Updated April 2021

# CIS Plots

Use [Getting Started with TUCS](https://docs.google.com/document/d/1pVEApHnLitNKqMUiQh7WJLG3XcaNoN6cYlpTVA_KBcM/) if you’re just setting out.

Check out the [PrimaryCisTools](https://twiki.cern.ch/twiki/bin/view/Atlas/PrimaryCisTools) and [TUCSMacroInstructions](https://twiki.cern.ch/twiki/bin/view/Atlas/TUCSMacroInstructions) TWikis for more.

These worked with asetup 21.0.17.

**Distribution of CIS constants**

macros/cis/Public\_Super\_Macro.py --gcals --date 2020-06-21 2020-09-09 --datelabel 'June 21 - September 9, 2020'

**Variation of CIS constants over time**

macros/cis/Public\_Super\_Macro.py --history -0.5 0.5 --date 'July 1, 2019' 'July 31, 2019' --ndate 'July 1, 2020' 'July 31, 2020' --datelabel 'July 2019 vs. 2020'

**Stability of detector over time**

macros/cis/Public\_Super\_Macro.py --date '06/21/20' '09/09/20' --mean --lowmem --datelabel 'June 21 - September 9, 2020'

**Mean/RMS CIS constant histogram**

macros/cis/Public\_Super\_Macro.py --rmsplots --date 2020-06-21 2020-09-09 --datelabel 'June 21 - September 9, 2020'

**TUCS quality flag failures over time**

macros/cis/Public\_Super\_Macro.py --flagplots --date 2020-06-21 2020-09-09 --datelabel 'June 21 - September 9, 2020'

**Investigate specific channel** (injection pulses, CIS constant fit, and ADC sample histograms)

Alternatively, look at [Plotting Pulses and CIS Scans Directly](https://docs.google.com/document/d/1G2RpY3EHtBCQBmPMr8Z7gzDC7k6EBp31HJRCgLlO3AE/edit) doc.

macros/cis/investigate.py --date 380926 --ldate 380926 --region LBA\_m54\_c47 --usescans --all --injection 0 10 512 --verbose --pevent

**CIS constant injection timing**

macros/cis/TimingFlag.py --date 380926 --ldate 380926 --region LBA\_m54\_c47 --injection 0 10 512

**CIS constant over time**

macros/cis/StudyFlag.py --date '2020-09-09' '2020-10-12' --region 'EBA\_m07\_c31\_lowgain' --output ExampleFolder --qflag 'all' --timestab --printopt 'Print\_All'

**Laser and CIS flag map**

macros/SuperStudyFlags.py --date '2020-09-09' '2020-09-09' --region 'EBA\_m07\_c31\_lowgain' --calibsys 'Both' --cisflag 'DB Deviation' --lasflag jump --printopt 'Only\_Chosen\_Flag' --output ExamplePlot

# Laser Plots

(from ~2018)

These plots relate to burnt 3in1 cards. You may want to talk to Henric Wilkens about using a faster machine, like pcatlas407. The code changes frequently, so this setup may be out-of-date.

1. On opening lxplus go to TUCS and do not run asetup - you need a different setup for laser plots.
2. source scripts/mk-las-ref-combined.sh
3. Edit macros/laser/laser\_DQ-twofilters-run2.py to look at channels of interest
4. macros/laser/laser\_DQ-twofilters-run2.py --date=2017-01-01 --enddate=2017-07-01