

LLE Responsibilities for the Hard X-Ray Spectrometer

LLE provides guidance and technical information during the conceptual design and CAD design phases of the project, primarily regarding:

TIM mechanical and electrical interfaces.
OMEGA facility data acquisition system.
OMEGA shot timing and triggering fiducials.
Estimation of the expected hard x-ray flux.

LLE provides a means for the OMEGA facility to communicate with the instrument's Device Control Processor (DCP) and Diagnostic Interface Unit (DIU), which will be provided with the instrument and will be constructed according to LLE standards and protocols. In association with the laser shot, the LLE facility provides timing signals and other messages to the DIU and DCP. The OMEGA facility uploads and archives the post-shot data from the instrument.

LLE provides assistance with the initial fielding and operation of the spectrometer at the OMEGA facility. This includes providing a workspace for setting up the instrument and checking the operation of the instrument electronics. LLE provides guidance and assistance with the initial deployment of the instrument in the TIM.

After the initial spectra are recorded with the CCD detector provided with the instrument, the spectrometer box and frontend will be detached from the CCD detector assembly and will be attached to an LLE streak camera. This is planned to be a simple mechanical attachment of the spectrometer to the streak camera. LLE has sole responsibility for the operation of the streak camera.