

# PID in FastSim

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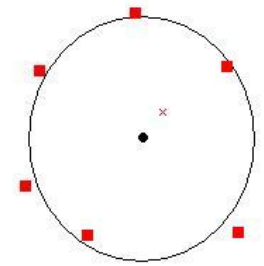
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- Status
- (very) Recent developments
- Next steps

# 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/superbwiki/index.php/FastSimDoc/DIRC\\_simulation](http://mailman.fe.infn.it/superbwiki/index.php/FastSimDoc/DIRC_simulation)
- 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  $\pi$  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 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