IST Report

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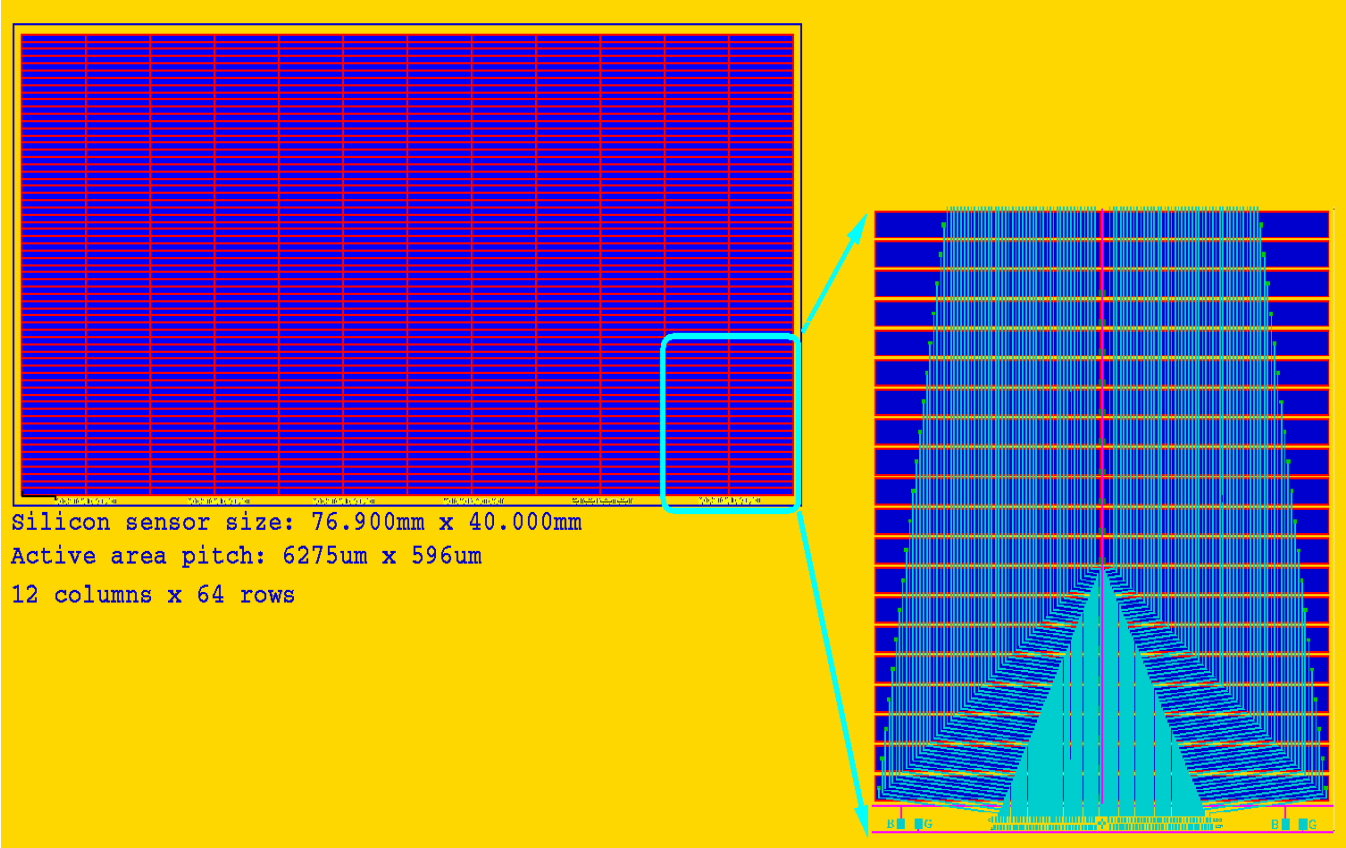
MIT

IST presentation overview

STAR HFT

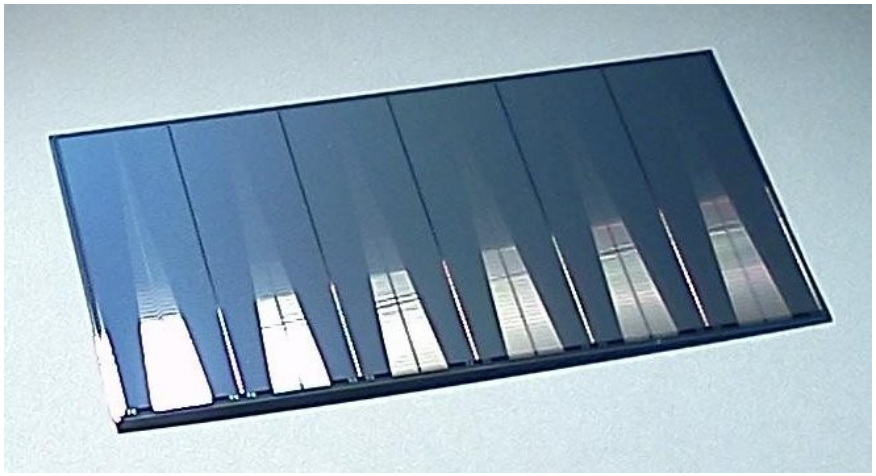
- Prototype sensors
- Dummy prototype stave
- Carbon fiber prototype stave
- Test readout
- Short term schedules
- Milestones

