

HVStripV1 Testing

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November 25, 2014

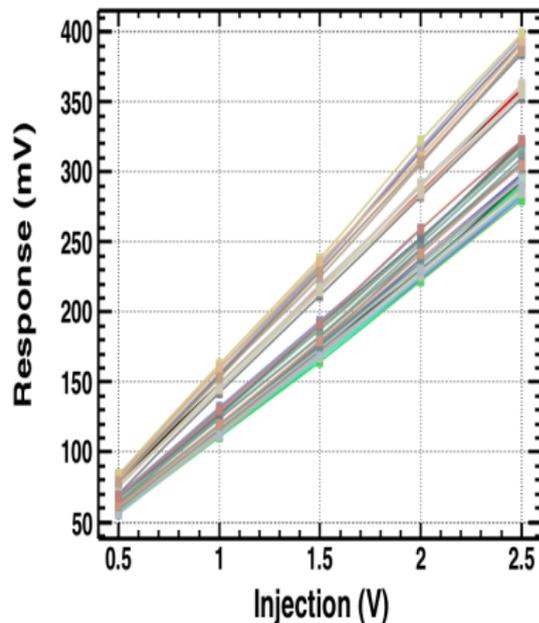
Presentation Outline

1 Linearity

2 Bias Sweep

Linearity (1)

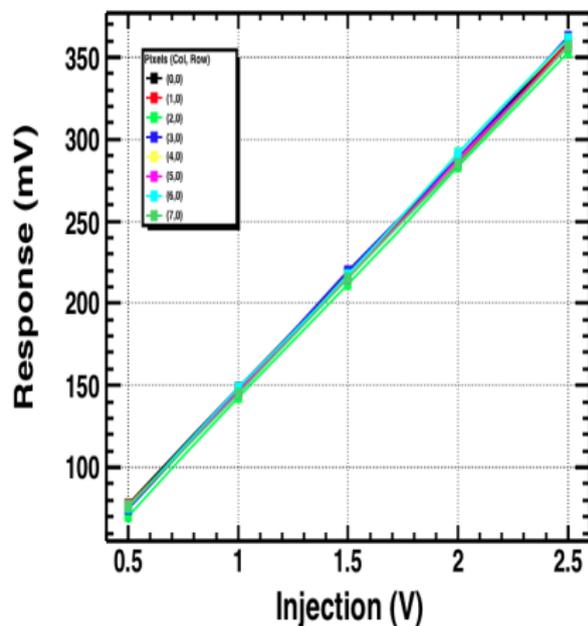
- Linearity tests were done for whole pixel matrix (with -60V applied substrate bias)
- Readout from oscilloscope
- 5 data points at injection voltages of 0.5, 1.0, 1.5, 2.0, 2.5
- Gradient variation among row 0 and row 1 high gain pixels is observed



