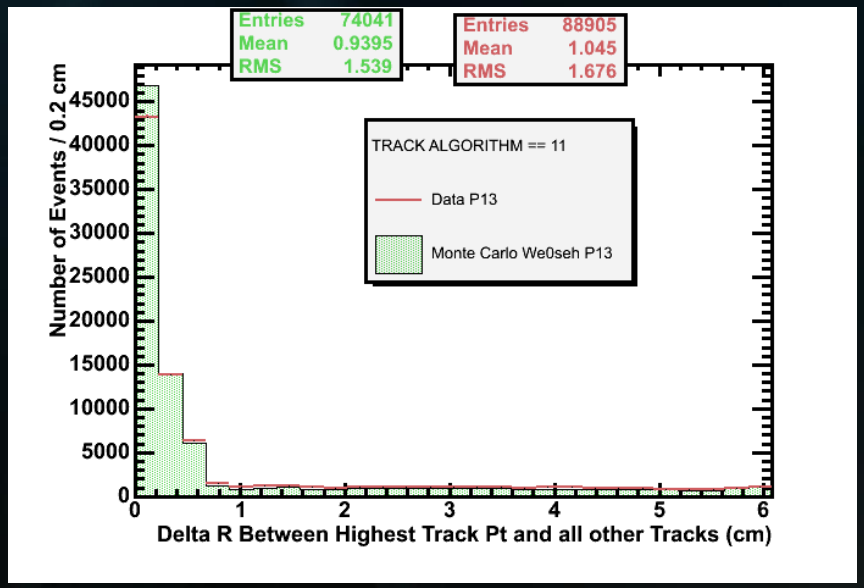


Track Algorithm 11 (Outside-In 3D)

Highest Track Pt



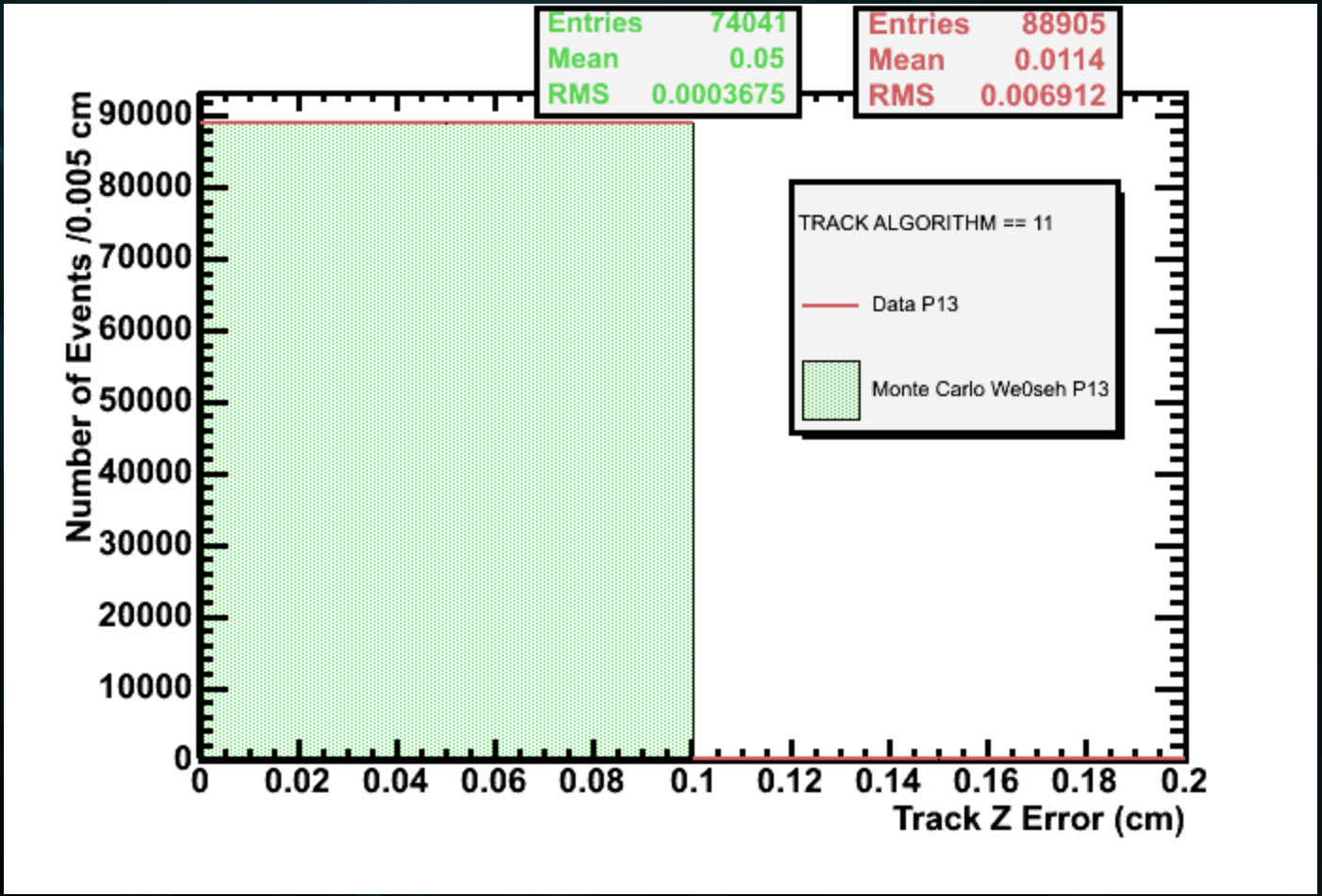
Delta R Between Highest Track Pt and All other Tracks



- Highest Track Pt seem Reasonable peaking at ~1 GeV

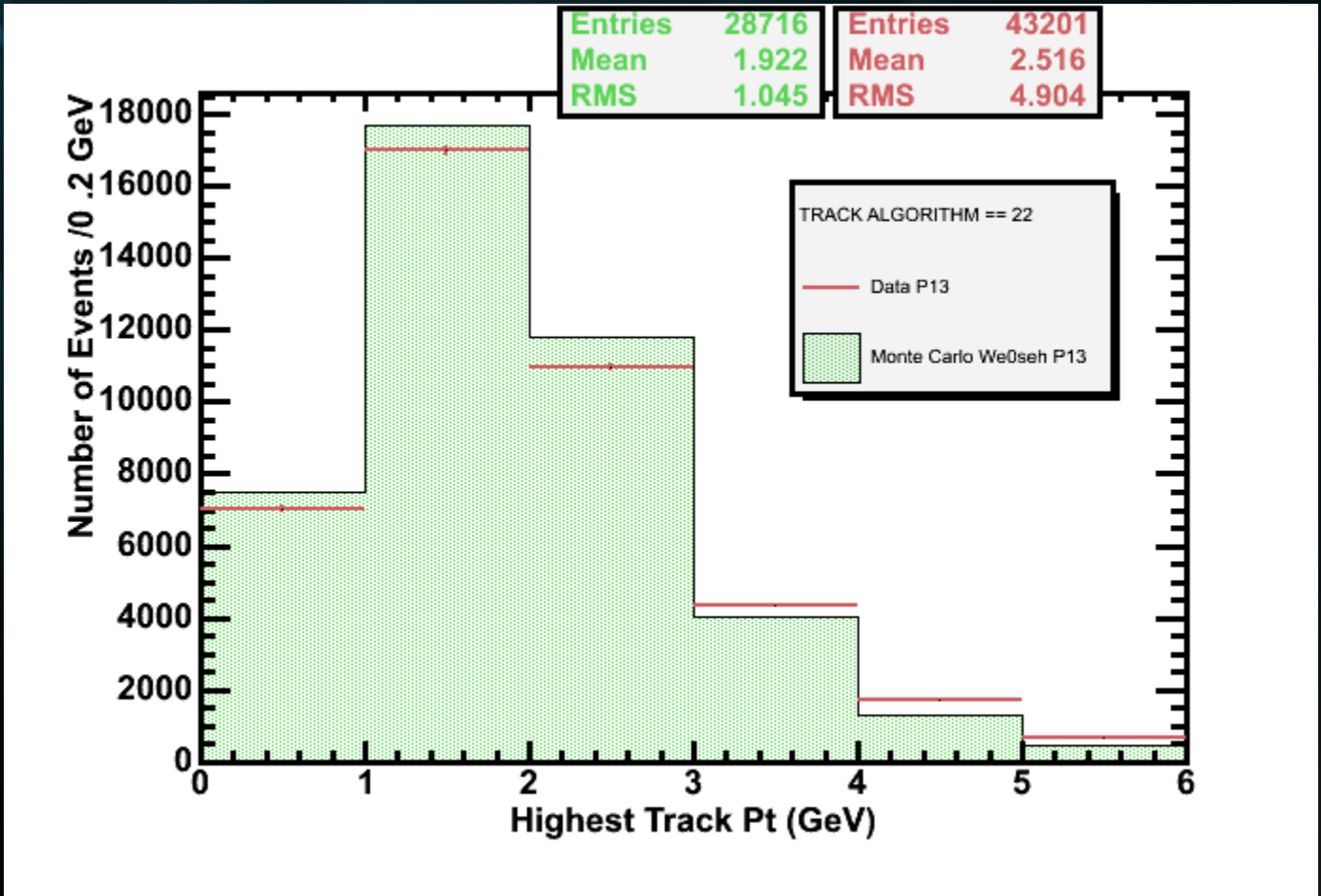
- η-φ separation does not show too many tracks that on the "Edge of the cone" or outide the Jet cone

Track Algorithm 11 (Outside-In 3D)

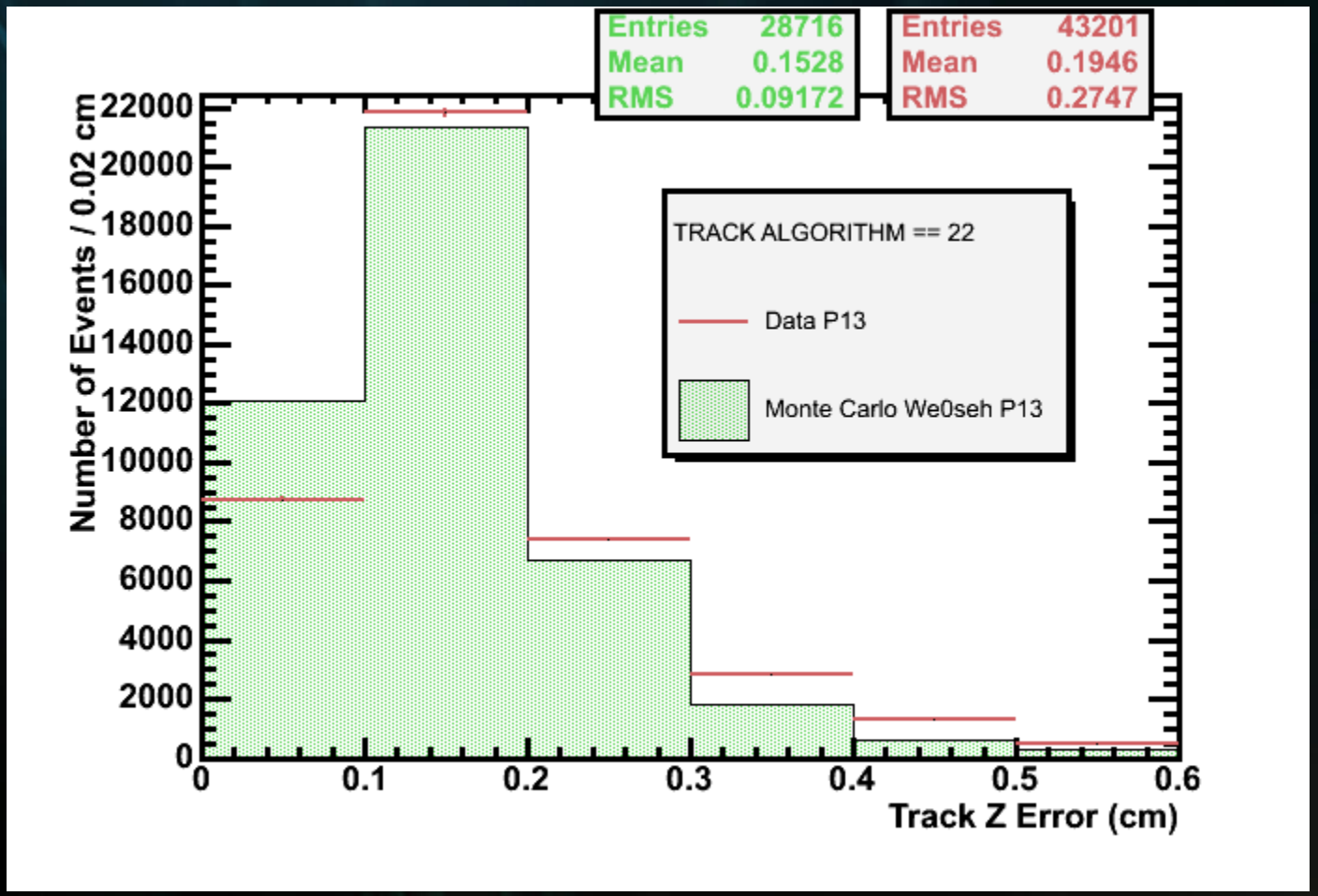


- Maximum Resolution for Track Z compared to Track Algorithm 4 and 22

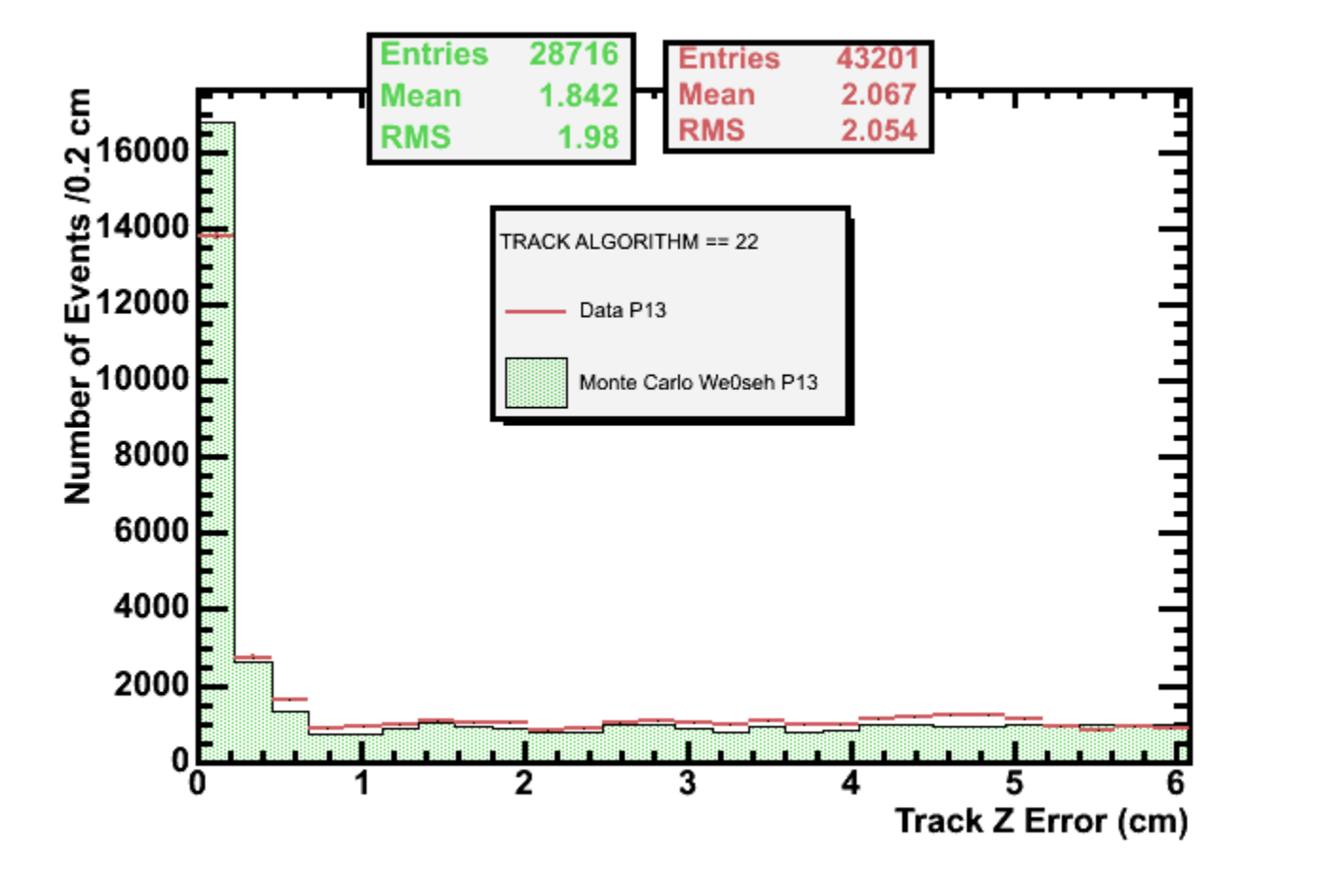
Track Algorithm 22 (Outside-In Stereo)



Track Algorithm 22(Outside-In Stereo)



Track Algorithm 22 (Outside-In Stereo)



Conclusions

- Need to Look at the Other Remaining Track Algorithms Track 17/23/24 – KAL Outside-In Tracks
- Have made W-Jet,Jet-Jet Opening Angle plots –No time to Show HERE