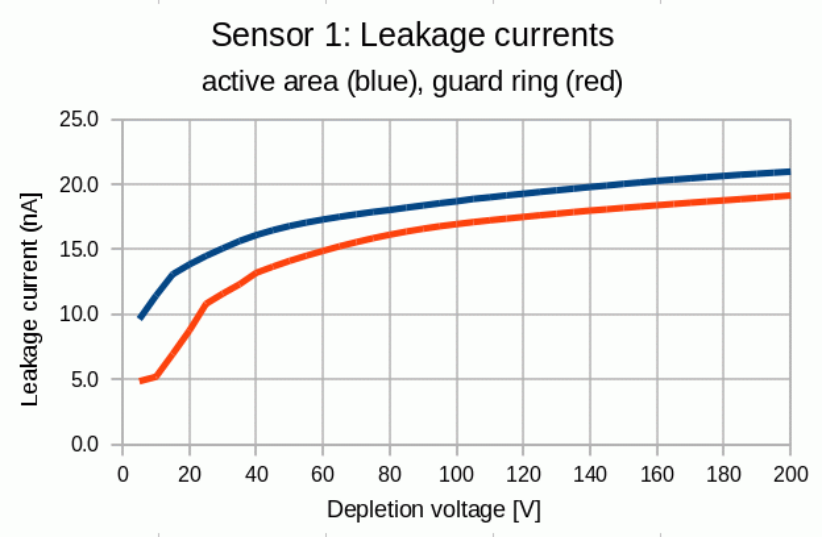
IST silicon pad sensor



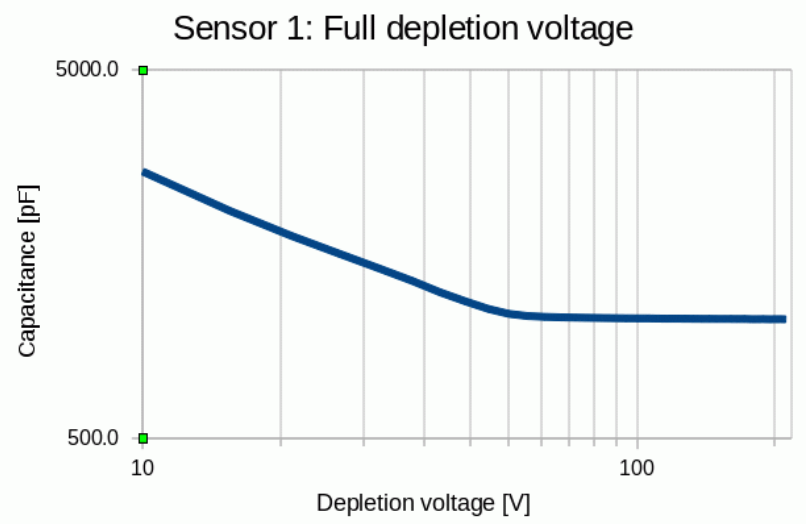
Eight prototypes were received on Dec. 14th

