

2021-03-02 Detector Planning Meeting notes

Attendees

- [McKelvey, Mark E](#)
- [Philip Hart](#)
- [Kazutaka Nakahara](#)
- Rebecca Armenta
- 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		<ul style="list-style-type: none">• Kayla has handed off Mondays, now officially off detector duty, available for questions as they arise.• Detector readiness:<ul style="list-style-type: none">◦ 2m.1 detector cal discussion with Alex 3:30pm today, call with Fromme tmrw 8am MFX.◦ MEC seems happy with quads(?)◦ Return ePix100#7 for repair?◦ Receive/test ePix100 spares and side-look 1mm ePix10k◦ Baseline JF and 2M 'traveller' pages on Confluence.<ul style="list-style-type: none">▪ Collect and analyze any remaining in-lab test data.

30 min	Priorities Review	All	<ul style="list-style-type: none"> • 2021 events: <ul style="list-style-type: none"> ◦ Projects new starts: <ul style="list-style-type: none"> ▪ VFCCD/ePixM downselect implementation of REXS for 2.2 - April 28 <ul style="list-style-type: none"> • Teams briefed on downselect plan. ▪ SparkPix-S Phase II (full-size ASIC for sparsification, Tixel-based, underway) ▪ ePixHR IV: Prototype detector project underway ▪ TXI Detectors (2Mp and 140kp based on ePixHR @5kHz) CDR Closed out, project underway. ▪ ePixUHR (130nm TSV structure to reach 100kHz), planning ◦ Production: <ul style="list-style-type: none"> ▪ spare modules (0.5 & 1mm) Module order in work, new sensor order out ▪ Approved 3d copy of ePix10k2m (planning) ▪ Approved spare quads for MEC (planning) ▪ Proposed in-vac ePix10k2m for CXI ▪ Proposed ePix10k4m ▪ Proposed UED detector upgrade (2kHz, 125um sensor) ◦ RIXS-CCD/cooler test and verification (cooler and packaged supply tested at STA). Engineering note in signature process. ◦ HiZ collaboration tests (IH secured, plans circulated to collaboration partners). ◦ 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: <ul style="list-style-type: none"> ◦ Testing <ul style="list-style-type: none"> ▪ Setup ePix10k, ePix100, JF smalls for test in lab, Bhavna/Chris hands-on trng. ▪ Review with TID the stitching progress, look for improvements. ▪ Can we figure out what's wrong with ePix100/7? ▪ RIXS-CCD cooler test planning. ◦ Analysis <ul style="list-style-type: none"> ▪ Gather and process relevant commissioning data for Mp travellers on Confluence. <ul style="list-style-type: none"> ◦ Solid pedestals ◦ Noise map ◦ Response uniformity (mini-X cu-fluorescence) ◦ Bootstrap gain (sealed source) ◦ Linearity (signal injection) ◦ Documentation <ul style="list-style-type: none"> ▪ Complete on-line travellers for Mp detectors ◦ Development <ul style="list-style-type: none"> ▪ RIXS-CCD, review engineering note with w/NEH 2.2 ▪ SXR Downselect prep. May 1? ◦ Lab 'commissioning' <ul style="list-style-type: none"> ▪ DAQ <ul style="list-style-type: none"> • Storage nodes (ordered) • LCLS I/II compatibility ▪ BIO for racks in chase (Chris to take over hounding) ▪ Vac chamber for in-lab tests? Compatible with XPP alcove?
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Actions:

30 min	Status	<p>Vaccine available</p> <p>Controls/PMPS seminar at 11am</p> <p>Anton has MCPs, expects first tests with Timepix this week.</p> <p>Issues with UED pedestals/corrections</p> <p>RIXS hardware shipped to STA, packaged</p> <p>Detector storage in NEH/setup lab??</p> <p>Cal status summary pls,</p> <p>CH:</p> <ul style="list-style-type: none"> • R0 measurements run • Slides for Hi-Z consortium • Synchrotron. <p>RA:</p> <ul style="list-style-type: none"> • Practice install JF modules on test mount. • Notes on Slack page. • Need working power supply before testing. <p>KN:</p> <ul style="list-style-type: none"> • Spare JF Power supply received, need cold plate. • UED MPOD? • Rayonix has two bad tiles, too close to experiment to fix. <p>PH:</p> <ul style="list-style-type: none"> • MFX 10k calibration with hockey stick has been refined slightly..2% of pixels have noisy first switch, need more uptime to test. • UX1 IoC update, need help from Dan to run in the lab. <p>BN:</p> <ul style="list-style-type: none"> • Made updates to detector website, in work. • working with PH on porting PyRoot to Python. <p>KN</p> <ul style="list-style-type: none"> • UED guys are set with new cables • ePix UED temp 63C • 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).
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5 min	Budget Update	mmck	<ul style="list-style-type: none">M&S Status (Through December)																																																																																																																																										
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