LCLS Data Analysis

Introduction

This site documents the usage of "psana python", which is software that can be used to analyze LCLS data. Using relatively simple python code, it is possible to analyze LCLS data in parallel on hundreds of CPU cores, both offline and in real-time while data is being taken. **NOTE:** the graphical LCLS analysis tool AMI is used for many routine real-time monitoring plots. psana-python is typically used for real-time analysis that cannot be done in AMI and for offline analysis.

Getting Started

To get started with a simple 17-line introductory script, and see a list of psana features click [here](#). This link also shows you how to login to the analysis computers.

After that, we believe the best way for new users to learn is by running the many small "building block" examples [here](#).

Other Useful Links

- Get a computer at LCLS
- Learn how to use the
- Locate the
- Look through our
- The LCLS real-time online graphical analysis tool
- How to get remote computer graphics working (e.g. on your laptop)

How To Get Help with Analysis Tools

Send your questions to: [pcds-help@slac.stanford.edu](mailto:pcds-help@slac.stanford.edu) with relevant information (e.g. scripts, and other files involved in any failure you see). One of our experts will contact you. If it is the middle of the night and your experiment is having significant difficulty your hutch-scientist point-of-contact knows how to reach us by phone, 24/7.

Once in a while we also send updates on new features to our mailing list. This is a low-traffic list (i.e. no spam). You can subscribe by sending email to listserv@slac.stanford.edu with the following line in the body of the message:

```text
subscribe pcds-ana-users-l
```

How to Use This Site

- note the document tree on the left side bar of the Portal. The tree is designed to help you find your way to the right document. If you don't see the tree then it's most likely turned off. To fix this, look on the top-right side of this page and click on a little icon (left of the 'Search' box) which will toggle the visibility of the side bar.
- if you know what you're looking for use search on the sidebar just above the tree. One can also use the tree structure to get yourself familiar with the general structure of the documentation.
- some pages on this site will redirect you (if needed) to other Confluence 'spaces' (sites). Note that the 'Search' will not propagate to those other spaces.