IST prototype sensors



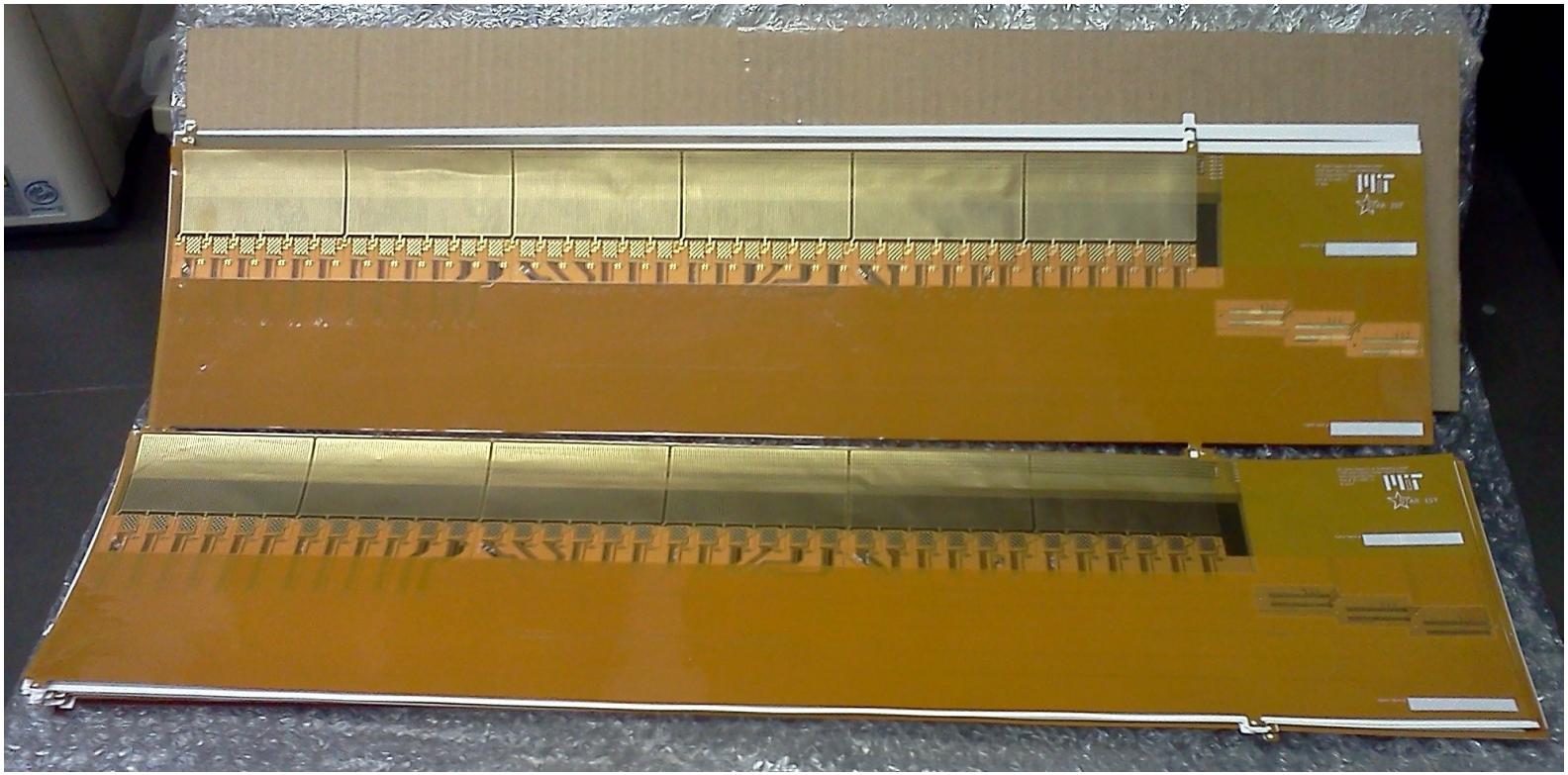


Serial No.	1	2
NG strips	0 %	0 %
coupling short	0	0
readout short	0	0
readout open	0	0
implant short	0	0
implant open	0	0
Bad connection	0	0



