Lab Framework Developments

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Progress.

- Several smaller hotfixes for problems observed during operation
- Offset scan
  - Philipp and Florian added new methods
    - Improved analysis results
    - Reduce execution time
  - Markus added a new method to automatically find and use good starting values for VNSubIn
- Shift pedestals automatically
  - Varghese developed a script to shift the pedestals to good measurement conditions
- Automatic gate on/off
  - Improved script to shift gate on/off to compensate radiation damage

Work in Progress.

- Gated Mode
  - I added multiple scripts to scan through different parameters for GM tests (e.g. offsets, source voltages)
  - All compliant with coding guideline but no pull request yet
- Automatic ring detection in source scans:
  - Hua tested a neural net approach to identify rings
    - Training based on a single module
  - Varghese implemented a fitting procedure with templates
    - Automatic identification of good templates to be tested
  - Promising results but more tests needed
- ADC scan and source scan
  - Not working with DHC (needed for mass testing at DESY)
  - First iteration of ADC scan ready, but not tested yet
  - Hua is working on the source scan

Open Issues.

- Crashing of IOC needs to be resolved
  - I included a fix recently and we need feedback every time the IOC crashes (RocketChat)
- Tracking information
  - Noisy pixels
- Speed up PV dumps (takes like 2-5min for all modules)
- Speed up Elog submission
- Reduce errors in PXD Elogserver
- Include temperature measurement into DHH IOC

Python3.

- Python2 support ends at the end of the year
- Transition to Python3 in preparation
  - Clean up of code under review
    - @all, please check the clean up pull requests
    - Remove unused/outdated scripts from the repositories
  - Using automatic tools to convert code into Python3
  - Test all scripts with the DESY setup
- No large issues expected since mainly standard packages are used (already compatible with Python3)
- Additional/external tools:
  - Utility IOC should also be easy (pyEpics also Python3 compatible)
  - Modifications for Depfetreader necessary?