

Pulsar Readout within DAQ system

- Two Pulsar banks : T2PD (old) and TP2D(new)
 - T2PD (muon board readout): unchanged since last fall
 - Three buffers read out: DAQ, muon fibers, XTRP
 - DAQ and XTRP are variable-length, muon is fixed-length
 - Read out on ROL 7 due to readout time (16 fibers each require separate VME read due to address mapping)
 - TP2D: multi-board, multi-buffer readout
 - “final” bank for L2 Pulsar system
 - Can read all buffers for diagnostic readout or limited readout for every event (to control readout time)
 - Flexibility in fiber readout – N fibers in hardware database
 - Address mapping for fibers....continuous address space (big help in speeding up readout -- N=1 reads)

TP2D Readout

- **Hardware database parameters control readout at the board level**
 - Can turn on/off 2 x 2 DataIO (fiber) buffers, 2 CTRL buffers (maximum Nbuffers=6 per board)
 - Variable- or fixed-length readout
 - Nfibers = 1 for most boards
 - Board-level readout-list (can read out a board only on ROL7)
- **Bank format**
 - Each buffer -> card in bank
 - Access by pointers
 - Burkard's modifications remove extra words and commissioning board separators -> 'final' format

- Readout speed
 - Formerly, 1 board ~0.6 ms
 - Burkard's tests last weekend:
 - 3 boards, full readout < 0.7 ms
- Further possible improvements
 - VISIONfastread calls
 - Spy mode readout