

# Running the full reconstruction

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# Objective

- Make a list of ReconstructedParticles.
- Use full tracking with the UI pfa algorithm.
- Write out the Icio file: should have no null pointers.(All objects reachable starting with the ReconstructedParticles need to be output)

# Problems

- There were many, both in details of the output and errors degrading performance.
- Due to a heroic effort from Mat, Tae Jeong and Rich all the identified problems have been solved.
- Some performance issues still remain, with no obvious quick solutions.

# Tag it?

- Suggest we create a tagged version and start the reconstruction.

# Details to make it happen

- For a small cost in disk space, we could add LumiCalHits, BeamCalHits and MCParticleEndPointEnergy collections to the output, preserving the full slic output in the recon files.
- Do we want to rename the ReconstructedParticle collection?(currently FlushedDTreeReclusteredParticles)
- What do we name the output file? (Currently inputfilename UIT.slcio)
- Where do we put the output file? (Currently inputfiledir/../../reco/UI/)
- Should we put the Driver in a try/catch loop, and if so what information should be logged about skipped events?

# Resources: current estimate

- SM sample at 500GeV:  $\langle \text{cpu} \rangle / \text{evt} \sim 21 \text{sec}$ ,  
 $\sim 180 \text{kb/evt}$ .
- $t\bar{t}$  @ 500GeV:  $\langle \text{cpu} \rangle / \text{evt} \sim 80 \text{sec}$ ,  
 $\sim 280 \text{kb/evt}$ .