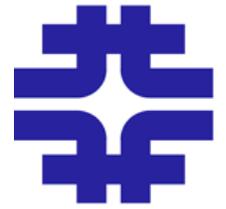


Data Reduction



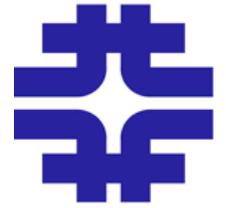
Simplifying the Ntuples



- The ntuples contain a lot of information but they are cumbersome to use from the root command line
- Looping over multiple tracks/showers in an event is not entirely easy
- The ntuples also take up a lot of space
- A more compact ntuple can simplify the analysis
 - start off with just the primary track and shower in the event
 - can add more information later



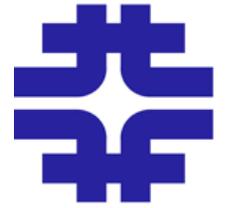
A Condensed Ntuple



- New ntuple contains the most relevant information about a track or shower for the analysis
 - Vertex coordinates and direction cosines
 - Energy, momentum, etc. and errors on those parameters
 - Information such as the fraction of strips used in the track/shower, asymmetry in the views
- Similar to how I did my thesis analysis
- Challenge is to make it work for both near and far detector



Next Steps



- Test the code on far detector MC and adapt it to near detector
- Use the new ntuples to look for pathologies in event reconstruction such as
 - tracks when only showers are present
 - Poor tracking leading to split events
- Use the ntuples to understand NC/CC separation in the MC