

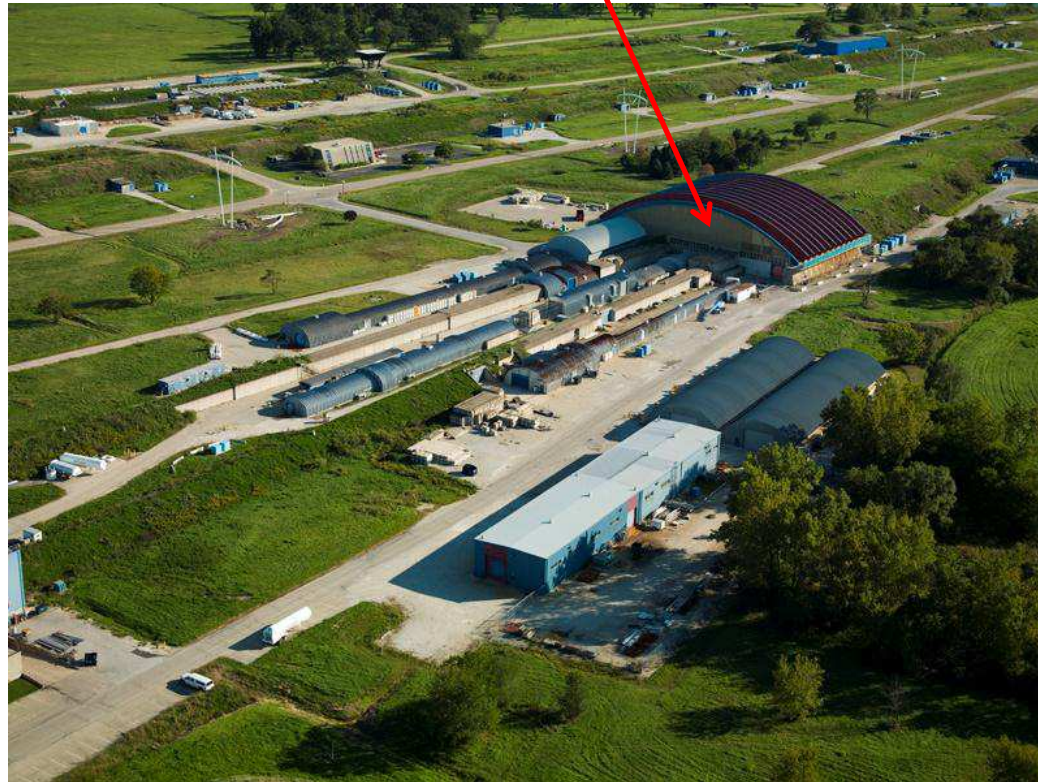
Lab 10: Silicon Strip Sensor Readout Lab

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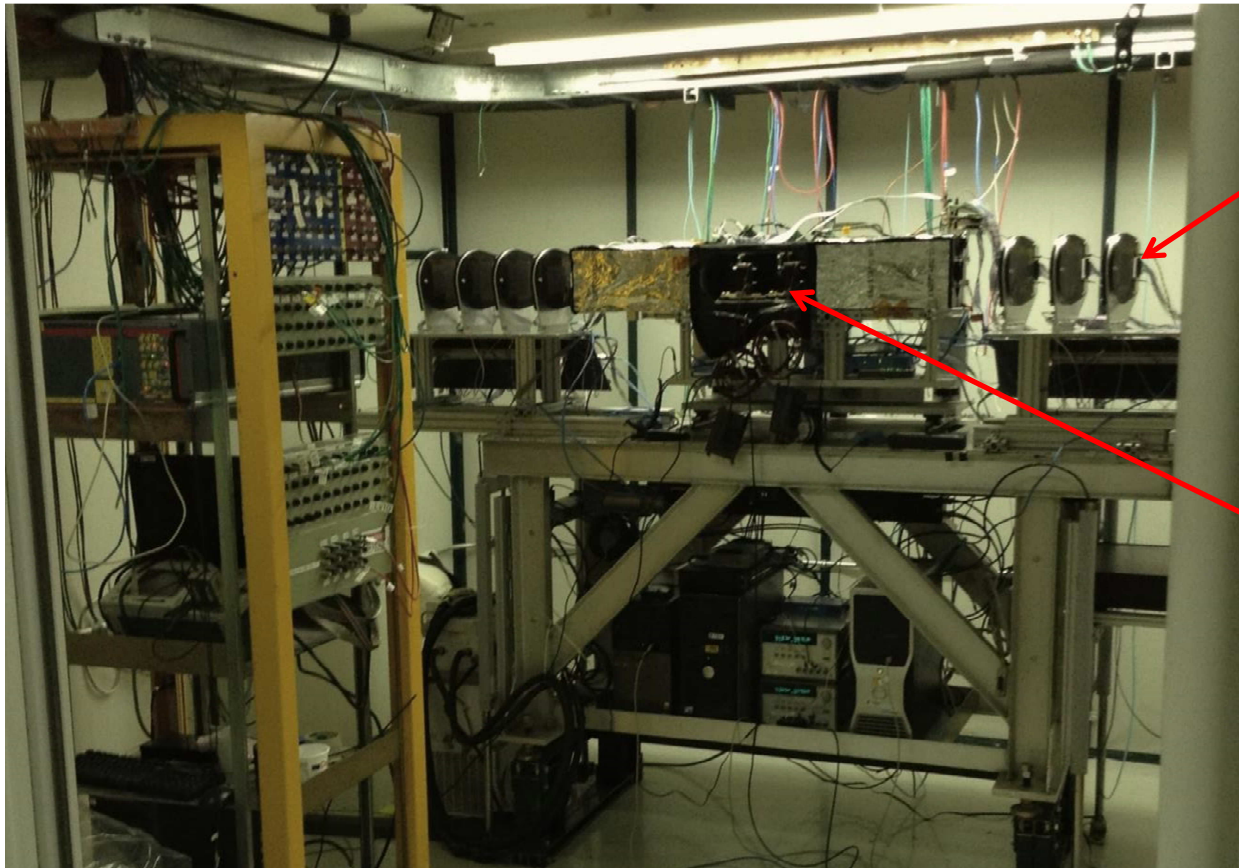
The strip sensors and readout system used in the Fermilab test beam instrumentation have many aspects that are common to strip sensor detector systems used in current HEP experiments.

