LLNL research plan FY07-FY09
Executive summary
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Continuing:

Positron Source – This effort will focus on demonstration of a novel spinning target and design of a flux concentrator magnet. Goal is to have a full system demonstration of the target and flux concentrator operational in FY09.

Marx Generator – In FY07 we will work on the mechanical design of the second prototype with SLAC. In out years work will continue on the design for manufacture system if this option is chosen by the collaboration.

Fast Damping ring kicker – Engineering resources will be available as desired and funded by the collaboration.

SRF – In FY07 we will continue with development of the coupler test stand at SLAC. We would also like to follow-up with installation and commissioning of couplers at the FNAL test facility. Activities in FY08 and 09 will depend on the plan for SRF activities at FNAL.

NanoBPM – Nominally this is completed. There may be a need for funds to provide support to the ATF program for operations of the installed alignment and metrology frame.

New:

Laser-wire – The laser-wire system is critical for efficient operations of the accelerator. This system requires precise optics to attain a narrow waist size and high power lasers to reach a sufficient conversion efficiency in the high energy electron beams. These are both areas in which LLNL has expertise. In FY07 we would like to propose a $300K program to develop an optics system and layout a conceptual design for a multi-pulse high average power laser system. In FY08-09 we would build a system for testing at the ATF2.

Beam dump – We have worked on material damage issues and radiation handling for the RIA beam dump. This is an area in which we could contribute if it is desired by the collaboration.