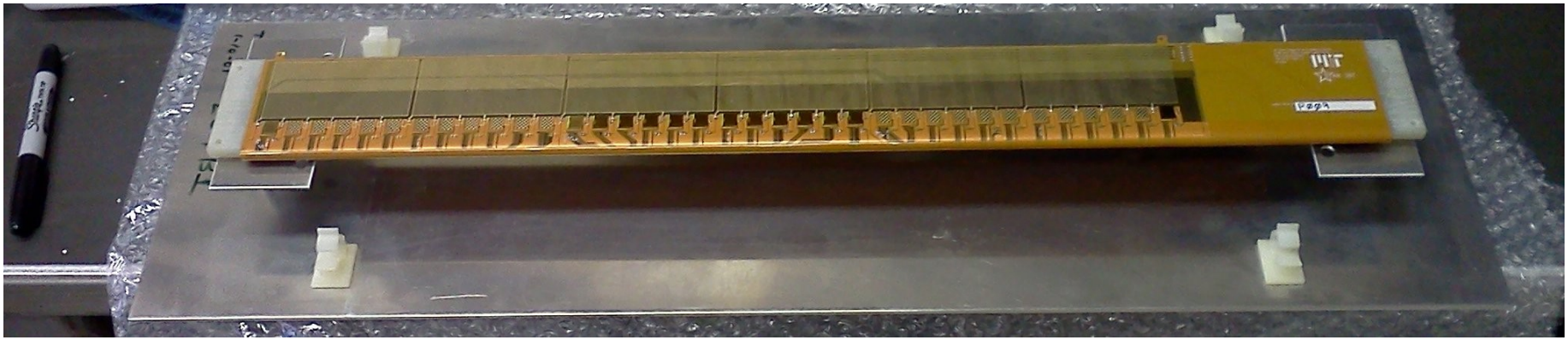
Prototypes stored at BNL

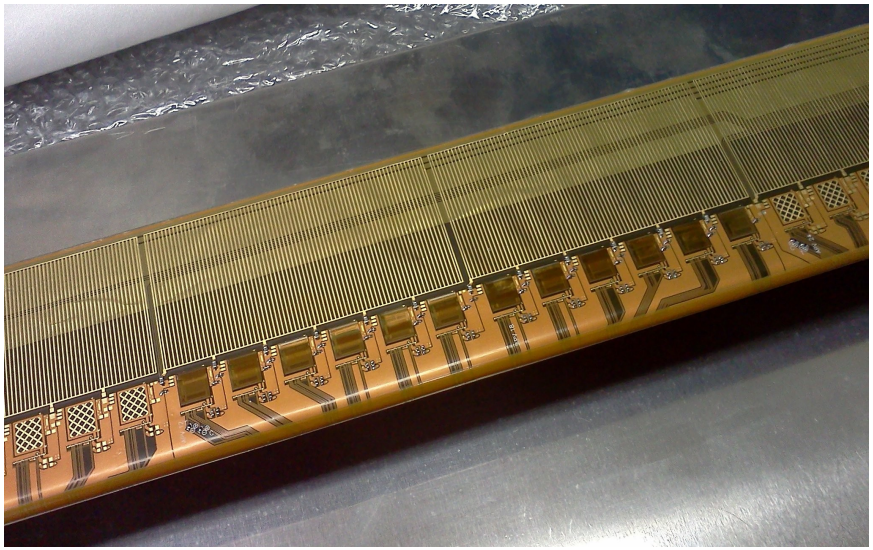
IST prototype hybrid

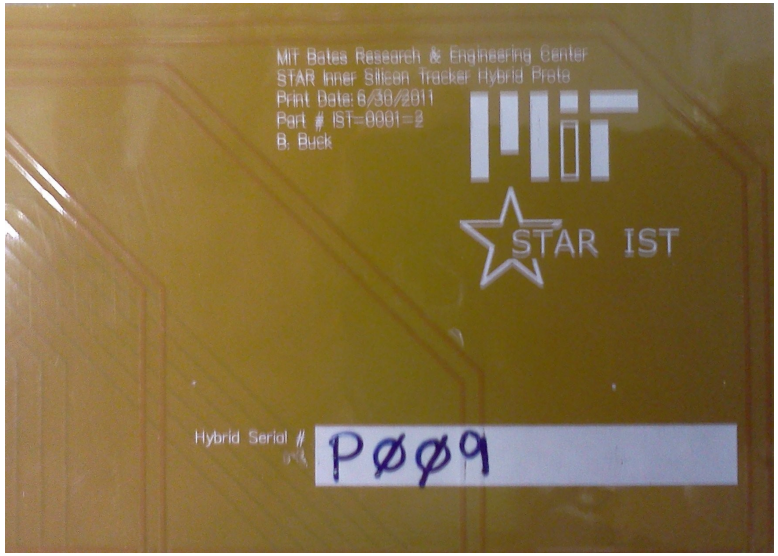


14 prototypes were received Oct. 12th
Alignment OK, glue containment OK

IST dummy prototype stave







IST dummy prototype bonding

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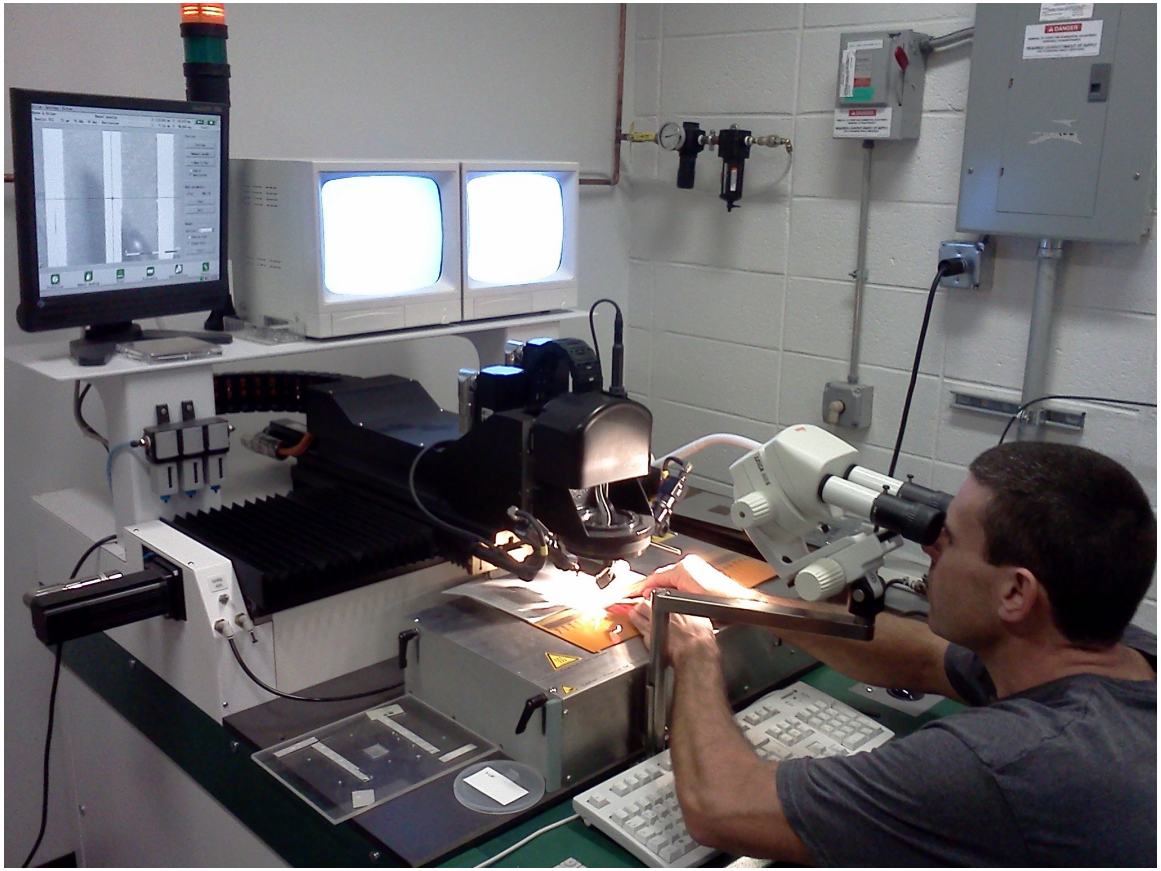
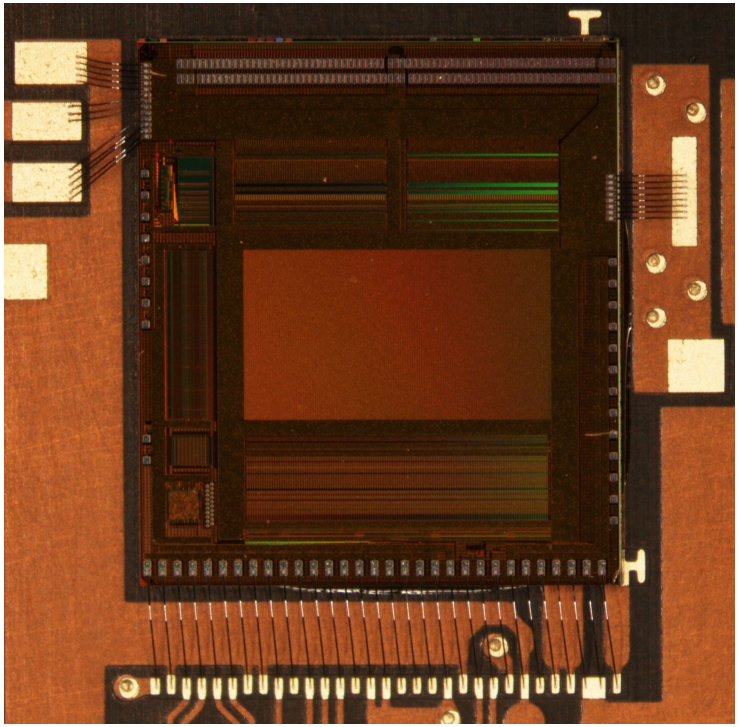
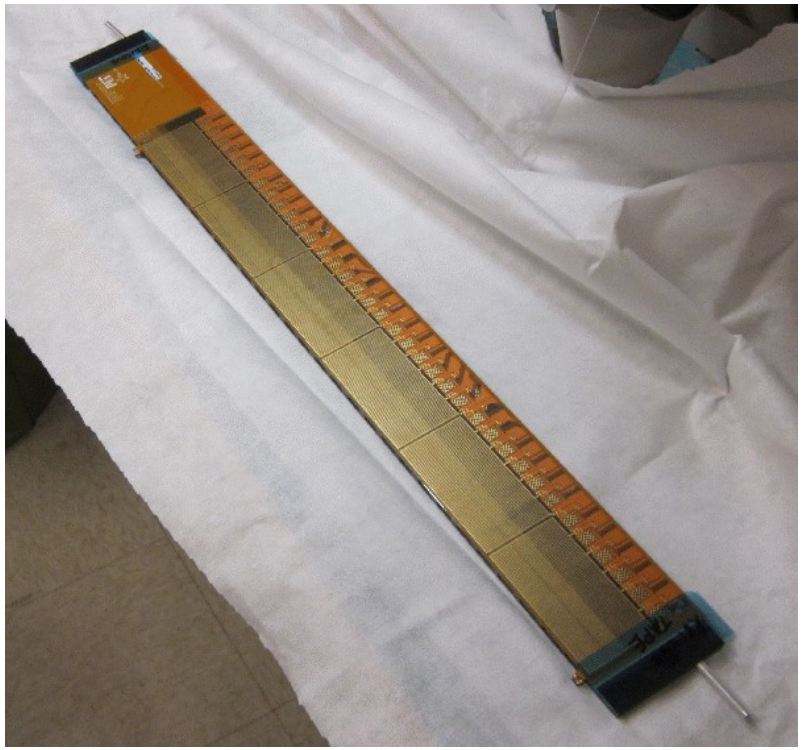




