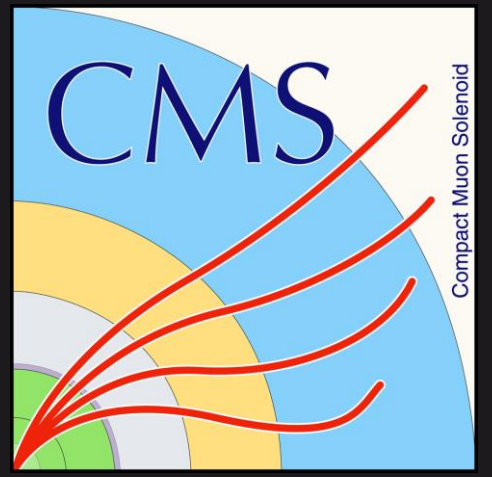
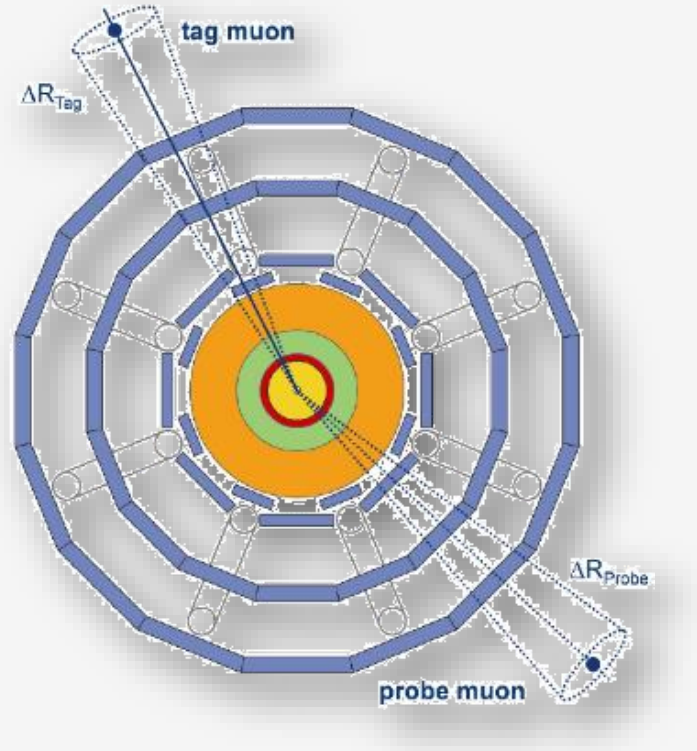
EFFICIENCY ANALYSIS OF B-PHYSICS HLT

