

Weekly Report – week of April 11, 2011
Fabrication and Assembly of ERL hardware
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Cryogenics: The installation of the cryogenic transfer lines along with wiring of level and temperature sensors to support the ERL and VTF cryo refrigerator continues. There are a couple of changes required to one or two transfer lines. The VTF controls are scheduled to be completed by August.

Laser: We await the replacement crystal to correct the performance of the Lumera Laser. Designing transport line and arranging alignment stability test of the final in-vacuum mirror mounting. Modifying control software for laser monitoring and beam steering. Analysis of long-term temperature data of the laser room environment shows that stability has markedly improved and is adequate for current development. Further improvement may be required for extended ERL operation; performance is expected to improve when an adjoining area is stabilized.

FPC conditioning: The Navy FPC's are being tested at low power CW this week. We are conditioning the FPC's using a software program that takes into consideration a variety of parameters and responds accordingly.

Photocathode: A sample which is half SS and half Moly has been coated in the deposition system with antimony and will be removed for testing.

Gun Cryomodule: The gun cavity string mock-up is packaged-up and ready to be shipped to J-Lab. The clamping mechanism required rework and subsequently will be assembled in the clean room. The cryo module has been assembled as far as it can be at this time. The transport cart final drawings are in final check and awaiting signatures and funding.

PASS System: The ERL PASS system has been very stable, working with no issues during our Navy FPC testing. The installation and testing of the VTF PASS system continues now that man-power is available. We have had discussions on the associated sweep procedure and how to interface this into the PASS system.

Mezzanine: Individuals have been designated to be a part of an evaluation panel for the clean room RFP. This clean room will be constructed under and around the mezzanine. The second pass-thru sleeve in the mezzanine decking has been delivered and is awaiting installation.

Large Grain Gun: There has been 11 PO's, 5 for FPC parts and 6 for vacuum hardware written and placed. The layout drawings for the components that will populate the 28" top plate are under way. The imaging and optical design is well developed. There is some re-machining of the top plate proposed to add some more ports. The vacuum system is laid out.

5-cell cavity/cryomodule: The paperwork continues for the G-5 test safety review. There are a couple of vacuum gauge trees that are being reconfigured for the G-5 test.

ERL injection line: Vacuum envelope is in preparation to final review, correction magnets are under design.

ERL Extraction line: Magnets are being fabricated, beam dump pressure vessel code compliance under evaluation, vacuum/instrumentation layout needs to be reviewed and finalized.

ERL Tech Support Area: The EEBA area is on hold due to funding issues. Design drawings and cost estimates have been completed. The BID packages have gone out for the construction of the enclosure and refurbishment of this area.

ERL Vacuum Support: Progressing with G5 beamline component particulate processing and chamber assemblies. Support laser mirror test preparations. Designer assignment required to continue detailed design of ERL zig-zag injection and extraction beamlines. Purge valve subassemblies prepared for 5-cell gate valve exchange.