

Acquisition specs

Project meeting: 25/01/2017



Specifications: OP requested modes



- Closed Orbit
 - Single gated batch
 - 1kHz data for 100s (100,000 points)
 - Data resampling
- Trajectory
 - 50 turns @ EACH injection for each batch (15?)
 - 10,000 turns on demand for a specified batch
- Intensity information (??)
- Interlock
 - Extraction: sampled @1ms 20ms before extraction
 - Ring: muted around the injection

Proposed implementation: Orbit



- 16 values from 2 orbit types:
 - Global/Asynch (1)
 - Batch/Synch (15)
- Configurable BW instead of fixed 1kHz
- Online readout @ 25Hz and published @ 1Hz
- IIR implementation instead of sum?

Proposed implementation: Trajectory



- Injection (64 turns):
 - BST pre-injection trigger
 - Interrupt at the end of each acquisition
 - Readout before next injection
- On demand (10k turns):
 - BST selectable trigger and SW start
 - Interrupt at the end of each acquisition
 - Re-arm via SW after readout

Proposed Implementation: Intensity



- Do we need it?
- What they actually want?
- It is just a left over from the MOPOS?

Proposed implementation: Interlock



- To be better defined the strategy for the interlock

Extra modes



- Debug:
 - A dump of all the values (Sigma and Delta) for a programmable time slice
 - Asynch or Batch gated
 - Triggered on a selectable BST trigger or via SW
- Channel noise estimation:
 - IIR base std-dev estimator for all the batches and all the planes