Bonded APV25-S1 chip

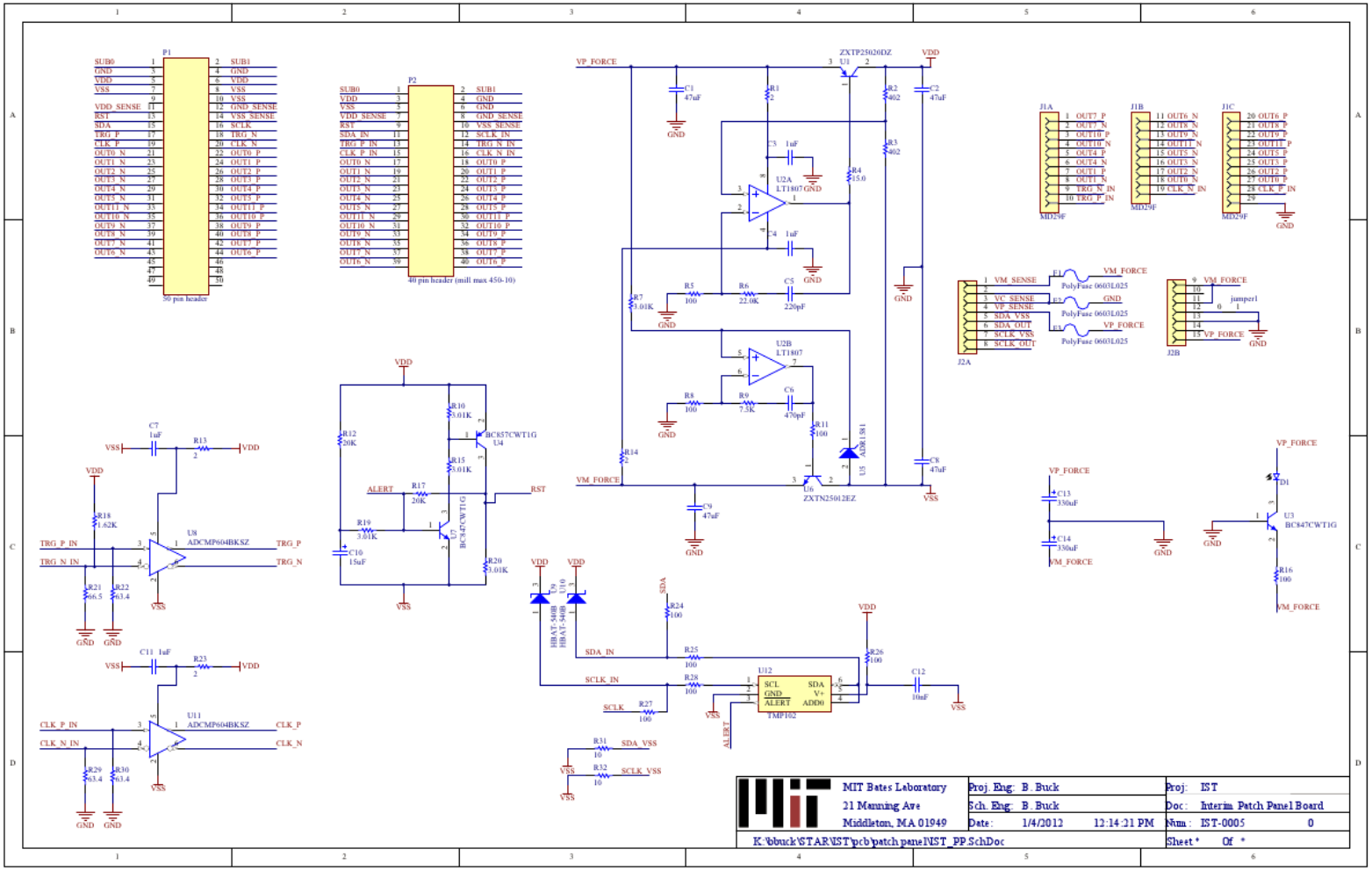
Wire bonding of dummy prototype stave will probably be done this week still

