

US HFCC Detector Organizational Area

Web site: <https://us-fcc.web.cern.ch/detector/>

Indico: <https://indico.global/category/1546/>

Organizers: Christoph Paus (MIT), Charlie Young (SLAC)

Agenda for today

Update on funding and budget exercise

- Review updated requests
- Discuss any open issues before the workshop: Access via Zoom possible?

Events relevant to the detectors

- 4th US FCC Workshop, September 8-11, 2026 at SLAC

Roundtable discussion

Timeline for FY2027

Funding requests

- Original request was to get reasonable numbers that would match the expected
- We all pared down our requests to begin with
- Srimi/Valentina would like to demonstrate severity of shortfall to DOE: **need realistic requests**



Changes to the requests

Funding requests

- Put out a call for additional and updated requests
- Charlie and I reviewed and updated our requests
- Detailed updates
 - TDAQ: added \$100k for rad hard links (down from \$1M)
 - Calo: bumped LAr turbine dev up to \$400k
 - Tracker: bumped MAPS up 2x to \$500k
 - Tracker: added LGADs development \$300k

Our present status

Area	Subject	K\$	
AIM	Detector optimization framework	66	Builds on current efforts in this area
Sum: 86	Agentic detector optimization	20	Already have leading role in agentic frameworks. Supports US role in overall detector design
Calorimeter	Dual-readout simulation (workshops, tutorials and travel)	35	Continue community building and extend DR expertise
	DR ECAL testbeam (personnel, M&O and travel)	80	Sustain work previously under CalVision
	DR HCAL testbeam	45	Current US leadership
	Thermal management of LAr cold electronics	30	Maintain US presence
	Endcap LAr calorimeter design	400	US leads this effort. No one else in the world.
	Simulation for Si-W luminometer	30	Luminosity is a crucial systematic with unresolved design
Sum: 655	Digital ECAL with MAPS	35	Heat management with active cooling. Leverages MAPS expertise.
TDAQ	TDAQ digitization framework	60	
	TDAQ workshop and travel	10	
Sum: 170	Rad-hard Si-photons data link	100	Long-lead development. US companies and Universities with key expertise
Muon	Drift tube and scintillators	50	US expertise in drift tubes. Scintillation extrusion facility @ Fermilab
Sum: 100	Micro-Rwell	50	
Tracker	MAPS development	500	Crucial for US to have a role here. Strong engineering in Labs. US foundries
	Straw tube	560	US experience and leadership with straw tubes
	Beam background simulation	15	Current US leadership. Information crucial for detector design
	Light weight supports	14	Innovative approach pioneered in US
	Carbon fiber wires	10	Reduce drift chamber madd
Sum: 1399	LGAD detector and low-mass power distribution	300	US expertise. Leverage low-mass supports.
Total – 2410	dN/dx front-end electronics	?	Strong US expertise in universities and Labs