Fri Nov 21 11:38:26 2014

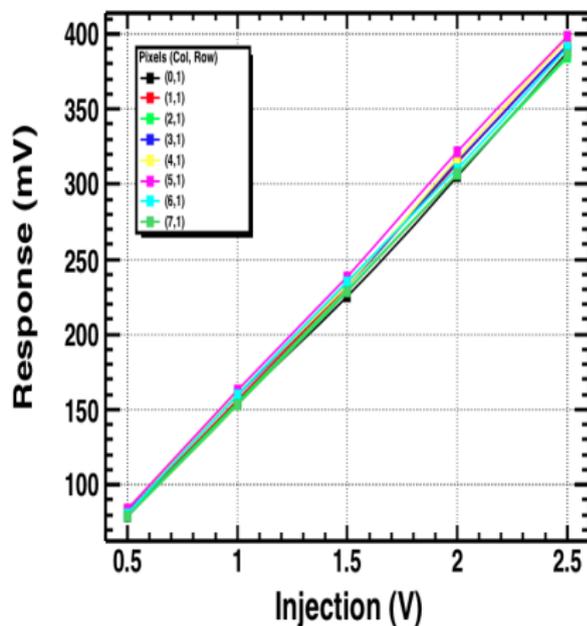
Linearity of High Gain Pixels

Row 0



Fri Nov 21 10:36:29 2014

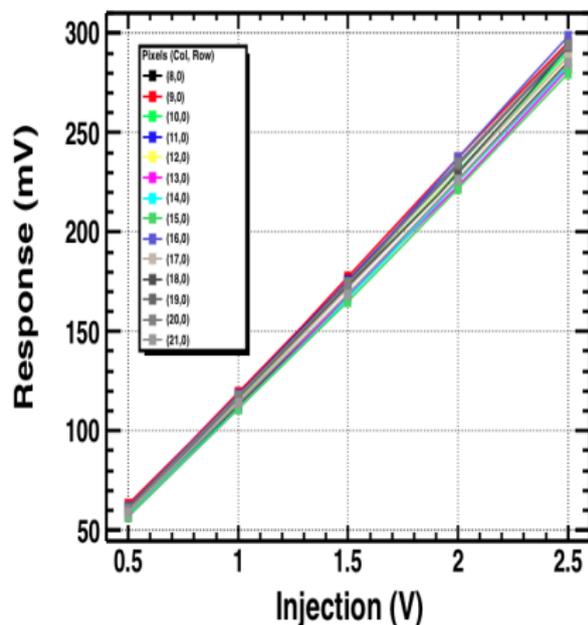
Row 1



Fri Nov 21 10:40:23 2014

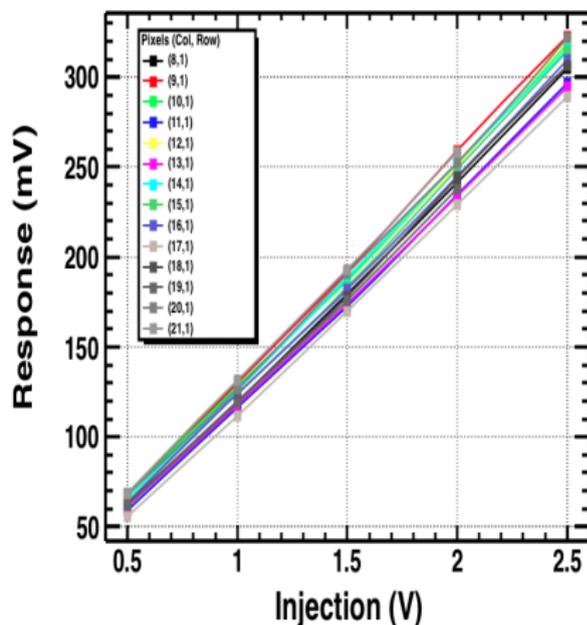
Linearity of Low Gain Pixels

Row 0



Fri Nov 21 11:30:23 2014

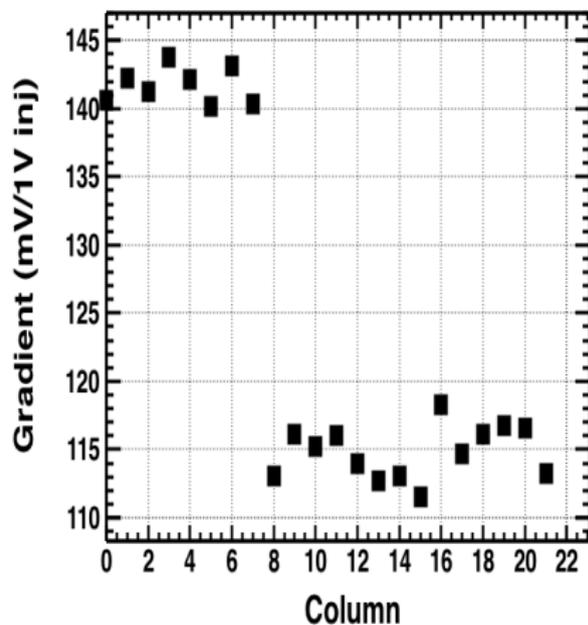
Row 1



Fri Nov 21 11:33:27 2014

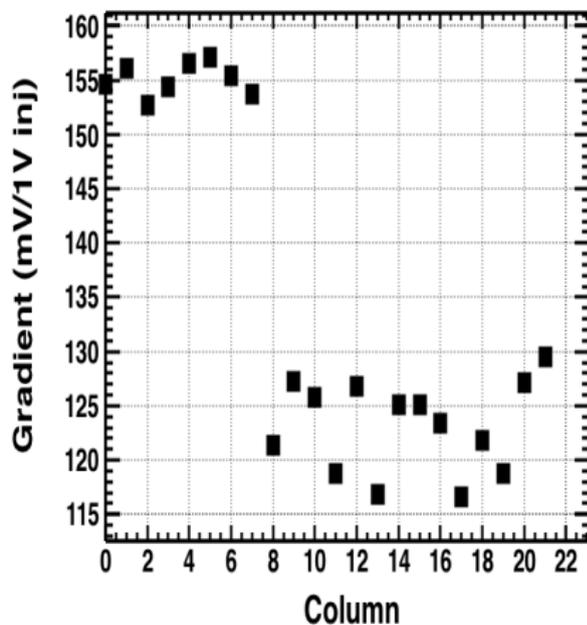
Gain Gradient Distribution

Row 0



Fri Nov 21 13:44:42 2014

Row 1



Fri Nov 21 13:45:37 2014

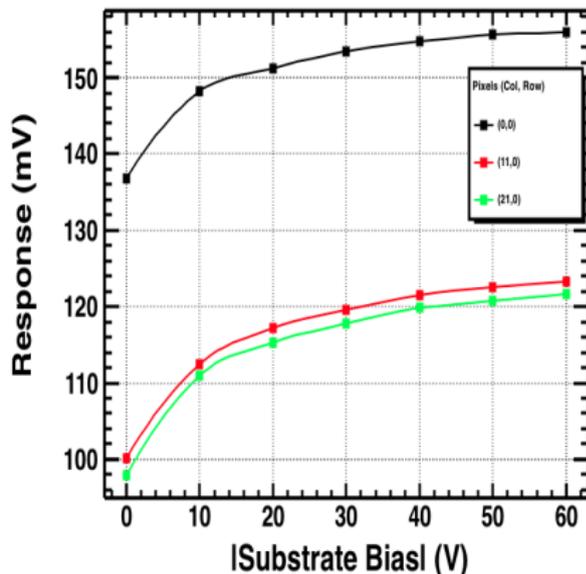
Presentation Outline

1 Linearity

2 Bias Sweep

Bias Sweep (1)

- Analogue response measurements of several pixels as a function of bias voltage were taken
- Injection pulses of 1V were used
- Decaying increase in amplitude is observed for all pixels
- Currently have semi-automated labview based DAQ to take measurements for all pixel matrix at constant bias



Tue Nov 25 14:42:50 2014

Bias Sweep (2)

SCTDAQ

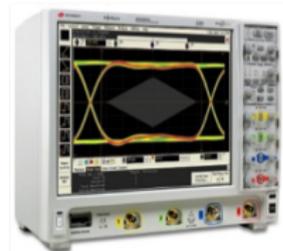


Trigger for DAQ



After pixel switch, current
row and column values are
written to a text file

LabView VI



Possibility to send a trigger back in
the same way back to change a
pixel for a readout