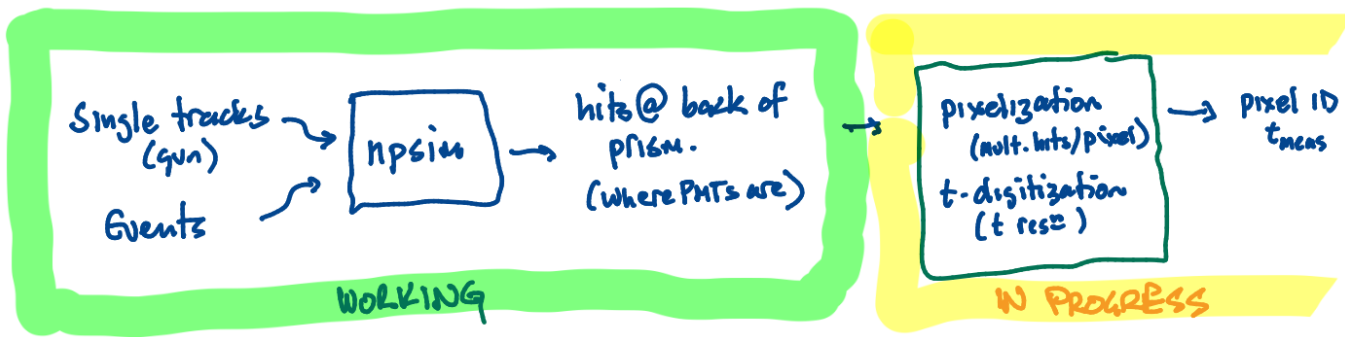


Sim :

