

FACET S20 Laser

The laser in S20 currently delivers ~ 800 mJ centered at 800 nm before compression in the laser room. The pulse is compressed to 50 fs in the IP Area.

The confluence pages are structured as follows:

Operating Procedures

Procedures for running the laser and routine alignments that a user with prior laser experience should be able to do on their own. These procedures are considered routine and do not require assistance/supervision from a SLAC employee. Typically users will run through these procedures with someone experienced on the system before performing them on their own.

If there are any questions or uncertainties while working through a procedure, pause, and contact a knowledgeable SLAC employee.

Maintenance Procedures

Procedures for routine maintenance, debugging, and more involved alignment. Maintenance procedures are tasks requiring enough specific knowledge about the S20 laser system that a user would typically not do them. Put another way, if you are a user and the task you want to do is under maintenance procedures, do not do it unless you have explicit approval from the SLSO.

References

The one source of truth for alignment reference positions on cameras, motor reference positions, calibrations, etc. If you change the reference position on a camera, it needs to be updated in confluence or it will not be remembered. Only the most up to date values of the numbers should be shown, older values can be recorded in a page in the measurements section.

References, as the name implies, are values or measurements that typically need to be referenced when operating the laser system. For example, the reference position on a camera is used to align the laser to that camera. The attenuator calibration is referenced to set the laser to a given energy.

Measurements

Records of measurements taken of the laser system. Each page presents a history of a particular measurement.

Measurements has some overlap with references. There are two differences:

1. Measurements includes things that are not used as references during operation, for example, the spectrum of the laser at different points in the laser chain.
2. Measurements include the history of the measurement for comparison. References only contains the most up to date.

System Documentation

Documentation describing the layout and design of the laser system.