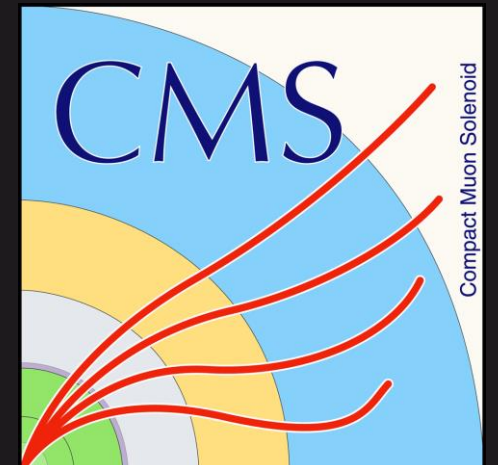


# EFFICIENCY ANALYSIS OF B-PHYSICS HLT

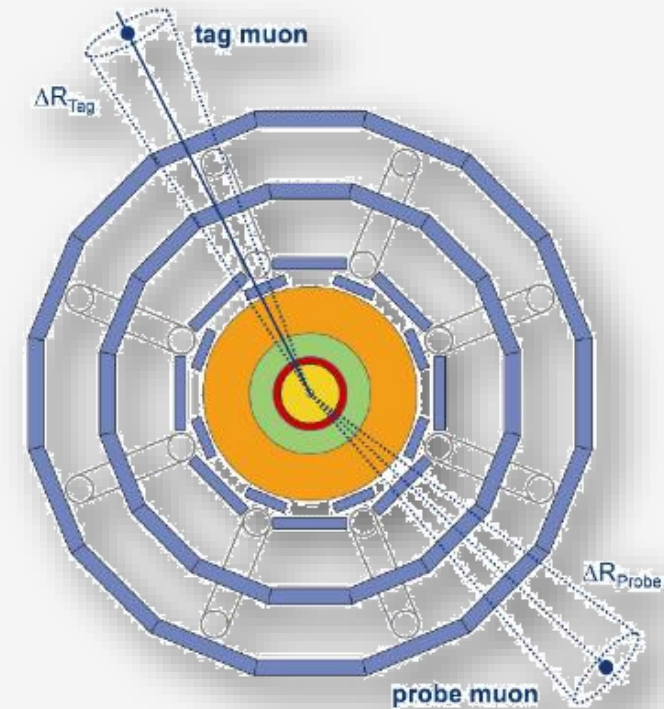
*UM-REU UPDATE: 7/21/16*

Sam Coday



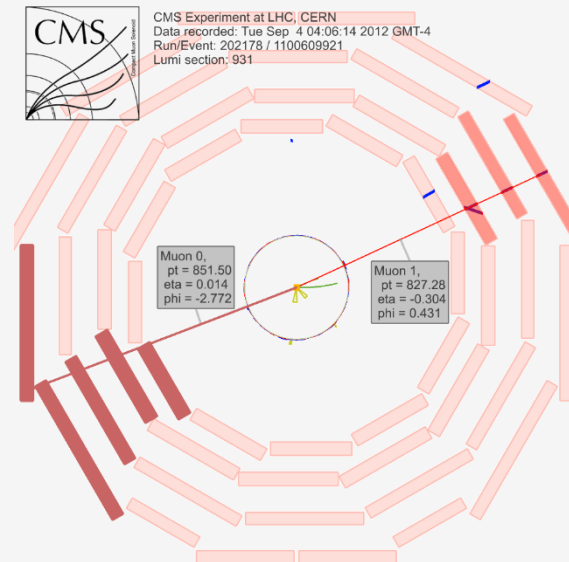
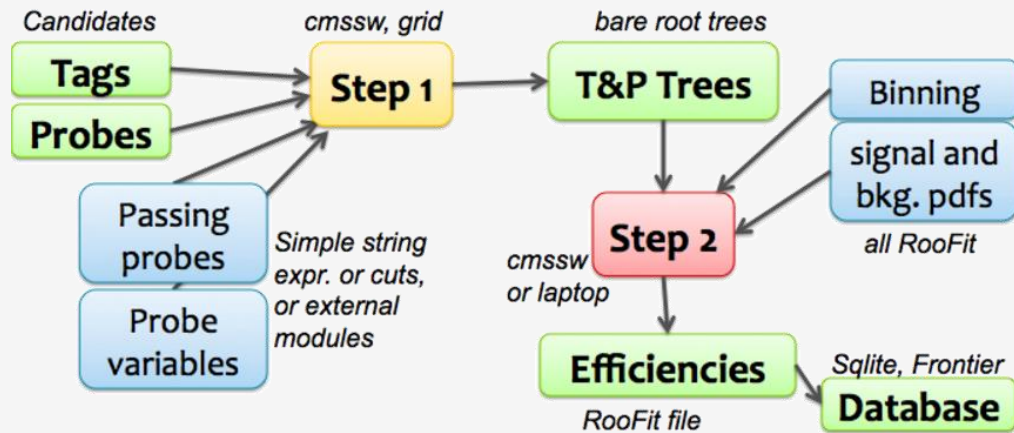
# Tag and Probe

- Utilizes di-object resonances (Specifically J/psi)
- Tag and Probe Steps
  - ✓ Define “passing probes”
  - ✓ Passing and failing tag are modelled separately (background noise + signal)
  - Efficiency is defined by ratio between signals
  - Process is repeated for different bins ( $p_T, \eta$ )



# “Blockers”

- Integration between new and old software
- Understanding the physics in order to create the proper PDF/bins
- Balancing the tight/loose parameters



# Moving Forward

- Utilizing lower O data structures to speed up the process
- Help to create documentation for the Tag and Probe package
- Finish efficiency plots/binning
- Compare to Monte Carlo simulation data

