Latest news

- eRD110 (photosensors) and eRD114 (pfRICH) R&D proposals submitted last week
- EIC Project PID review conducted last week
  - In general, all ePIC PID subsystems did well, including pfRICH
- EIC-Incom PED contract
  - All orders for the components are placed, except for the Samtec interposers
- A set of pfRICH engineering meetings happened over the last few weeks
  - From now on: Wednesday 2pm EDT
- A pfRICH software meeting happened yesterday
  - From now on: Tuesday 10:30am EDT
- HRPPD-related eRD110 meetings will also become regular ones
- Work on ASIC interface eventually started

Action items

- JINST paper
- pfRICH in P6, with PED funding requests in mind
  - HRPPD QA station at Yale
  - Aerogel QA statin at Temple
  - Mirror manufacturing equipment at Stony Brook
  - Light monitoring system (?)
  - Prototyping and beam test in 2023-2024
  - ..?
- Work packages, L4 structure (with names)
- Prototype design
- Software
- Modeling

ASIC backplane for EIC HRPPDs

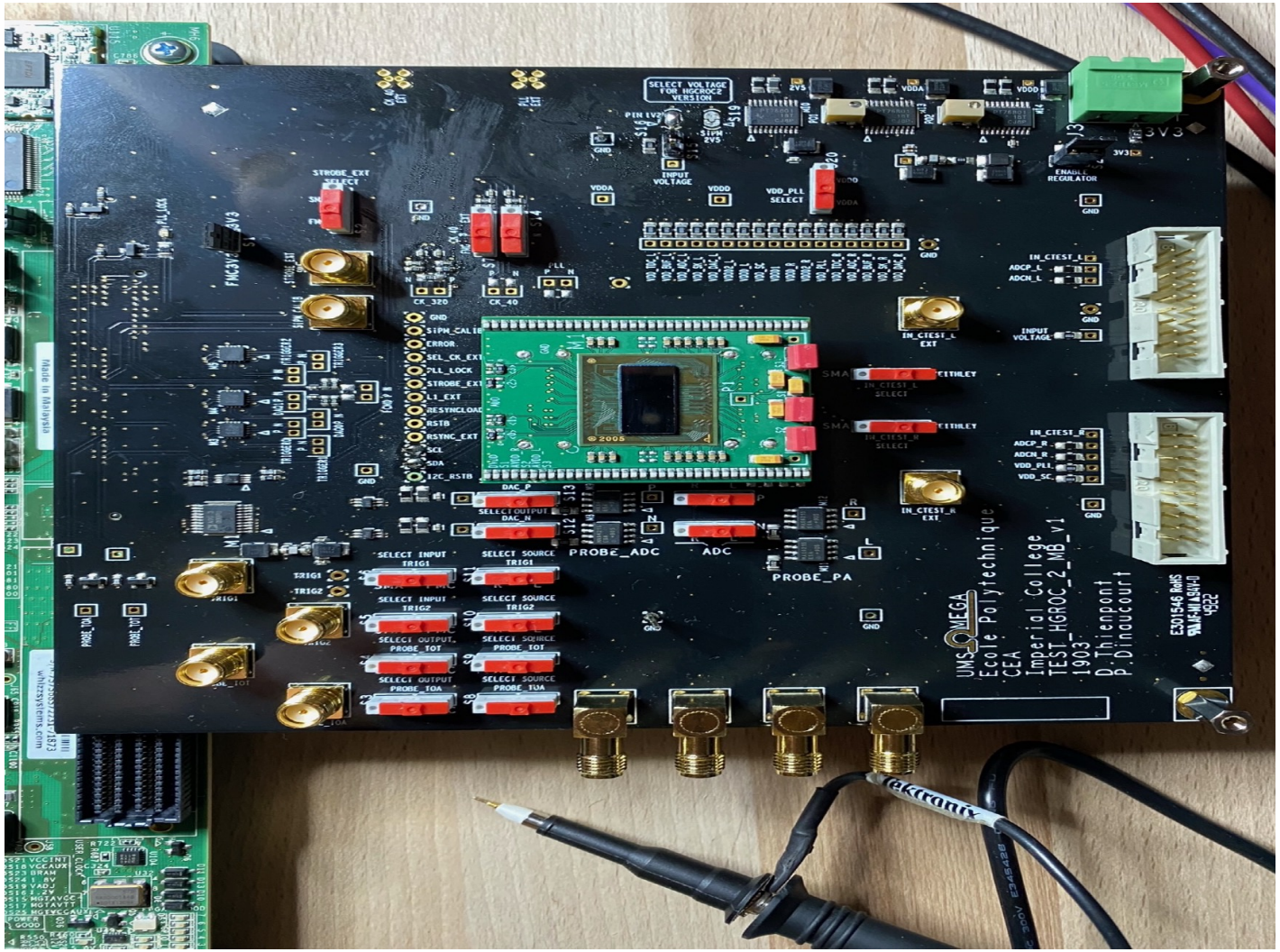
- Oak Ridge, OMEGA group, University of Debrecen, Brookhaven, JLAB (?)

