2021-06-08 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	(see below)

2021 events:
- **Projects new starts:**
  - **ePixM selected, science leadership has chosen smaller ePixM plus XPCS version. Project plan in work.**
  - **SparkPix-S Phase II (**full-size ASIC for sparsification engine)
  - **ePixHR V: Prototype detector project underway, deliver sm camera in time for LDAC results.**
  - **TXI Detectors (**2Mp and 140kp based on ePixHR @5kHz**) CDR Closed out, project underway.**
  - **ePixUHR (**130nm TSV structure to reach 100kHz**), planning, need to consider SparkPix-ED results.**
- **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, August delivery**
  - **Proposed in-air 2m/1mm, planning in work.**
  - **Proposed UED detector upgrade, planning in work.**
  - **Proposed ePix10k4m (concept)**
- **RIXS-CCD/cooler test and verification: Delivery delayed until mid-July...readiness?? Parts ordered.**
- **HiZ collaboration tests: SSRL LoI 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**
  - **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

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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 March)

			Values KCST		Remaining
PA Proj_Act	**PA Activity_Desc**	**LSTM Desc**	**BA 1.1**	**ACTUALS**	**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**	**$169k**

- Labor snapshot (December actuals):

			Values KCST		Remaining
PA Proj_Act	**PA Activity_Desc**	**LSTM Desc**	**BA 1.0**	**ACTUALS**	**Balance**
10918-A4001	**DET Dist Exp Support**	Shop Services	$134		**$134**
10918-A4001	**DET Dist Exp Support**	SLAC Labor	$19	$3	**$16**
16152-A4001	**ePix Support**	Shop Services	$77		**$77**
16152-A4001	**ePix Support**	SLAC Labor		$3	**($3)**
16158-A4001	**Other Detector Support**	Shop Services		$12	**($12)**
16158-A4001	**Other Detector Support**	SLAC Labor	$115	$32	**$83**
18303-A4001	**Jungfrau Support**	Shop Services	$6		**$6**
16287-A4001	**DET Department Management**	Shop Services	$25		**$25**
16287-A4001	**DET Department Management**	SLAC Labor	$136	$80	**$56**
16826-A4001	**DET Department Research**	Shop Services	$9		**$9**
16826-A4001	**DET Department Research**	SLAC Labor	$197	$55	**$142**
16159-A4001	**DET Dept Infrastruct & Dev**	Shop Services	$63	$55	**$7**
16159-A4001	**DET Dept Infrastruct & Dev**	SLAC Labor	$264	$92	**$172**
19775-A4001	**Commissioning - DET**	Shop Services			
17341-A4001	**Detector Program Management**	SLAC Labor	$330	$54	**$276**
17778-A4001	**Very Fast CCD**	Shop Services		$8	**($8)**
19733-A4001	**L2S-I-DET-Project Management**	SLAC Labor		$5	**($5)**
17439-A4001	**DET Department OIP Projects**	Shop Services	$48		**$48**
17439-A4001	**DET Department OIP Projects**	SLAC Labor	$57	$22	**$35**
			1479	423	**$1,056**

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

Action items: