Calibration management tool developement notes

Unknown macro: 'html'

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Manual: Calibration Management Tool

Tentative GUI for CalibManager

CalibManager is assumed to be a common GU interface for all varieties of calibration procedures and file management.

- Most part of the interface will be integrated in a single window.
- Tab bar will switch between different procedures.
- Windows, which need to be seen simultaneously, will be open in separately;
  - Logger
  - Graphics
  - File browser
  - Notification pop-up boxes
  - Directory and file selection boxes
  - Help window

Configuration GUI

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Pedestals calibration GUI

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Standard file selection window

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Logger GUI

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File browser GUI

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Image browser

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Help window

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2013-07-29 New Calibration-centric style of GUI

- Calibration management tool should do many things around maintenance/check of the structure of calibration directories/files with correct names. Igor suggested to try the interface where the calibration structure tree is a central part of the GUI. Left panel presents the known names of the calibration tree. Right panel shows the status and other details.
- Default calibration directory is selected by the **instrument** and **experiment** names in the top panel.
- Non-standard calibration directory name can be also selected using **Browse** button.
- Currently available directories/files can be selected and their content is seen in the Status panel.
- The sources of calibration files may be different and can be selected in tab-bar controlled panels.

Calibration GUI for CSPAD

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Calibration GUI for CSPAD2x2

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Amedeo's layout of the calibration GUI

The image's data is missing.

2013-08-07 GUI for dark runs

Dark runs processing GUI

1. at start from scratch
2. with all defined parameters
3. with more options

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1. File browser
2. Image browser
3. GUI for configuration parameters

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2013-08-14 GUI for dark runs

Major changes:

- The Instrument/Experiment/Directory/Detector (IEDD) bar is moved to the common top.
- Activity tab bar and its window widget is in the center of the main GUI.
- Dark GUI is changed:
  - State panel shows content of the calibration directories, when the IEDD info is provided.
  - Run bar is replaced for the list of run-items panel with the same features.
  - Expand/shrink button shows/hides additional information for run-items in the list.

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2013-09-16 Project Status

GUI for dark runs

- Change color scheme:
  - grey - nominal state of buttons,
  - green - hint for the next button to proceed,
  - red - Stop or Quit GUI
- Add option to Deploy or see deploy command lines
- Add plots for CSPAD array and CPAD2x2
- Add button to start mask-editor

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GUI for mask editor

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2013-11-20 Project Status

New features are implemented in `calibman` for dark run calibration:

- different type of detectors can be calibrated simultaneously. Desired types can be selected from the list of currently implemented: CSPAD, CSPAD2x2, Princeton, pnCCD, Tm6740, Opal2000, Opal4000, Acqiris.
- expert level interface is simplified, now it contains buttons only, which show info in the log window (bottom part).
- list of runs can be selected by the run type ("dark" or "all") for detectors ("any", "selected any", "selected all").
- initial list of runs is generated using info about runs and detectors from DB. The list of detectors in DB does not coincide with what is coming from xtc file scan (some of detectors are used for control and their data is not saved in xtc...). When the scan results is available, the information about detectors is taken from this scan. This changes the list of shown runs depending on selection...

2014-01-10 Project Status

To-do

- **GUIDark**
  - ✅ select commands for specific detectors from the list before deployment
  - ✅ add record to history file
  - ✅ save position and size of the main windows at exit and restore at next launch
  - ✅ auto-create work directory if it is missing
  - ✅ plot difference between new and existing dark file
  - ✅ plot image from any file
  - ✅ update status of buttons at the end of batch job
  - ✅ evaluate and deploy (if check-box is on) the hot pixel mask
  - In run item update stop button when batch is done - for some reason it does not work...

- **GUIFileManager**
  - ✅ deployment (copy in a right place) of single file from other place with changing run validity range

History file content

Example of the history file:

- `/reg/d/psdm/MEC/meca1113/calib/CsPad::CalibV1/MecTargetChamber.0:Cspad.0/pedestals/HISTORY`

```
file:528-end.data    copy_of:clb-meca1113-r0528-peds-ave-MecTargetChamber.0:Cspad.0.txt   exp:meca1113   run:
0528  user:dubrovin   host:psexport01   cptime:2013-12-03T18:46:54   zone:PST
file:45-end.data    copy_of:clb-meca1113-r0045-peds-ave-MecTargetChamber.0:Cspad.0.txt   exp:meca1113   run:
0045  user:dubrovin   host:psexport01   cptime:2013-12-04T10:18:26   zone:PST
file:79-end.data    copy_of:clb-meca1113-r0079-peds-ave-MecTargetChamber.0:Cspad.0.txt   exp:meca1113   run:
0079  user:dubrovin   host:psexport01   cptime:2013-12-04T10:19:48   zone:PST
file:219-end.data    copy_of:clb-meca1113-r0219-peds-ave-MecTargetChamber.0:Cspad.0.txt   exp:meca1113   run:
0219  user:dubrovin   host:psexport01   cptime:2013-12-04T10:20:32   zone:PST
file:220-end.data    copy_of:clb-meca1113-r0220-peds-ave-MecTargetChamber.0:Cspad.0.txt   exp:meca1113   run:
0220  user:dubrovin   host:psexport01   cptime:2013-12-04T10:21:25   zone:PST
file:221-end.data    copy_of:clb-meca1113-r0221-peds-ave-MecTargetChamber.0:Cspad.0.txt   exp:meca1113   run:
0221  user:dubrovin   host:psexport01   cptime:2013-12-04T10:22:10   zone:PST
file:222-end.data    copy_of:clb-meca1113-r0222-peds-ave-MecTargetChamber.0:Cspad.0.txt   exp:meca1113   run:
0222  user:dubrovin   host:psexport01   cptime:2013-12-04T10:22:58   zone:PST
file:373-end.data    copy_of:clb-meca1113-r0373-peds-ave-MecTargetChamber.0:Cspad.0.txt   exp:meca1113   run:
0373  user:dubrovin   host:psexport01   cptime:2013-12-04T10:24:48   zone:PST
file:659-end.data    copy_of:clb-meca1113-r0659-peds-ave-MecTargetChamber.0:Cspad.0.txt   exp:meca1113   run:
0659  user:dubrovin   host:psexport01   cptime:2013-12-04T10:25:36   zone:PST
```

2014-04-04 Project Status

New release ana-0.10.15 - has CalibManager V00-00-28 with auto-update of the run list with new xtc files,

but it also has new pyqt which broke interaction with matplotlib graphics.

CalibManager V00-00-29 - has a patch which correctly defines matplotlib backend in the app/calibman.

To-do

- ✅ in GUIInsExpDirDet.py update the list of runs for Dark tab only (because it is slow)
- ✅ in GlobalUtils.msg_and_status_of_lsf(...) add count fro number of nodes, add command and status line in output
- ✅ in updated list of runs, check if the last xtc file (is available in RegDB) is not on disk yet, then do not allow to push on button go
- ✅ Silke asked to split log scales in the plot for log X and log Y
- ✅ complete GUIMetrology for operations with CSPADV1

2014-04-20 Project Status

ana-0.10.15 with CalibManager V00-00-38 - calibrun is ready for exploitation

To-do

- ✅ Get rid of AFS token at batch job submission
- ✅ For info purpose use package revision no. in stead of last tag in the `psvn tags<pkg-name>` command

2014-04-25 Project Status

ana-0.10.16 has CalibManager V00-00-39

To-do

- ✅ Implement Delete for Group file manager, fix Instrument selection drop-down list
- ✅ In "calibrun" add command line in log file
- ✅ In GUIConfigPars add queues status using command: `bqueues psanacsq psnehq psfehq`
- ✅ Change decision algorithm for submission of jobs in batch, use number of "ok" and "closed" nodes
- In "calibman" add option to run psana interactively
- Run range viewer

2014-07-02 Project Status

ana-0.11.9 has CalibManager V00-00-56

✅ For variable shape Camera-type detectors (Tm6740, Opal1000-Opal8000, OrcaFl40) save calibration files with metadata

✅ Add in configuration parameters GUI field for number of events to scan; default 10 sometimes is too small to discover data from PV with wrong timing, which come later.

➕ Add protection against deployment of files in non-"calib" directory

References

- Manual: Calibration Management Tool