

PACRAT Status

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PacTrk Changes

- PacSimTrack Trajectory **now includes random scattering and energy loss!**
 - Gaussian scattering, Landau ΔE
 - Same RMSs as used in reconstruction
 - TrkRecoTrk chisq/DOF ~ 1
- Performance improvements
 - Skip 'unfitable' tracks (low-momentum, outside acceptance)
 - Tune track fit configuration
 - PacTrk CPU usage down to $\sim 10\%$ of EvtGen

PacMeasurement

- Describes active detector response
 - Independent of geometry
 - Part of PacDetElem
- Implemented PacTrkHitMeasurement
 - supports Si strip, pixel, Drift (axial+stereo), ...

BaBar configuration

- All parameters defined in `pacrat_BaBar.cfg`
- beampipe, support tube, outer cylinder
- 5 layers Svt
 - 10 μm ϕ hit, 20 μm z hit resolution
 - 96% ϕ , 94% z efficiency
- 40 layers Dch
 - 180 μm resolution, 6° stereo
 - Axial stereo+ stereo- superlayers

Future Plans

- Finish (+tag) integration with PravdaMC
- Compare BaBar.cfg with full simulation
 - resolution, # of hits/track, chisq/dof, pulls, ...
- Profile and improve performance
- Event Display (root graphics)
- Add overlaps, lampshades, disks, ...
- EDML language
- Decays + Material Interactions