IST prototype stave



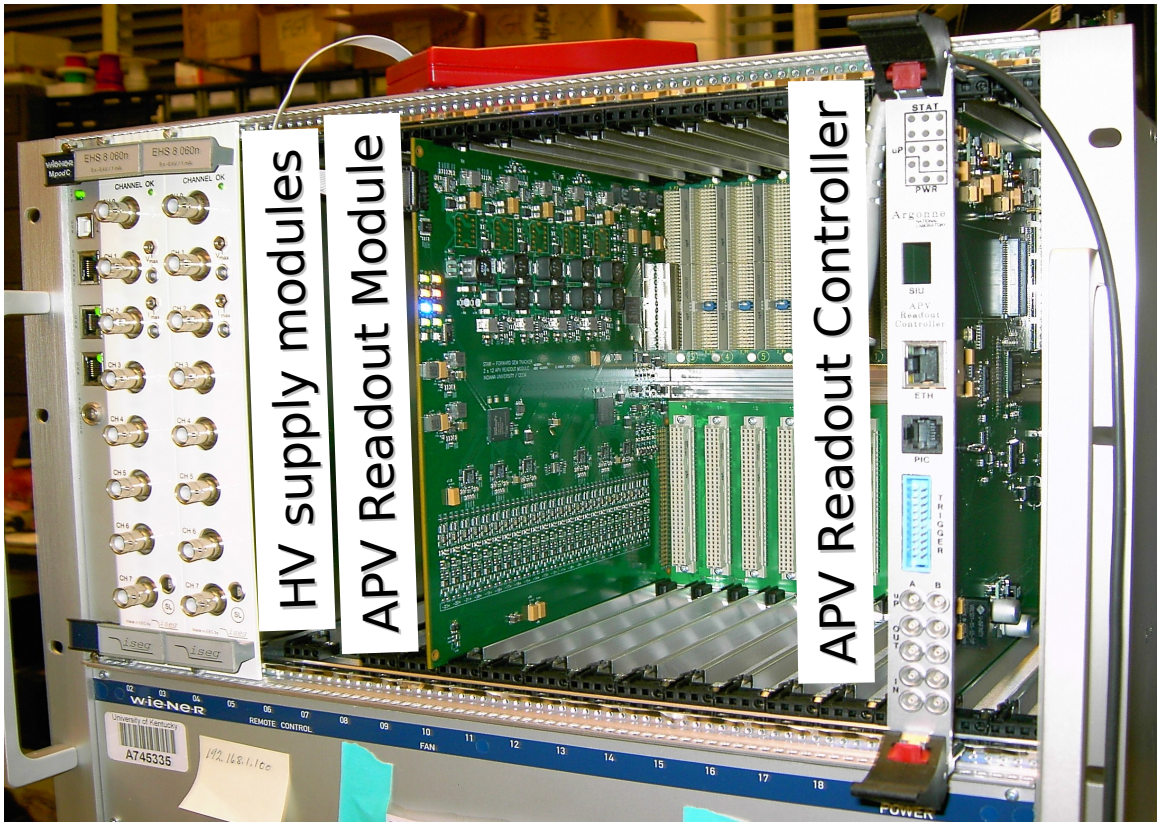
First carbon fiber prototype stave received from LBNL just after Christmas
Will be fully loaded asap

IST patch panel board



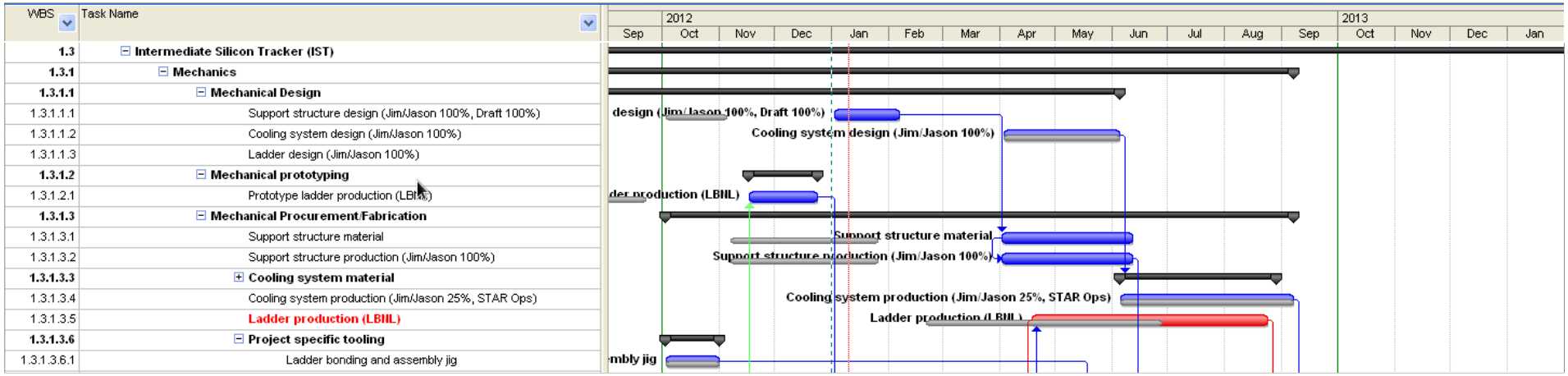
Needed for connecting to FGT test system

'IST' readout



Has been running great for FGT cosmic ray testing
ARC, ARM's and DAQ-PC (GMT) available for IST testing
(but will start procuring our own stuff soon)

IST mechanics schedule



IST electr. & assem. schedule

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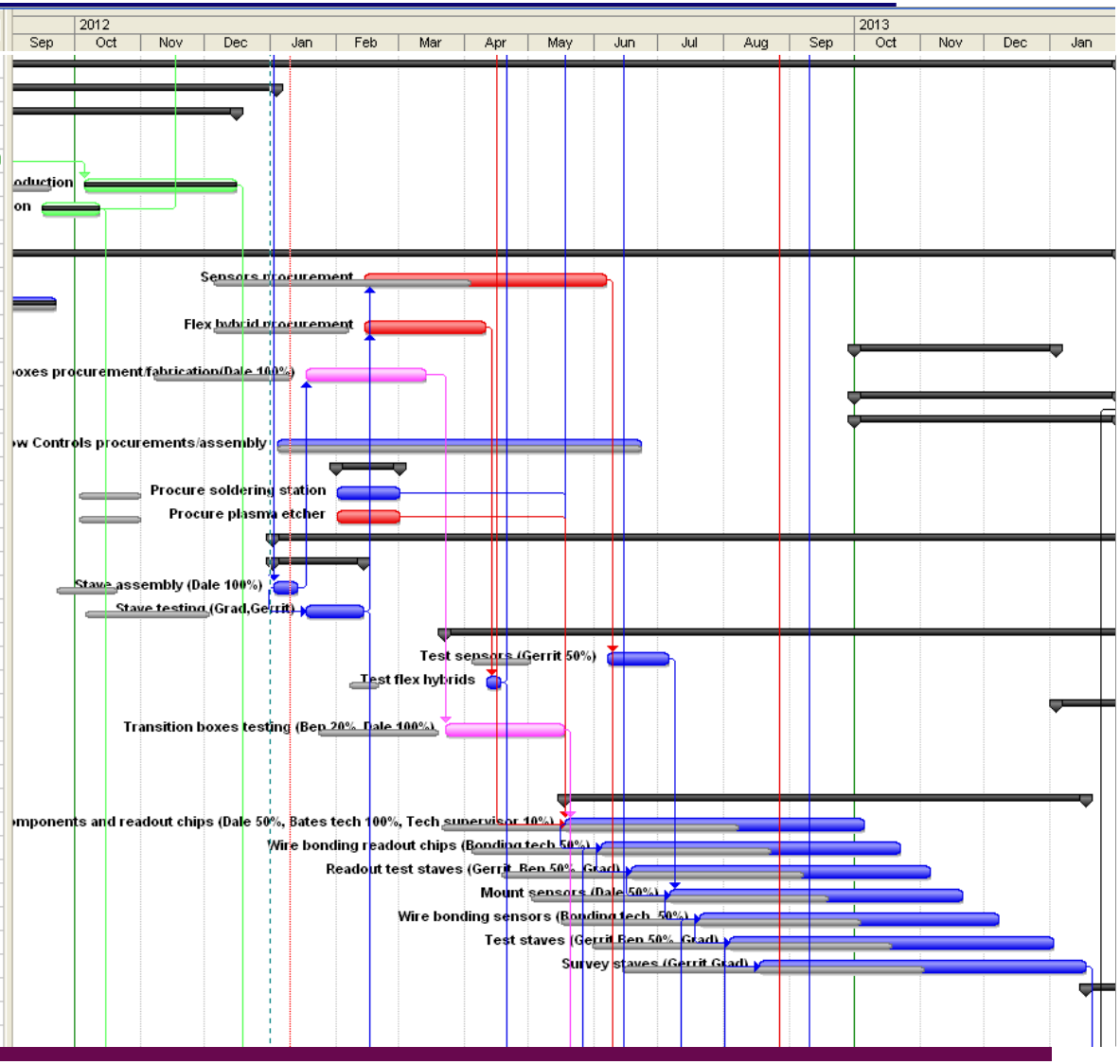
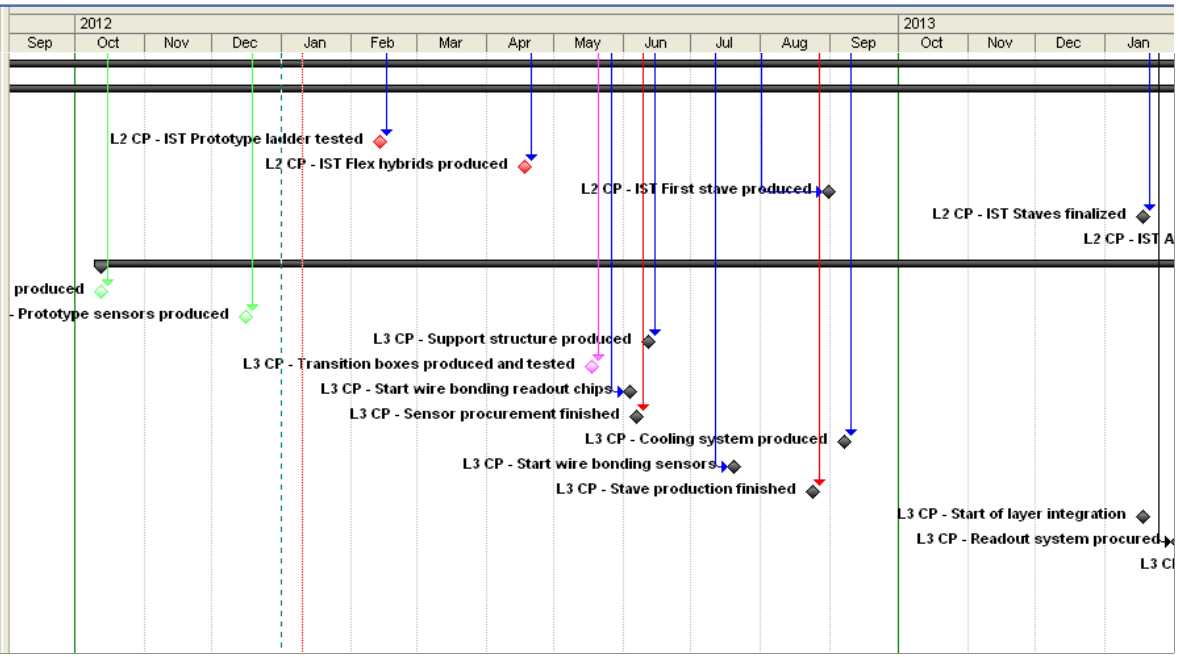
WBS	Task Name
1.3.2	Electronics
1.3.2.1	Electrical Design and Requirements
1.3.2.2	Electrical Prototyping
1.3.2.2.1	Prototype sensor mask drawings
1.3.2.2.2	Prototype sensor mask drawings approval (Gerrit, Commit
1.3.2.2.3	Prototype sensors production
1.3.2.2.4	Prototype flex hybrid production
1.3.2.2.5	Prototype readout system labor
1.3.2.3	Electrical Procurement/Fabrication
1.3.2.3.1	Sensors procurement
1.3.2.3.2	Readout chips procurement
1.3.2.3.3	Flex hybrid procurement
1.3.2.3.4	Cable procurement
1.3.2.3.5	Transition boxes procurement/fabrication(Dale 100%)
1.3.2.3.6	Readout system procurement
1.3.2.3.7	DAQ procurement
1.3.2.3.8	Slow Controls procurements/assembly
1.3.2.3.9	Generic tooling procurement
1.3.2.3.9.1	Procure soldering station
1.3.2.3.9.2	Procure plasma etcher
1.3.3	Assembly, testing and installation
1.3.3.1	Prototype assembly
1.3.3.1.1	Stave assembly (Dale 100%)
1.3.3.1.2	Stave testing (Grad,Gerrit)
1.3.3.2	Component Testing
1.3.3.2.1	Test sensors (Gerrit 50%)
1.3.3.2.2	Test flex hybrids
1.3.3.2.3	Cables testing
1.3.3.2.4	Transition boxes testing (Ben 20%, Dale 100%)
1.3.3.2.5	Readout system assembly/testing
1.3.3.2.6	DAQ assembly/testing
1.3.3.3	Assemble staves
1.3.3.3.1	Mount components and readout chips (Dale 50%, Bates tech 100%
1.3.3.3.2	Wire bonding readout chips (Bonding tech 50%)
1.3.3.3.3	Readout test staves (Gerrit, Ben 50%, Grad)
1.3.3.3.4	Mount sensors (Dale 50%)
1.3.3.3.5	Wire bonding sensors (Bonding tech, 50%)
1.3.3.3.6	Test staves (Gerrit,Ben 50%, Grad)
1.3.3.3.7	Survey staves (Gerrit,Grad)
1.3.3.4	Layer Integration
1.3.3.5	Installation in STAR
1.3.3.6	Cooling system



