

To-do list

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To-do

2016-04-19 List of long-term perspective and on-going projects

This list is approved by Chris:

- detector calibration store
- moving algorithms in git/scikit-beam
- development of analysis-specific algorithms for FDA (Meng)
- pipeline image processing algorithms - background subtraction, peak-finders, dynamic masks, etc.
- detector correction algorithms - non-linear gain, common mode, etc.
- support and implementation of new ideas in the CalibManager package
- support and implementation of new ideas in the Detector package
- upgrade of the mask editor/image browser

2016-06-02

- [pyimgalgos](#)
 - update auto-doc
 - add HSpectrum, use old NDArraySpectrum as alias
 - add HPolar, use it as a super-class of RadialBackground
- new [Gabriel's file metrology](#) processing for
 - cxi camera2 from 2016-05-25
 - mec quads0,1,2 from 2016-02-16
 - mec quads1 from 2016-04-21

2016-05-17

Detector

- [Jason](#)
 - retrieve size and shape from configStore
 - add methods xaxis, yaxis for image


Algorithms

- [ImgAlgos](#) - peakfinder
- [Chris-peakfinder](#):
 - perhaps give a simple interface with fewer parameters to one of the peak finders?
 - consistent names for both phases of peak-finding (radius, r0)?

Calibman

- Optimization of the list of runs in the GUIDark
- Develop deployment pop-up GUI
- Phil - change behavior of the Deploy button (turn to Deployed)

Cross check for optical metrology

-  Generate geometry for comparison with Oleksandr Yefanov <oleksandr.yefanov@desy.de>
[Cross check of correction to optical metrology](#)
- Check corrected geometry after Oleksandr processing

Meng's FDE

- cross-checks
 - indexing

Detector Calibration Store, PSAS-148

- project description
- discussion with involved parties
- begin implementation






Done

2016-03-24 through 2016-05-18







ImgAlgos

- peak-finders revision 1
- significant update for v3r1, see [Test of Peak Finders](#)






Calibman

-  fix interaction with mysql
-  Update selector of experiments in the GroupFileManager
-  fix issue with usage of environment variables
-  Silke - in calibrun add -B -T options
-  Add support for common mode parameters evaluation/deployment

Meng's FDE



- cross-checks
 -  masks
 -  peak selection parameters
 -  compare peak list of Cheetah with peak-finder
-  move new transformation to FiberAngles
-  generate peak table in crystfel(?) format
-  2016-03-31 Meng - list of peaks with fit to beta and phi (w/o indexing)

Detector

-  add mask of edge rows and columns
-  add mask of bad pixel neighbors and unbond 4 or 8 pixels
-  Chris & Zhou - add default geometry for Epix100a
-  Chuck - add method converting image to n-d array
-  Chris - revision of doc-string in AreaDetector

2016-02-11 through 2016-03-24

pyimgalgos PSAS-178 H-project as a 1-st candidate to sci-beam

-  improve HBins - add edgemode parameter [HBins auto-doc](#)
-  add RadialBkgd - low frequency background subtraction: [Radial Background Subtraction Algorithm](#)

- ✓ develop uni-tests for HBins:

calibman PSAS-6

- ✓ do not start on hosts where data is not seen
- ✓ do not start under opr accounts
- ✓ use switch between :xtc and :smd mode of the event reader
- ✓ improve py-algorithm for ndarray averaging, command `det_ndarr_raw_proc`
- ✓ command line for `event_keys`
- ✓ clean-up code, get rid of `Frame`
- ✓ replace psana module-based scan
- ✓ replace psana module-based averaging with Detector-based averaging

PSANA

- ✓ in `ImgAlgos/ImgSaveInFile` save image in other formats: bin, tiff, etc...
- ✓ `pdscalibdata::NDArrIOV1` - I/O ndarray of any shape.

Detector PSAS-139

- ✓ add method for export numpy array in **text** form
- ✓ add method to load calibration **text** file similar to `NDArrIO`
- ✓ load variable size calibration
- ✓ add method `center()`

[Andor3d](#) - support for variable size data in calibman and Detector

2014-06-27 Generic geometry parametrization

- ✓ `CalibManager.OpticAlignmentCspadV1.py` - generates constants type "geometry" for CSPAD
- ✓ `pyimgalgs.GeometryObject.py`, `GeometryAccess.py`- works with calibration constants type "geometry"
- ✓ C++ version of `GeometryObject`, `GeometryAccess`
- ✓ `cspad_image_producer.py` - use default calibration directory
- ✓ `PSCalib.CalibFileFinder.py` - analog of C++ `PSCalib::CalibFileFinder`
- ✓ generic image producer based on type "geometry"
- ✓ GUI-based tool for sensors' alignment using type "geometry"
- ✓ `CalibManager/app/calibrun` - add option to use configuration parameters from file

CorAna

- ✓ find the reason of the difference with Marcin's results
- ✓ 2013-06-05 Marcin apply LLD threshold = 200, instead of 20.
- ✓ fits to g^2 function vs time
- + plot for fit parameters vs q
- + use processing for any camera