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/$\sqrt{\# \text{ photons}}$
  → to my knowledge: no association problem nor unefficiencies
  → See Wiki for details: http://mailman.fe.infn.it/superbwiki/index.php/FastSimDoc/DIRC_simulation
  → See update from B. Meadows, this session

• 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 (Novossibirk + Padova) and TOF
  → easy switch between configurations
  → requires insertion of time information at the PacSimHit level

• Test, improve and add selectors for other particle types
  → dE/dx information for hadron selection @ low momentum
  → muon selector
  → electron selector Also needed
Backup slides