- Hardware design
  - Will be done by OMEGA group by the end of September

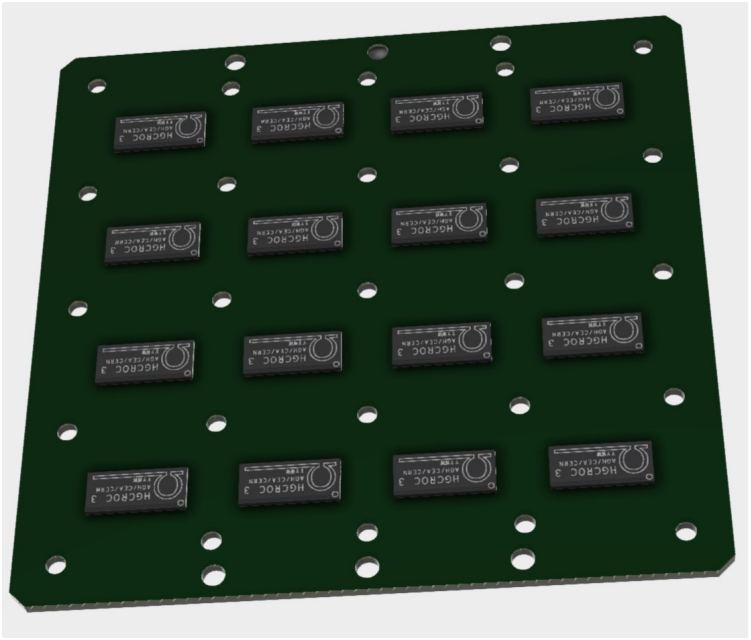
- FPGA firmware adaptation
  - Provided by Debrecen and Oak Ridge

- Integration and DAQ interface @ Brookhaven
  - FPGA kit provided by John Kuczewski
  - Carrier board was sent to BNL by Norbert Novitzky this week
  - ASIC mezzanine board with HGCROC3 chip will be sent to BNL by Christophe de La Taille by the end of July
  - This set should be sufficient to cook an RCDAQ driver (and see pedestal noise)