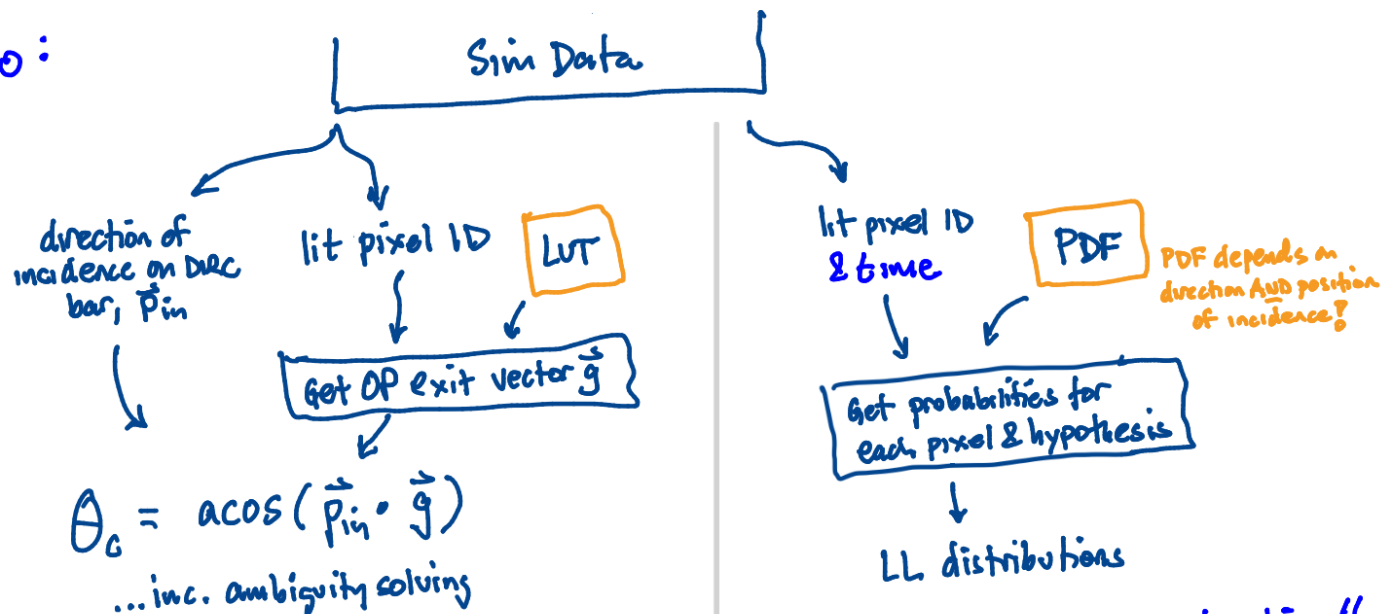


hpdirc reconstruction status

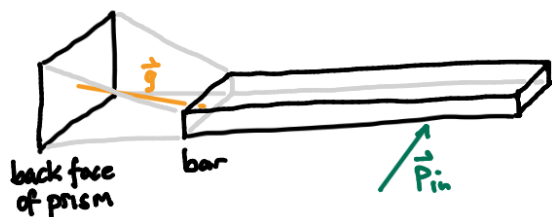
may 4, 2026
w.j. llope

← simplified schematic view of hpdirc code

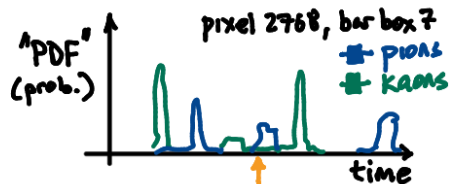
reco :



"Geometric Reconstruction"

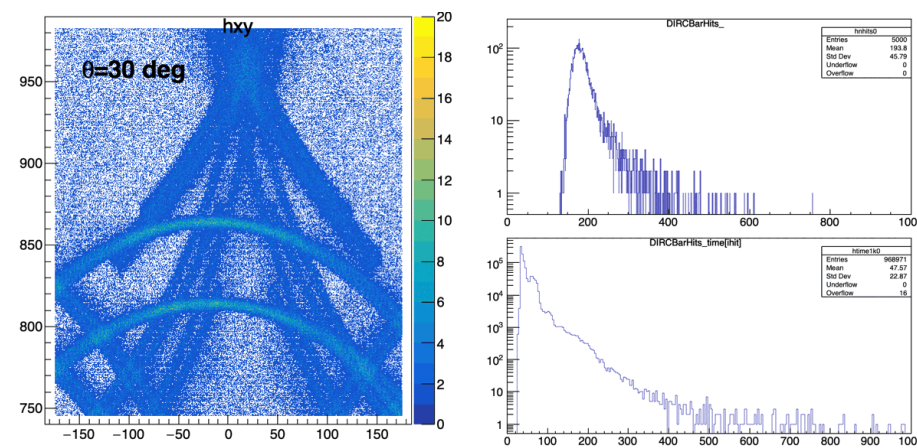


"Time Imaging Reconstruction"



Strategy:

- Left first, right next
- Macro first, eicrecon next



- ✓ 2025 OP kill at creation according to photodetector QE (W. Deconinck)
presently the efficiency table is defined in npsim.py itself
(should be user stacking action instead?) not too many OPs
- ✓ 2025 hpDIRC CADD geometry pdf released (K. Cleveland) geometry known
- ✓ Feb 2026 dd4hep/npsim geometry modified to match (WJL)
issue: <https://github.com/eic/epic/issues/1053>
PR: <https://github.com/eic/epic/pull/1054> geometries agree
- ✓ Mar 2026 stepping action to record dirctbar entrance vector (WJL)
MM: <https://chat.epic-eic.org/main/pl/86hcat7zi3g7uereek8swi8na>
code: <https://github.com/eic/ddDircAction> \vec{p}_{inc} for GeoReco
- ✓ Mar 2026 randomize non-zero polarization in optical photon gun (W. Deconinck)
MM: <https://chat.epic-eic.org/main/pl/34f6bnjhy7n5tfeirfhe8t11jw>
PR: <https://github.com/AIDAsoft/DD4hep/pull/1598> LUT gen. physical
- ✗ Mar 2026 npsim crash when generating optical photons
MM: <https://chat.epic-eic.org/main/pl/34f6bnjhy7n5tfeirfhe8t11jw> we're here...
- ✓ Apr 2026 compile standalone (eicdirc) under shell (WJL)
required removal of TSpectrum, and cxx20 backup LUT approach

-> try to debug npsim crash?
-> make standalone geometry in eic-shell same as ePIC CADD
-> implement LUT format from npsim LUT generation
-> **Make root macro to read npsim output, and LUTs, and make theta-C.**