IST milestones

WBS	Task Name
1.3.4	Milestones
1.3.4.4	Level 2 Checkpoints
1.3.4.4.1	L2 CP - IST Sensor design finished
1.3.4.4.2	L2 CP - IST Prototype ladder tested
1.3.4.4.3	L2 CP - IST Flex hybrids produced
1.3.4.4.4	L2 CP - IST First stave produced
1.3.4.4.5	L2 CP - IST Staves finalized
1.3.4.4.6	L2 CP - IST Assembled on MSC
1.3.4.5	Level 3 Checkpoints
1.3.4.5.1	L3 CP - Prototype flex hybrid produced
1.3.4.5.2	L3 CP - Prototype sensors produced
1.3.4.5.3	L3 CP - Support structure produced
1.3.4.5.4	L3 CP - Transition boxes produced and tested
1.3.4.5.5	L3 CP - Start wire bonding readout chips
1.3.4.5.6	L3 CP - Sensor procurement finished
1.3.4.5.7	L3 CP - Cooling system produced
1.3.4.5.8	L3 CP - Start wire bonding sensors
1.3.4.5.9	L3 CP - Stave production finished
1.3.4.5.10	L3 CP - Start of layer integration
1.3.4.5.11	L3 CP - Readout system procured
1.3.4.5.12	L3 CP - Layer surveyed
1.3.4.5.13	L3 CP - Cooling system assembled
1.3.4.5.14	L3 CP - Outside cables installed
1.3.4.5.15	L3 CP - IST Integrated with HFT