PID in FastSim

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• Status
• (very) Recent developments
• Next steps
Status

- PacDirc package simulates the DIRC
  - True track goes through bar ⇒ true photons are generated (LUT)
  - Angles recomputed w.r.t. the reconstructed momentum
  - Cerenkov angle is the mean value; error is rms/√(# photons)
  → to my knowledge: no association problem nor unefficiencies

- PacPid package recently created
  - Contains a description of an aerogel detector for forward PID
    [not part of the simulation for now]
  - Place for Forward PID and global PID (selectors, etc.) codes
  - Wiki description to be coming soon
Recent Developments

• PacPid
  ▪ Implemented the first K and π selectors
    → Use likelihood ratios (‘LH’-like selectors for BaBarians)
    → Use only DRC information: need dE/dx from SVT and DCH
    → Will use forward PID data when simulated
    → Discovered and fixed a few bugs in the DRC simulation
  ▪ Working on renaming pieces of code
    → essentially « Pid » ⇒ « ForwardPid »
Next Steps

• Simulate forward PID
  → at least aerogel and TOF
  → easy switch between configurations
  → requires insertion of time information at the PacSimHit level

• Test, improve and add selectors
  → dE/dx information for hadron selection @ low momentum
  → muon selector also needed
Backup slides