2021-01-05 Detector Planning Meeting notes

Attendees

- McKelvey, Mark E
- Philip Hart
- Kazutaka Nakahara
- Zimmerman, Kayla
- Rebecca Armenta
- Conny Hansson
- Bhavna Nayak

Goals

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

Discussion items

Time	Item	Who	Notes
10 min	Beamtime support update		- No experiments until Saturday 1/30 - Detector readiness: - Monitor 2m repairs at TID - Monitor quad repairs at TID - Send 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.

30 min	Priorities Review	All	

- **2021 events:**
    - **Projects new starts:**
        - **VFCCD/ePixM downselect implementation of REXS for 2.2**
        - **SparkPix-S Phase II (**full-size ASIC for sparsification, Tixel-based**)**
        - **ePixHR IV: Prototype detector**
        - **TX! Detectors (**2Mp and 140kp based on ePixHR @5kHz**)**
        - **ePixUHR (**130nm TSV structure to reach 100kHz**)**
    - **Production:**
        - **spare modules** (0.5 & 1mm)
        - **Proposed 3d copy of ePix10k2m**
        - **Proposed spare quads for MEC (2)**
        - **Proposed in-vac ePix10k2m for CXI**
        - **Proposed UED detector upgrade (**2kHz, 125um sensor**)**
    - **RIXS-CCD/cooler test and verification.**
    - **HiZ collaboration tests.**
    - **Outresch 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**
        - **Setup ePix10k, ePix100, JF smalls for test in lab**
        - **Review with TID the stitching progress, look for improvements.**
        - **Can we figure out what's wrong with ePix100/7?**
        - **RIXS-CCD cooler test/ship plan**
    - **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**
        - **RIXS-CCD, review engineering note with w/NEH 2.2**
        - **SXR Downselect prep. May 1?**

    - **Lab 'commissioning'**
        - **DAQ**
            - **Storage nodes**
            - **LCLS I/II compatibility**
        - **Table seismic**
        - **BIO for racks in chase**
        - **DP node purchase**

Actions:

30 min	Status	

- Case surge anticipated in January, extra absence.
- Avoid being at lab first two weeks of Jan. One person per day?
- Focus on remote data analysis as possible.

CH:

- Conference last week, uploaded some talks
- Meeting w/Chris Iniewski, RAL folks.

RA:

- Meet re cooling concepts...met with Jim re outside space: not much.

KP: JSA summary list circulated

- XPP/MFX/XCS fibers due this week, other wise need ugly solution.
- Small Rayonix testing can be done by others.
- XPP/XCS power cable pinout (controls needs to tell us MPOD working)

KN:

- ePix100 scan for use in run18...Diling has preferences.
- HV cables done, re-install @CXI. Matt found defect in a fiber feedthrough.
- CXI ePix ran fine in ASC over the weekend.
- Grabbing JF modules for test in lab, but need power supply board from PSI.
- IOC

PH:

- MEC deployment, can't read back data from one quad.
- Circular connectors tough to release...special tool?
- EMP shielding for in-vac cables isn't tight at connector...revise?
- UXI IoC update.
- w/Bhavna & Frederic regarding commissioning data.

BN:

- Got code working, now need to le it run on some data....
- Lab visit week of thanksgiving, January moving.

Thursday updates:

PH

- UXI
- One quad at MEC had wrong event code, set in expert panel edit traveler for event codes
- Working to understand LV44 data…looks like photons are causing the 'spikes' in fourier space

KN

- Sunday MFX finishes, 2M comes off, box delivered to MFX today.
- 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).

CH

- Measurements on sm 10k, pedestal application inconsistent in online ami, raw data is fine.
- Still see dashed lines in pedestal config.

KP

- Bhavna JSA
- BIO for move
- Arranging setup lab
- move mobile rack o XPP alcove

5 min	Budget Update	mmck

- M&S Status (Through July)

PA Proj_Act	PA Activity_Desc	LSTM Desc	Values KCST BA 1.2	ACTUALS	Remaining Balance
10918-A4001	DET Dist Exp Support	M&S	$7	$7	($0)
16152-A4001	ePix Support	M&S	$105	$107	($2)
16158-A4001	Other Detector Support	M&S	$30	$2	$28
16287-A4001	DET Department Management	M&S	$5	$3	$1
16826-A4001	DET Department Research	M&S	$47	$3	$44
16159-A4001	DET Dept Infrastruct & Dev	M&S	$112	$101	$11
17341-A4001	Detector Program Management	M&S		$6	($6)
17439-A4001	DET Department OIP Projects	M&S	$22		$22
			328	229	$99

- Labor snapshot (June actuals):

PA Proj_Act	PA Activity_Desc	LSTM Desc	Values KCST BA 1.2	ACTUALS	Remaining Balance
16152-A4001	ePix Support	Shop Services	$87	$86	$1
16152-A4001	ePix Support	SLAC Labor	$1	$1	($0)
16158-A4001	Other Detector Support	Shop Services	$10	$40	($30)
16158-A4001	Other Detector Support	SLAC Labor	$110	$81	$28
16253-A4001	C-S PAD Support	Shop Services	$3		$3
16253-A4001	C-S PAD Support	SLAC Labor	$0	$0	$0
18303-A4001	Jungfrau Support	Shop Services	$3		$3
16287-A4001	DET Department Management	Shop Services	$52	$44	$8
16287-A4001	DET Department Management	SLAC Labor	$209	$215	($6)
16826-A4001	DET Department Research	Shop Services	$28		$28
16826-A4001	DET Department Research	SLAC Labor	$208	$176	$32
16159-A4001	DET Dept Infrastruct & Dev	Shop Services	$72	$136	($64)
16159-A4001	DET Dept Infrastruct & Dev	SLAC Labor	$164	$169	($5)
19775-A4001	Commissioning - DET	SLAC Labor	$23	$7	$16
17341-A4001	Detector Program Management	SLAC Labor	$327	$276	$51
17800-A4001	Jungfrau Detectors	SLAC Labor	$1	$1	($0)
19453-A4001	ePixM Shingle-Tiling Concept	Shop Services	$1	$6	($5)
18836-A4001	L2S-I-DET - Planning	Shop Services	$20		$20
18836-A4001	L2S-I-DET - Planning	SLAC Labor	$9		$9
19733-A4001	L2S-I-DET-Project Management	SLAC Labor	$2	$8	($6)
19734-A4003	L2S-I-DET-RIXS CCD Procure	SLAC Labor	$1	$1	($0)
17439-A4001	DET Department OIP Projects	Shop Services	$26	$2	$24
17439-A4001	DET Department OIP Projects	SLAC Labor	$78	$75	$3
			1511	1334	$177

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

Action items: