

d_2^n Analyzer

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Problem with Missing Tracks

A Tracking Problem

- During analyzer replay good tracks (BB.tr.n \geq 1) seem to be missing.
- This is evident when comparing run 1258 replayed on our analyzer to the same run replayed earlier by Kalyan on a separate analyzer.

Reconstructed Momentum

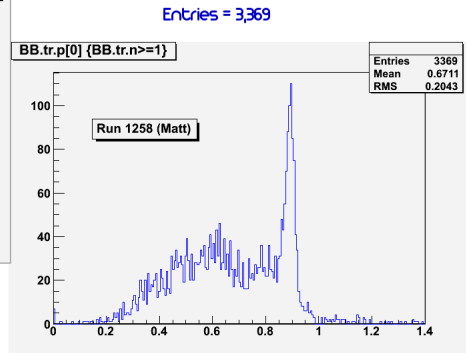
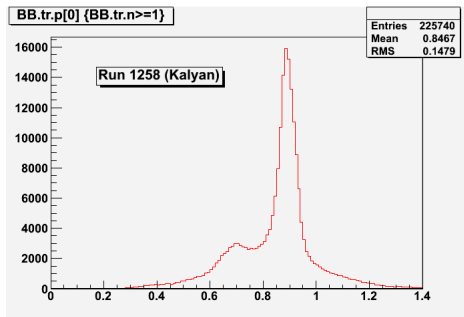


Figure 1: Reconstructed momentum from run 1258.

Reconstructed Vertex

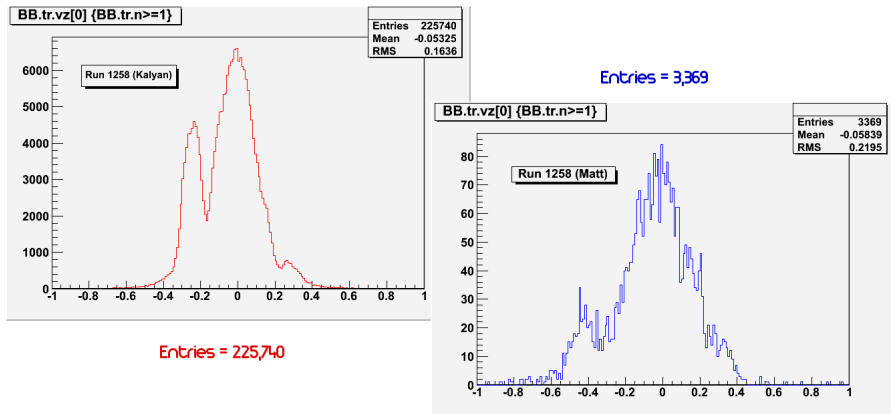


Figure 2: Reconstructed vertex from run 1258.

E/p

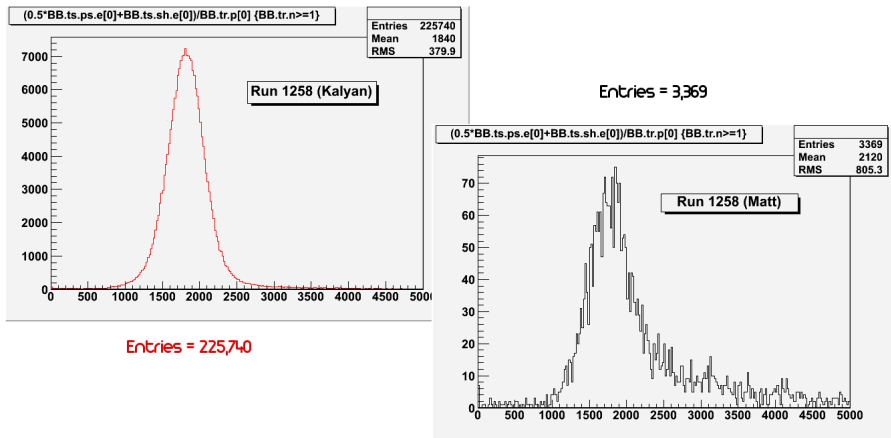


Figure 3: E/p from run 1258.

Invariant Mass Problem

- There is also another problem that is seen when plotting the invariant mass for the H2 run 1258.
- Invariant mass is shifted.

Invariant Mass Problem

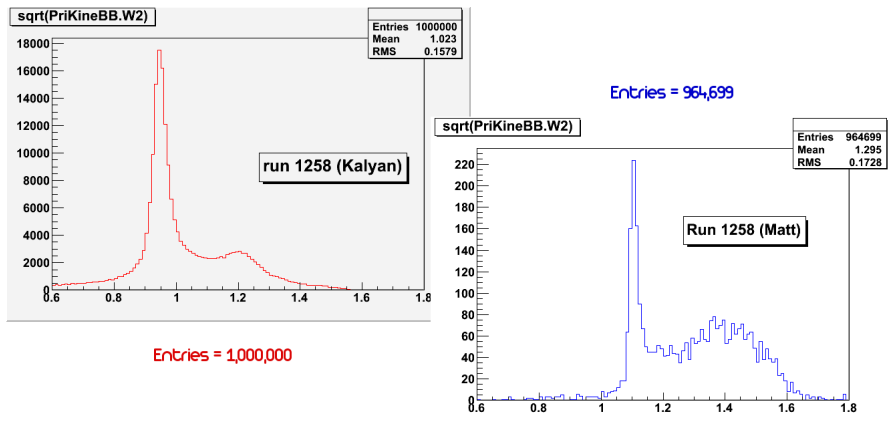


Figure 4: Invariant Mass from run 1258.

Invariant Mass Problem

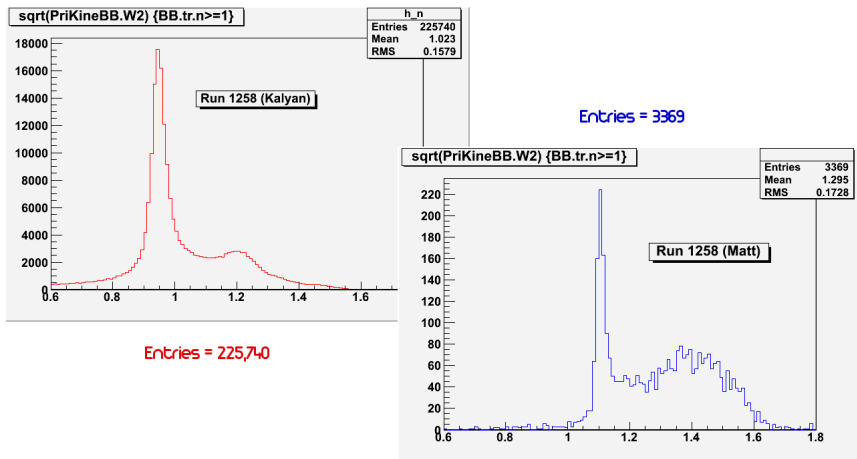


Figure 5: Invariant Mass with track reconstruction cut from run 1258.

Invariant Mass Problem

- Analyzer grabbing the right beam energy and mass.
- $fW2$ may be calculated wrong?
 - Grabbing the wrong scattering momentum?
 - Calculating four vector recoil system momentum incorrectly?

To-Do

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- Fix d2 analyzer.
 - Missing tracks are needed for shower calibration
- Run shower calibration energy reconstruction and minimization scripts for one-pass runs.