We can explore some aspects of signal formation, digitization and readout using one plane of sensors.

Fermilab Testbeam Facility



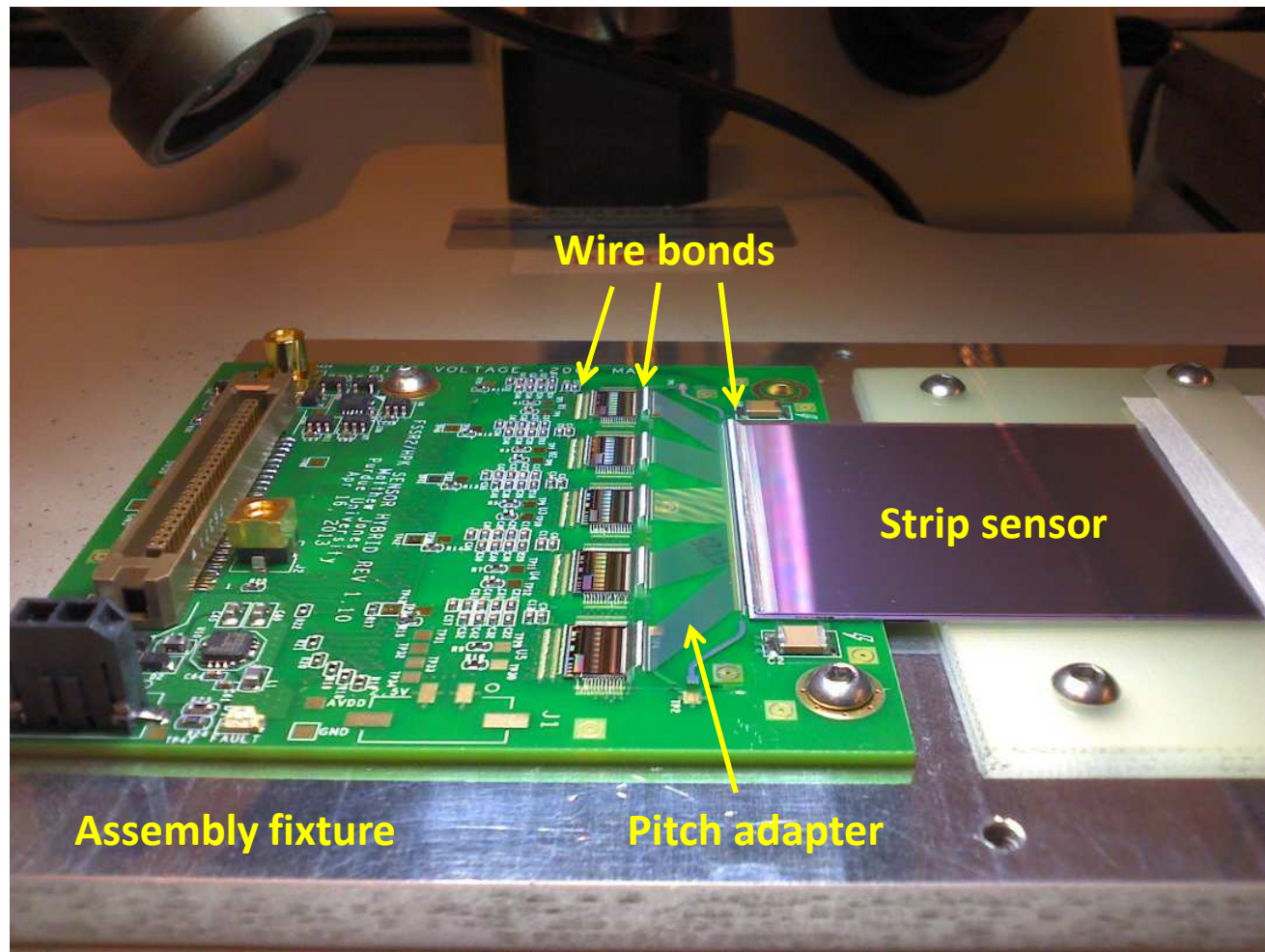
Test beam Telescope



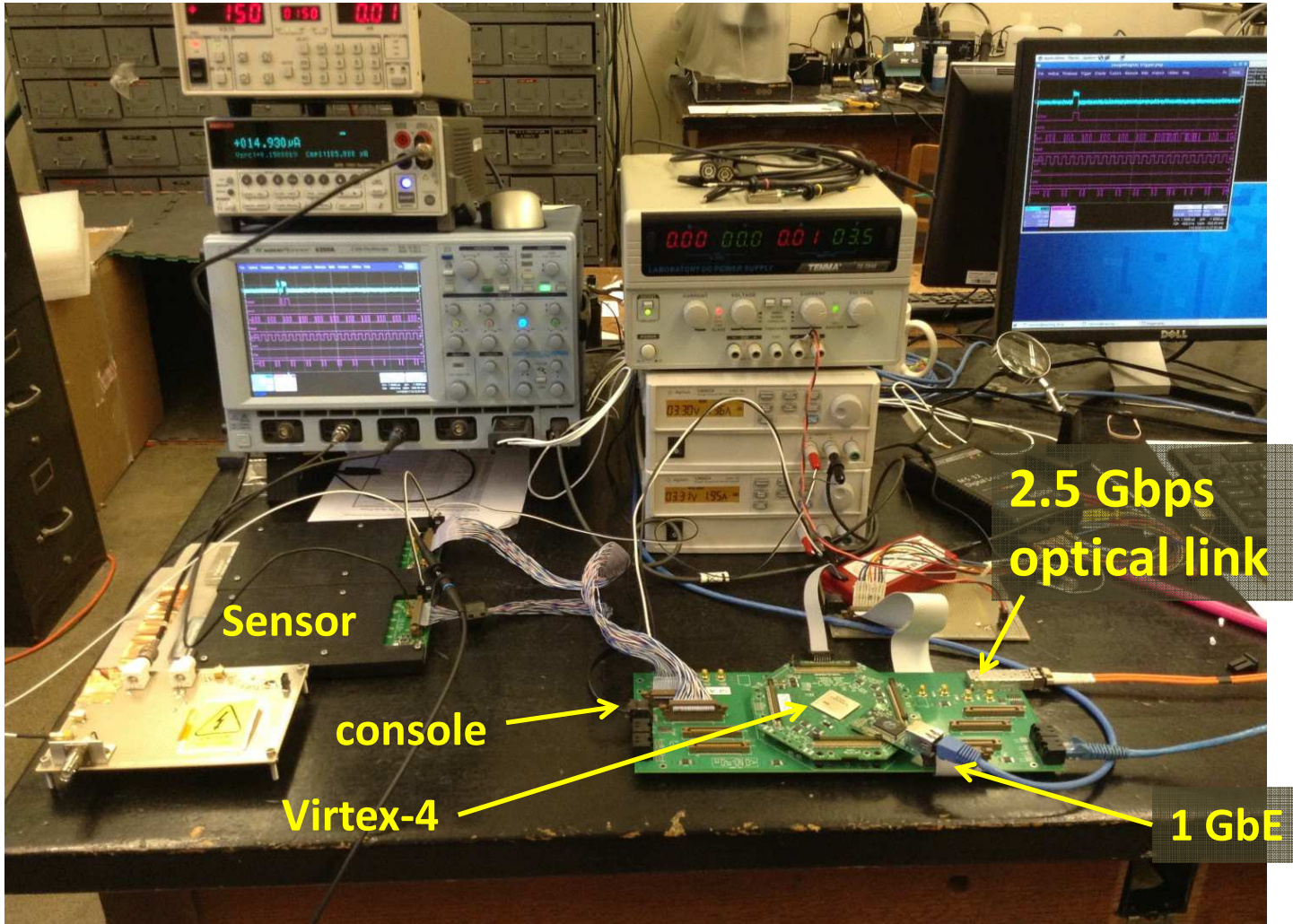
Planes of silicon strip sensors

Your device to be tested goes here...

Strip Sensor Module



Single Plane Readout



Lab Activities*

What can we do with just one plane of sensors?

1. Use injected pulses to measure the discriminator threshold and noise.
2. Measure threshold and noise for
 - Different shaping times
 - Different gain settings
 - Different bias voltage
3. Measure cluster size and pulse height distribution from Strontium-90 source and cosmic rays.
4. Analysis of test beam data (more of a computing lab).

* Assuming the equipment survived the trip here, is set up and is working...