UM-REU UPDATE: 6/29/16

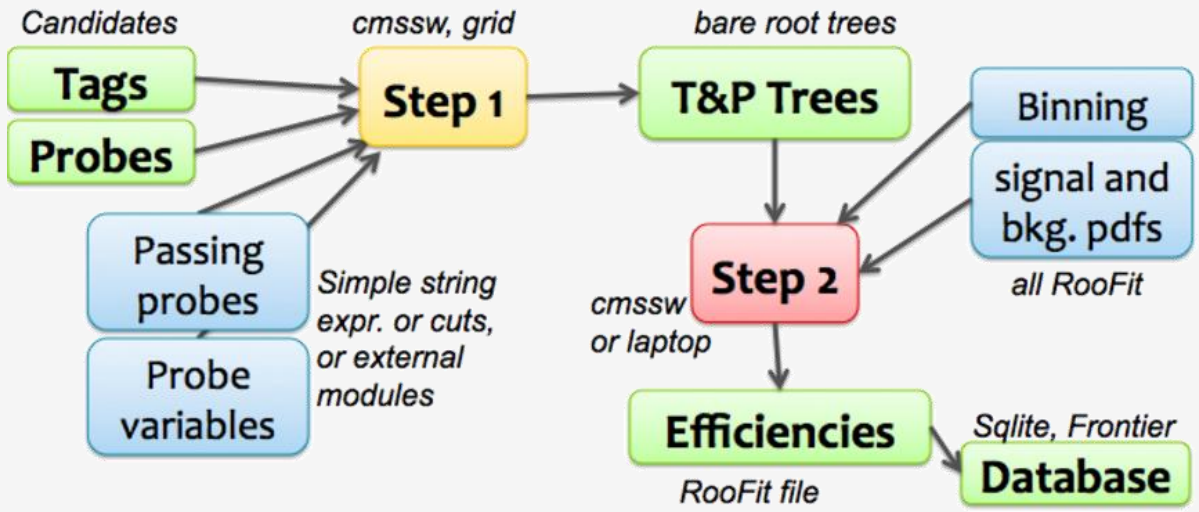
Sam Coday



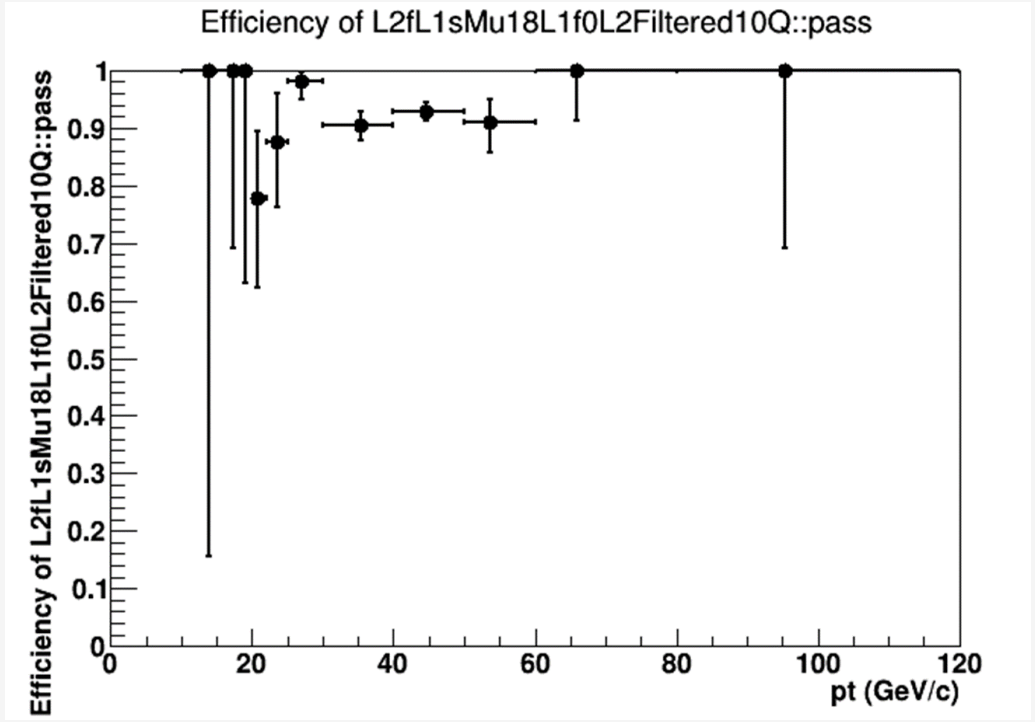
Tag and Probe



- 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, η)



Tag and Probe Workflow

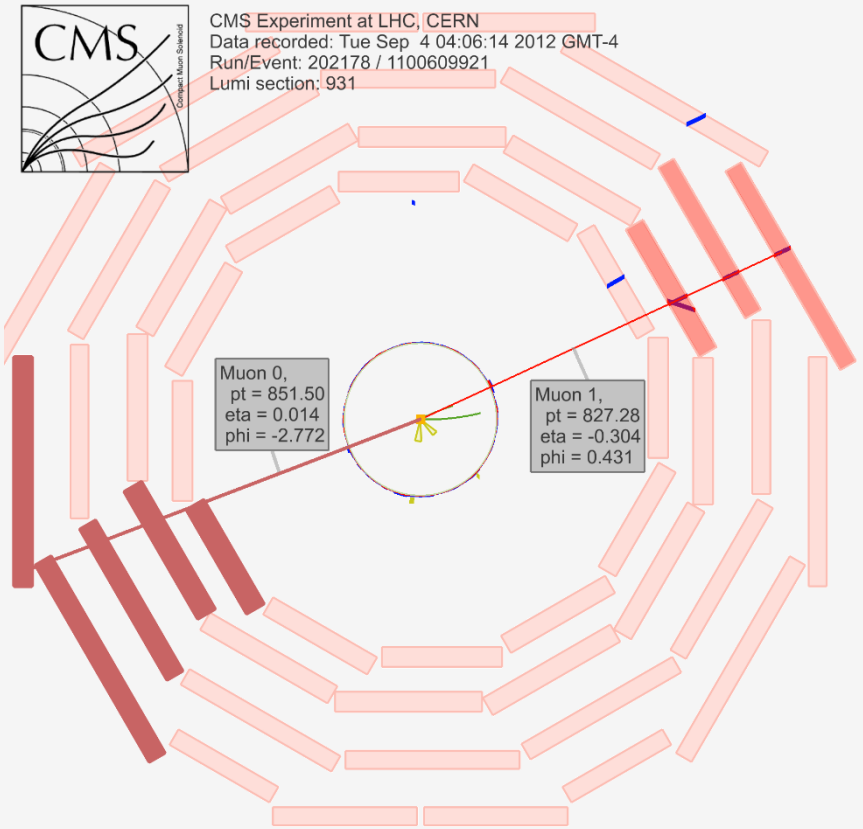


Efficiency Plot (Z Boson)

(Plot taken from lower energy runs)

Why does this matter?

- Culmination of Error (L1+L2)
- Comparison to MC
- Baseline for next HLT iteration



Summer Goals

- Understand the complexity of working in large scale collaborations
- Gain experience in code collaboration
- Be challenged by advisors and peers