

ILC - LHC-Upgrade R&D

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History

The idea of a synergistic ILC – LHC Upgrade R&D program was suggested to me based on a conversation between Bill Willis and Marv Goldberg, although I think the idea originated with Marv and has a longer history. I have discussed the suggestion first with Jim Brau and then Daniela Bortoletto and Jim Alexander. I also talked with Marv in order to find out his opinion on whether National Labs should be included. He felt that DOE was also a potential contributor and we should not exclude labs.

What Should be Included

My opinion is that the largest part of the program should be real development projects in common. I think it could also include some infrastructure items that could be shared and some support for technical staff that are shared. Daniela has suggested that some longer lead time speculative items, which might have a large payoff if successful, be included.

Some Advantages

The largest advantage of course would come if we can accomplish more toward the detector projects we are interested in. In general I find that the NSF is very wary of the ILC and this may be a good vehicle for more involvement. I think the NSF interest will be very important in getting the ILC eventually approved. I hope we can also learn from each other and perhaps more individuals will become interested in these detector efforts and eventual detector construction.

Some Possible Projects – Examples Only

- 1) Precision Mechanics: UC Berkley, LBNL.
- 2) Silicon PMTs: UTA and Stonybrook.
- 3) Bulk Micromegas: Five Groups.
- 4) A number of electronics areas: Application of LBNL pixel chip, new techniques for marrying detectors with electronics.
- 5) Development of an Optical Link R&D Laboratory (so far ATLAS and CMS): SMU.

Management Issues

This program will be suitable for only a subset of the important work that has to be done, since many items do not lend themselves to joint work. Hopefully it would be a contributor to the overall program, freeing up funds from other sources for other projects. This aspect will require careful decision making. Suggestion for a management team for the program, four people, one from ATLAS, one CMS, two from ILC. These could be:

Jim Alexander, Daniela Bortoletto, Jim Brau, Abe Seiden.

I don't have a clear idea of what amount of money could be available. I will be at the NSF on Sept. 20 and would like to discuss the program with the NSF staff. I think until we learn more about such issues, as well as a sense of how likely we are to succeed, that this be fairly low key.