

FY07 ILC Statement of Work – WBS 3.3.3.3 Laser development

Work to be accomplished in FY07

This would be the first year of a 3 year R&D program with the goal of building and testing a fiber laser system that can deliver the average and peak powers required for delivering electron bunches in the pulse format required for ILC. In FY07, the laser system will be designed and the oscillator will be purchased so that initial cathode measurements can start in FY 08

Relevance to the FY07 goals of the ILC Global Design Effort

R&D on the performance of GaAs:Cs in a superconducting RF injector. This program is an element of R&D on a superconducting RF photoemission gun to deliver polarized electrons bunches at low emittance for the ILC with a high ratio of transverse emittances. RF guns are likely to provide better emittance beams, ideally good enough to eliminate the need for a damping ring. The ultimate emittance and quantum efficiency lifetime needs to be demonstrated.”

Key Milestones/Personnel

Design of laser system	Jan 07
Procurement of oscillator	Mar 07
Design and installation of beam transport	Sept 07

WBS work package leader Triveni Rao, BNL

FY07 Deliverables

Design of the laser system, laser oscillator

Cost

Labor FTE's	Labor \$K Direct	M&S \$K Direct	Indirect costs \$K	Total Costs \$K
1.1	64	100	135	299

Labor consists of 1 FTE post doc, .15 FTE scientist