# Particular FEE aspects of the Time-of-Propagation Disc DIRC

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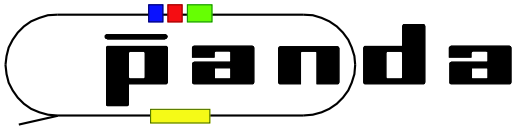
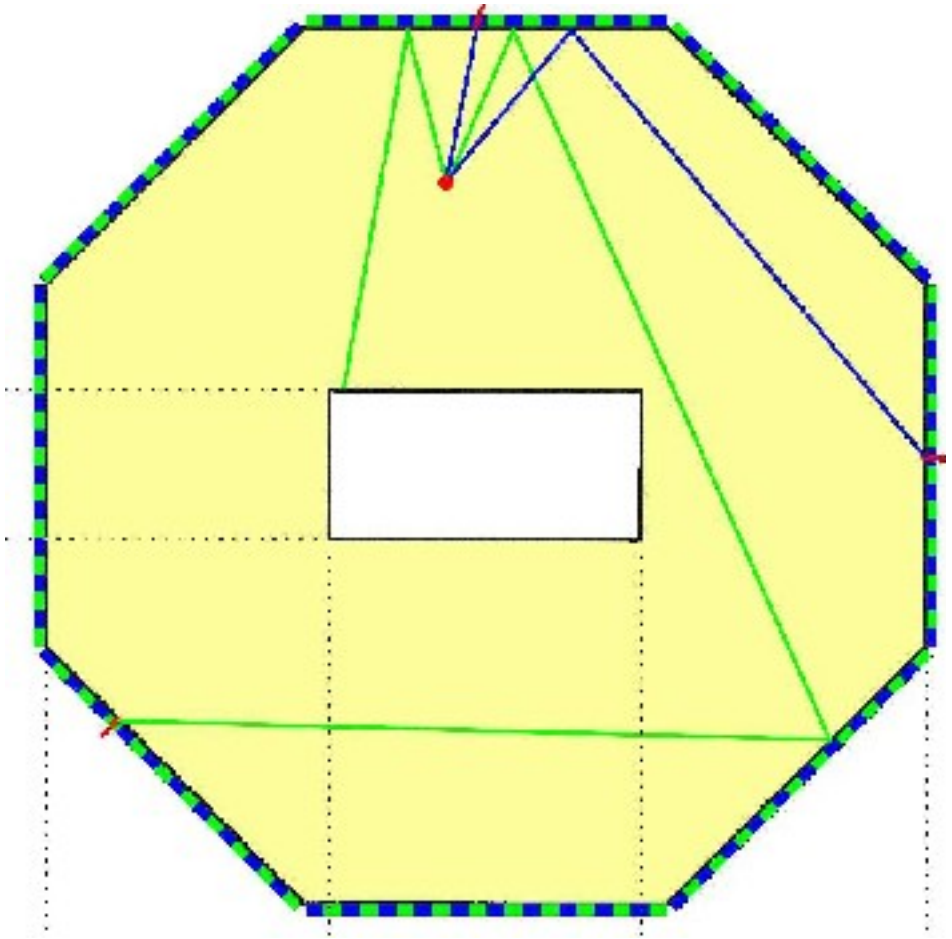
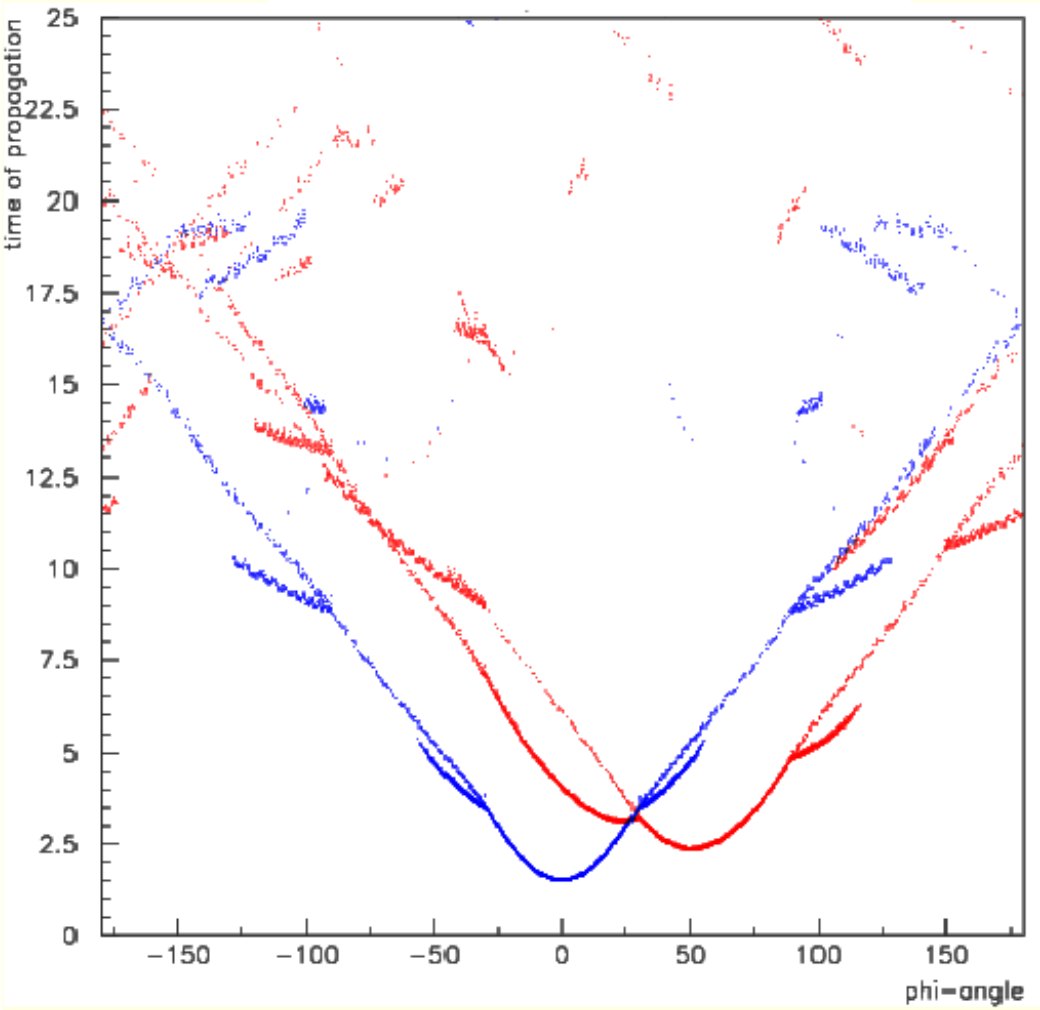



# Schema & Sample Hit Pattern





# Time-of-Propagation specials 1

- 960 channels (FL 4096)
- time resolution
  - analog overall sigma=40ps
  - TDC 25ps LSB
- ~50 visible photons / particle (PDE 30%)
- ~2 particles / interaction (p=10GeV/c, cf Tibor Keri)
- **2 GHz average rate** (50*2*20MHz)
- arrival (90% hits) in ~10ns interval

# Time-of-Propagation specials 2

- 960 channels
- **120** HPTDC chips (8 channel 25ps mode)
- 2 GHz average rate
- **100** HPTDC chips (20MHz rate per chip)
- 115+-90 photons / event (2.3+-1.8)*50 @ 15GeV/c
  - occupancy ~0.2 /channel/event
  - buffering n=? hits per input channel

# Shopping List

- HPTDC: 120 chips (instrumentation, 100 for rate)
- 40ps resolution [photon-->TDC] analog chain
- ~20ps time reference jitter per chip (or better)