Pixel Online Software

Souvik Das

(Cornell University)

Calibrations with SLink Readout

→ New versions of Pixel Alive, Gain Curve and S-Curve calibrations have been committed that use the SLink for readout instead of SpyFIFO 3.

Pixel Alive Calibration

The timing for with VME readout:

Timing summary: total time=564.502

FEC total calls   :4160 total time:275.975 avg time:0.06634

FED enable total calls :41600 total time:31.9747 avg time:0.000768622

TTC total calls   :41600 total time:14.9366 avg time:0.000359054

FED readout total calls:41600 total time:241.513 avg time:0.00580561

For without VME readout:

PixelGainAliveSCurveCalibrationWithSLink::execute - Timing summary: total time=290.762

PixelGainAliveSCurveCalibrationWithSLink::execute - FEC total calls   :4160 total time:276.346 avg time:0.0664294

PixelGainAliveSCurveCalibrationWithSLink::execute - TTC total calls   :41600 total time:14.3789 avg time:0.000345646

→ Combined with FEC block-transfer and buffered mode this time is radically cut down by nearly a factor of 10. I did this test with Address Levels Calibration but not Pixel Alive.

Low Level GUI for PixelTKFECSupervisor

Pixel Tracker FEC Supervisor Date: Wed, 19 Dec 2

Finite State Machine

Current State Initial							
Configure	Halt	Initialize	Pause	Resume	Start	Stop

Low Level Commands

Tracker FEC Board

mFEC 1	A	B
mFEC 2	A	B
mFEC 3	A	B
mFEC 4	A	B
mFEC 5	A	B
mFEC 6	A	B
mFEC 7	A	B

Low Level GUI

➜ A new Low Level GUI for the PixelTKFECSupervisor is in progress. It is envisioned to reflect the hardware chain as intuitively as possible.

➜ A TKFEC board is presented with multiple mFECs on the Low Level Commands section of the first page.

➜ Clicking on any mFEC takes you to the CCU Board Level GUI. The CCU Board Level GUI contains the various resets and links to the various CCU chips on the board.

➜ Clicking on any CCU Chip takes you to the CCU Chip level GUI where its functions and its connections to the PortCards will be represented.

➜ Currently the PixelTKFECSupervisor supports one TKFEC. Will this change?

➜ Currently I'm putting the GUI in place with comments where Anders will put in the actual functional code – will coordinate with him.

CCU Board GUI

CCU Board attached to mFEC 3, mFECChannel B

Reset DOH 1 and all CCU chips ResetA
Reset DOH 2 and all CCU chips ResetB

CCU Chip	CCU Chip	CCU Chip	CCU Chip