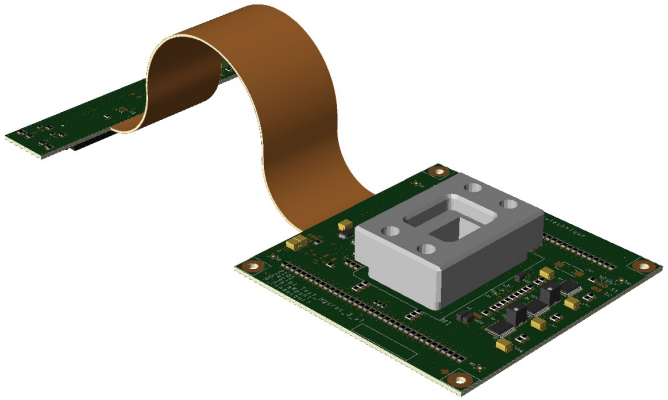
ASIC backplane for EIC HRPPDs



FPGA board, carrier board, mezzanine board with ASIC @ Oak Ridge



EIC HRPPD ASIC board layout



Will have a flex interface like this

- Goal: make at least one full iteration by the end of 2023

Work packages & L4 structure

- Engineering design oversight

- Mirror-related part of the Stony Brook activities
- Vessel-related part of the Stony Brook activities
- Prototype assembly, construction site oversight
- 3D printing & molding @ Purdue University

- Detector level software (and modeling?)
- Physics modeling
- ePIC software integration
- DAQ software

- HRPPD QA station
- Aerogel QA station

- Cooling system
- Gas system, HV, LV

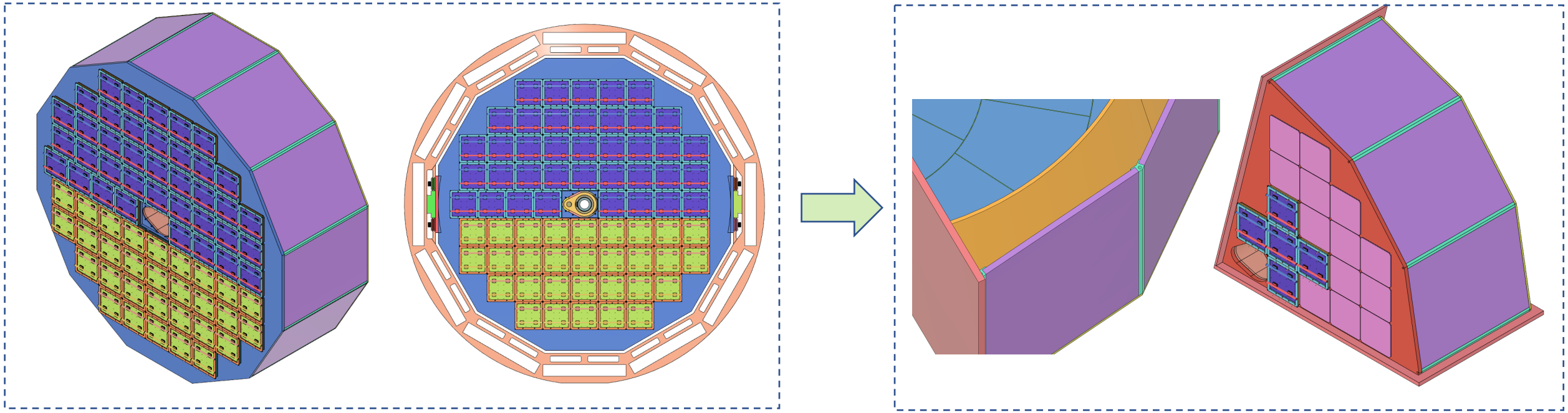
- ..?

pfRICH prototype part / money source matrix

	Exist	Project	eRD110	pfRICH R&D	pfRICH PED
HRPPDs		5 tiles			
Aerogel		N pieces			
ASIC interface			X		
ASIC boards			1 set	4 sets	
HRPPD enclosures			1 set	4 sets	
HGCROC chips			16+4	64+16	
KCU105 kits	2			3	
Vessel			Incorporated in R&D proposals		X
Mirrors					X
HV mainframe	X				
HV modules	1				1
LV mainframe					1
LV module					1
~~Cooling system~~					
~~Gas system~~					
Beam test travel				X	

PED funding requests

- A quadrant of a full pfRICH vessel: this is our full chain prototype (also suitable for R&D work)
  - Vessel (flat outer panels are first articles)
  - Mirrors (outer mirror segment is a first article; perhaps the inner mirror mold as well)
  - HV & LV system pieces (first articles)



- HRPPD QA station setup at Yale
- Aerogel QA station at Temple
- Evaporator equipment at Stony Brook