



# ZvTop status and To-Do list

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# Status – the good



- Algorithm is implemented
- Class structure is (basically) in place
- It operates to its capabilities on LCIO files
- Integration into WIRED4



# Status – the bad



- No Vertex Fitter, only topological finder
- Still uses the parabolic approximation, rather than the full Swimmer
- No Persistence !
- Performance slow on stop decays



# To-Do



- 1.) Vertex Fitter
  - Finding areas of overlap is a cute exercise, but unfit vertices are pretty useless
- 2.) Persistence
  - This wouldn't be so high on my list if it weren't for the LCFI vertex proposal
  - Important for validation
    - Cross-check with LCFI vertices possible.
    - Use Tim Barklow's interface for validation (?)



# More To-do



- Profiling
  - Once the fitter is in place, the package is feature-complete. Then the real work can start.
- Testing / Validation
  - Write a comprehensive set of JUnit tests
- Cleanup
  - After Testing and Validation, slim down package for mass consumption
- Documentation
  - Example Analysis Driver



# Around Vancouver



- This is only the first step
  - Pt-corrected mass – trivial
  - Flavor tagging – major effort
  - Integration into PFA – the ultimate goal



# Under construction



- Translation between Track parameterizations is a pain in the neck
  - We should have a facility to make that easier
- The Track interface is still broken
- Consistency of a SpacePoint with the Track ?



# Vertex persistence



- Reconstructed Particle
  - But it's fitted
  - Chi2 contribution of each daughter to the fit.
- Vertex object to contain chi2 with pointers to the daughters
- (Maybe) One object to store a set of vertices
  - decaylength, decaylength error
- Not everything has to be persisted
  - Maybe faster to perform calculation rather than persisting the info