2021-04-20 Detector Planning Meeting notes

Attendees

- McKelvey, Mark EPhilip Hart
- Kazutaka Nakahara
- Rebecca Armenta
- Conny HanssonBhavna NayakChris Koerber

Goals

• Set and status planning activities for detector development and deployment.

Discussion items

Time	Item	Who	Notes
10 min	Beamtime support update		Detector readiness: 2m working in XCS? Update DAQ/fw for 10k smallsstatus?? Chiller/IOC dropout status? Return ePix100#7 for repair? Receive/test ePix100 spares and side-look 1mm ePix10k Baseline JF and 2M 'traveller' pages on Confluence. Collect and analyze any remaining in-lab test data.

2021 events:		1	1	
Actions:	30 min	Priorities Review	All	Projects new starts: ■ VFCCDPEPIM downselect implementation of REXS for 2.2 - April 28-30 ■ SparkPix-S Phase II (full-size ASIC for sparsification, Tixel-based, underway) ■ PixHR IV: Prototype detector project underway ■ TXI Detectors (ZMp and 140kp based on ePixHR @SkHz) CDR Closed out, project underway. ■ ePixUHR (130mn TSV structure to reach 100kHz), planning Production: ■ spare modules (0.5 & 1mm) Module order in work, new sensor order out ■ Approved 3d copy of ePix10k2m: underway, November delivery ■ Approved spare quads for MEC: underway, November delivery ■ Approved spare quads for MEC: underway, November delivery ■ Proposed in-vac ePix10k2m for CXL. Deferred in favor of in-air 2m/1mm ■ Proposed in-vac ePix10k2m for CXL. Deferred in favor of in-air 2m/1mm ■ Proposed dePix10k4m (concept) ■ Proposed UED detector upgrade (2kHz, 125um sensor, concept) RIXS-CCD/cooler test and verification: Second cooler rec'd, ship to STA?? HIZ collaboration tests: SSRL Lol needed, Ge chamber tests Outreach for R&D support (SparkPix-ED, SparkPix Delta). Support effort for LCLS-II-HE instruments (performance verification/implementation planning) SBIR effort for UXI. • Group priorities review: • Testing ■ explore CompEn bit function on 10k ■ Setup ePix10k, ePix100, JF smalls for test in lab, Bhavna/Chris hands-on trng. Days this week? ■ Review with TID the stitching progress, look for improvements. Latest on switching noise? ■ Can we figure out what's worng with ePix100/7? ■ RIXS-CCD cooler test planning. Analysis ■ Gather and process relevant commissioning data for Mp travellers on Confluence. ○ Solid pedestals ○ Noise map ○ Response uniformity (mini-X cu-fluorescence) ○ Bootstrap gain (sealed source) ○ Linearity (signal injection) Documentation ■ Complete on-line travellers for Mp detectors ○ Development • LoLS VII compatibility? ■ BIO for racks in chase: anchoring status? ■ Vac chamber for in-lab tests? Compatible with XPP alcove?

30 min	Status	LDAC Panel assembled (waiting on Kuster)
		CH: TXI mtg help. IFDEPS? pyROOT for per-pixel spectra Synchrotron Nol? Ge config? RA: Meeting w/PD tmrw, camera. Need bake-out variac for lab. KN: Rayonix still cranky trigger, may be DAQ-related Spare JF Power supply received, need cold plate. UED MPOD? Rayonix has two bad tiles, too close to experiment to fix. PH: MFX 10k calibration with hockey stick has been refined slightly2% of pixels have noisy first switch, need more uptime to test.
		 UXI loC update, need help from Dan to run in the lab. BN: Made updates to detector website, in work. working with PH on porting PyRoot to Python. CK: Ge chamber assembly Order variac New pin-out probes XPP having trouble with pgp server hat runs 2M. CXI fiber 450uW becomes 50-60uW, defect in port feedthrough sometime limits to 2uW(?), replacement flanges on order (8-9 weeks).

5 min	Budget Update	mmck	M&S Status (Through March)								
								Values KCST		R	emaining
			PA Proj Act	-	PA Activity Desc	-	LSTM Desc 🏋		ACTU		Balance
			10918-A4001	_	DET Dist Exp Support		M&S	\$0		\$0	(\$0)
			16152-A4001		ePix Support		M&S	\$63		\$18	\$45
			16158-A4001		Other Detector Support		M&S	\$13		\$0	\$12
			16253-A4001		C-S PAD Support		M&S	\$6			\$6
			18303-A4001		Jungfrau Support		M&S	\$11			\$11
			16287-A4001		DET Department Management		M&S	\$11		\$6	\$6
			16826-A4001		DET Department Research		M&S	\$57		\$25	\$32
			16159-A4001		DET Dept Infrastruct & Dev		M&S	\$137		\$81	\$56
			17341-A4001		Detector Program Management		M&S	\$0	_	\$0	\$0
			17439-A4001		DET Department OIP Projects		M&S	\$40		\$40	\$0
								\$339k	\$170k	\$10	59k
			• 1 - 1		1 (December a steele)						
			• Labor sna	apsno	t (December actuals):			Val	ues		
								KCS	ST .		Remainin
			PA Proj	_Act	▼ PA Activity_Desc		▼ LSTM D	esc 🔻 BA	1.0	ACTUAL	S Balance
			10918-A	4001	DET Dist Exp Support		Shop Sei	vices	\$134		\$13
			10918-A	4001	DET Dist Exp Support		SLAC La	oor	\$19	\$3	\$1
			16152-A	4001	ePix Support		Shop Sei	vices	\$77		\$7
			16152-A	4001	ePix Support		SLAC La	oor		\$3	3 (\$
			16158-A	4001	Other Detector Support		Shop Sei	vices		\$12	(\$1
			16158-A	4001	Other Detector Support		SLAC La	oor	\$115	\$32	\$8
			18303-A	4001	Jungfrau Support		Shop Sei	vices	\$6		\$
			16287-A	4001	DET Department Manageme	nt	Shop Sei	vices	\$25		\$2
			16287-A	4001	DET Department Manageme	nt	SLAC La	oor	\$136	\$80	\$5
			16826-A	4001	DET Department Research		Shop Sei	vices	\$9		\$
			16826-A	4001	DET Department Research		SLAC La	oor	\$197	\$55	\$14
			16159-A	4001	DET Dept Infrastruct & Dev		Shop Sei	vices	\$63	\$55	5 \$
			16159-A	4001	DET Dept Infrastruct & Dev		SLAC La	oor	\$264	\$92	\$17
			19775-A	4001	Commissioning - DET		Shop Ser	vices			
			17341-4	4001	Detector Program Managem	ent			\$330	\$54	-
			17778-A		•		Shop Sei			\$8	
			19733-4		, ,					\$5	
			17439-4		•		Shop Sei		\$48		\$4
			17439-4	4001	DET Department OIP Project	S	SLAC La	oor	\$57	\$22	2 \$3
									1479	42	3 \$1,05
I5 min	Review ASC First	all	Coordinate/upo	late la	ab schedule.						
	Projects										
0 min	Any other business										

Action items: