# Pacrat Status

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# Package Splitting

Old
PacTrk

PackageList

PacEnv

PacGeom

PacSim

PacTrk

PacDrc

PacEmc

PacIfr

PacDetector

PacTest

PravdaMC

# Packages

- ## PacEnv
  - configuration and (reduced) environment
- ## PacGeom
  - Low-level Geometry (+ PacMeasurement)
- ## PacSim
  - Simulate particle passage through detector
- ## PacTrk, PacDirc, PacIfr, PacEmc
  - Simulate measurement and reconstruction
- ## PacDetector
  - High-level detector object and description
- ## PacTest
  - unit tests

# BaBar packages

- SuperB changes to BaBar packages are now all announced, will appear in 24.3.3c
  - DetectorModel V01-04-07
  - KalmanTrack V01-11-18
  - ProxyDict V02-02-02
- Changing BaBar packages is becoming difficult
  - Extensive testing needed even for simple changes
- New plan: Import packages to LBL Svn when changes are needed
  - Will supersede global import version (December?)

# PacSimulate Changes

- Neutral particle Simulation
  - Generation of PacSimTrack for neutrals
- Charged particle simulation in 0 field
  - outer detector simulation
- Tuning of scattering, Energy loss (A. Suzuki)
- Design for secondary creation
  - Brems (e), conversion, Compton ($\gamma$), Nuclear Int.
  - Work consistently with 'showering'

# PacGeom Changes

- Preparation for Plane, Cone geometries
- Preparation for 0-field (outer) simulation
  - PacSimTrack trajectory can now include line pieces and helix pieces
- Modeling of overlaps in cylinder elements
  - specify # of overlaps, overlap size, phase ($\phi$)
- Modeling of gaps in cylinder elements
  - specify # of gaps, gap size, phase ($\phi$)
  - gaps can be large (ie space between wires in Dch)

# Todo list

- Outer Detector simulation
  - Outer Detector Element configuration
  - B-field limits
- Planar geometry Detector Elements
  - Only planes parallel and orthogonal to Z
- Configuration interface for overlaps and gaps
- Conical geometry Detector Elements
  - transcendental helix intersection

# Other Projects

- SvnTools development (J. Anderson)
  - svn translation of SoftRelTools
    - addpkg, statusrel, addtag, ...
  - Will simplify user interaction, enforce policy
- GDML/XML configuration (I. Gaponenko)
  - goal is (minimal) functional product by 1 Oct.