2021-07-20 Detector Planning Meeting notes

Attendees

- McKelvey, Mark E
- Philip Hart
- Kazutaka Nakahara
- Conny Hansson
- Bhavna Nayak
- Chris Koerber

Goals

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

Discussion items

Time	Item	Who	Notes
10 min	Beamtime support update		ePix10k timing test opportunity?

30 min	Priorities Review	All	

- **2021 events:**
  - **Projects new starts:**
    - **ePixM project plan submitted, n w uploading to P6..**
    - **SparkPix-S Phase II (**full-size ASIC for sparsification engine), on-track
    - **ePixHR V: Prototype detector project underway, deliver sm camera in time for LDAC results.**
    - **TXI Detectors (**2Mp and 140kp based on ePixHR @5kHz**) delta mech design review on Friday.**
    - **ePixUHR (**130nm TSV structure to reach 100kHz**), CDR tmrw for 100kHz prototype based on simplified SparkPix-ED.**
  - **Production:**
    - **spare modules** (0.5 & 1mm) Module order in work, new sensor order out. No-ghost modules delayed to October.
    - **Approved 3d copy of ePix10k2m: underway, November delivery (may slip due to module delay)**
    - **Approved spare quads for MEC: underway, August delivery**
    - **Proposed in-air 2m/1mm project plan submitted to OIP.**
    - **Proposed UED detector upgrade, planning in work.**
    - **Proposed ePix10k4m (concept)**
  - **RIXS-CCD/cooler test and verification: Delivery delayed until mid-July...readiness?? Issue with 2nd cooler.**
  - **HiZ collaboration tests: Ge and CZT modules wirebonded, CZT no stick, SSRL & LCLS beam times secured, Ge chamber in work.**
  - **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**
    - **Run 'standard' cal on two 10k smalls with new firmware, log tracker.**
    - **CompEnOn study during CXI checkout time? 111, 1a vs 19?**
    - **Any ePix100 detectors in ASC? Can we figure out what's wrong 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**

  - **Lab 'commissioning'**
    - **DAQ**
      - **Storage nodes configured, put in use?**
      - **LCLS I/II compatibility?**
    - **Chase racks anchored....cables, water status?**
    - **Vac chamber for in-lab tests? Compatible with XPP alcove?**

Actions:

30 min	Status		Self-assessment period should be open...sequence accelerated this year...go ahead
			Cal team meet ton Friday??
			LDAC Panel assembled
			Coming up on self-assessment period...aiming for early salary adjustment period
			KN:
			- Rayonix needs repair at Rayonix, do in August - XPP needs 4 ePix100 by July 1 plus 0.5m JF - LCLS-II DAQ not fully operational in ASC....needs resolution @MFX for wave8 this week.FIM beamtime this weekend - Spare JF Power supply received, need cold plate. - UED MPOD?
			PH:
			- Started processing CI on CompEn exp....nothing jumps out. - MEC experiment on Thursday, detectors should be OK
			CH:
			- Small 10k still has fw problem - Measuring leakage via ACQ timing window - Will use portable vac chamber for Hi-Z
			RA:
			- Prepare for mid-july RIXS-CCD - Lost Derek, may need May Ling to help training on laser vibrometer - Need mtg for acceptance test planning (Friday)
			BN:
			- Min/max stitching. - Run cal on new ePix firmware. - Grafana setup to alert Slack channel. - Made updates to detector website, in work. - Working with PH on porting PyRoot to Python.
			CK:
			- Lesker chamber quote in work. - Order/borrow Variac.

| 5 min | Budget Update | mmck | • M&S Status (Through May) |

PA Proj_Act	PA Activity_Desc	LSTM Desc	Values KCST BA 1.1	ACTUALS	Remaining Balance
10918-A4001	DET Dist Exp Support	M&S	$0	$0	$0
16152-A4001	ePix Support	M&S	$63	$23	$40
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	$9	$3
16826-A4001	DET Department Research	M&S	$57	$25	$32
16159-A4001	DET Dept Infrastruct & Dev	M&S	$137	$108	$29
17341-A4001	Detector Program Management	M&S	$0	$1	($0)
17439-A4001	DET Department OIP Projects	M&S	$40	$40	$0
			339	206	$133

• Labor snapshot (May actuals):

PA Proj_Act	PA Activity_Desc	LSTM Desc	Values KCST BA 1.1	ACTUALS	Remaining Balance
10918-A4001	DET Dist Exp Support	Shop Services	$82		$82
10918-A4001	DET Dist Exp Support	SLAC Labor	$13	$3	$10
16152-A4001	ePix Support	Shop Services	$53	$8	$44
16152-A4001	ePix Support	SLAC Labor	$3	$35	($31)
16158-A4001	Other Detector Support	Shop Services	$23	$34	($11)
16158-A4001	Other Detector Support	SLAC Labor	$125	$67	$58
18303-A4001	Jungfrau Support	Shop Services	$3		$3
16287-A4001	DET Department Management	Shop Services	$15	$3	$12
16287-A4001	DET Department Management	SLAC Labor	$275	$216	$59
16826-A4001	DET Department Research	Shop Services	$5		$5
16826-A4001	DET Department Research	SLAC Labor	$211	$120	$90
16159-A4001	DET Dept Infrastruct & Dev	Shop Services	$106	$114	($8)
16159-A4001	DET Dept Infrastruct & Dev	SLAC Labor	$352	$333	$19
17341-A4001	Detector Program Management	SLAC Labor	$223	$145	$77
17778-A4001	Very Fast CCD	Shop Services	$14	$17	($3)
19733-A4001	L2S-I-DET-Project Management	SLAC Labor	$25	$15	$10
17439-A4001	DET Department OIP Projects	Shop Services	$25		$25
17439-A4001	DET Department OIP Projects	SLAC Labor	$55	$52	$3
			1606	1163	$443

| 15 min | Review ASC First Projects | all | Coordinate/update lab schedule. |
| 10 min | Any other business | | |

Action items: