

PID in FastSim

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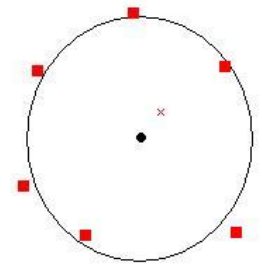
Orsay SuperB workshop

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- Status
- (very) Recent developments
- Next steps

Status



- PacDirc package simulates the DIRC
 - True track goes through bar \Rightarrow true photons are generated (LUT)
 - Angles recomputed w.r.t. the reconstructed momentum
 - Cerenkov angle is the mean value; error is $\text{rms}/\sqrt{(\# \text{ photons})}$

\rightarrow to my knowledge: no association problem nor unefficiencies

\rightarrow See Wiki for details: http://mailman.fe.infn.it/superwiki/index.php/FastSimDoc/DIRC_simulation

\rightarrow 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 » \Rightarrow « ForwardPid »

Next Steps

- Simulate forward PID
 - at least aerogel (Novossibirsk + 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