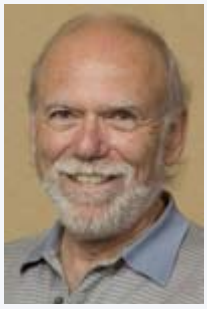
Director's Corner

13 November 2008


Barry Barish

Formalising the CLIC-ILC collaboration

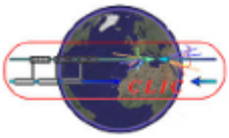
Collaboration between our ILC R&D and design work and the parallel effort towards the CLIC concept stands to be of benefit to both groups. This direction also promises to help break down barriers between the two groups, making the worldwide effort towards a linear collider more integrated and unified. Of course, the underlying concepts are fundamentally different and affect much of the rest of the design: for acceleration in the main linac, the ILC uses superconducting RF, whereas CLIC accelerates through a drive beam. Nevertheless, there is a great deal of mutual interest in other areas and we have formed five working groups that are already well underway and two more working groups are being set up. We have now taken the step to formalise the mode of our collaboration, especially regarding guidelines for communication outside the collaboration. This will help enable the joint work to go forward and be used in ways agreeable to both groups.

As pointed out in our recent Programme Advisory Committee (PAC) review that I reported on last week: "*The PAC views very positively the recent start of common activities between the ILC and CLIC on many items such as conventional facilities, beam delivery system, detectors, physics, cost estimation, etc. This avoids unnecessary duplication of effort, and keeps the particle physics community focused on the goal of a linear collider as the next major new facility for the field.*"


Jean-Pierre Delahaye, CERN CLIC study leader

As we look to the future, we anticipate that LHC results will establish the scientific case for a linear collider. If the science warrants a 0.5 to 1.0-TeV ILC, the agreement for joint ILC/CLIC work will be helpful towards our primary GDE goal of being ready to propose a solid project at that time. If the LHC results indicate the need for a higher-energy lepton collider, we will be prepared as a community to aggressively continue to develop the CLIC concept on a longer timescale.

The newly agreed joint statements are given below:



CLIC / ILC Joint Statements

27 October 2008

Purpose of these statements:

The CLIC and ILC Collaborations agree to work together, within the framework of the CLIC / ILC Collaboration, to outline comparative statements to be used in presenting their respective projects. The Collaboration members agree to limit statements made about each other's projects to specifically agreed upon statements such as those listed below:

• Project design

The CLIC and ILC projects both plan to release design documents in the coming years. The CLIC Conceptual Design Report is to be published in 2010. If the CLIC technology is demonstrated to be feasible, a CLIC Technical Design will then be launched for publication in a CLIC TDR by 2015. The ILC TDR will be published in 2012. The design reports are intended to summarize the R&D and project planning at that time and will serve as indicators of project readiness. Both TDRs are intended to be submitted to governments and associated funding agencies in order to seek project approval.

• Test facilities and system tests

The CLIC and ILC projects both have test facilities either in operation or under construction for the purpose of demonstrating the performance of key technical components or to allow system engineering and industrialization. For each project, R&D priorities and schedules have been defined and it is anticipated that milestones and progress will be reviewed and reported on by members of the community. The XFEL project, with the same technical basis as the ILC, although at a lower accelerating gradient, and 7% of the energy of one of the ILC linacs, is a large-scale system test and demonstration of the industrialization of the ILC linac technology. The CERN- based CTF3 project is a demonstration of the CLIC two beam technology, although at a lower beam power.

• Technology maturity and risk

The collaborations agree that the ILC technology is presently more mature and less risky than that of CLIC. There are plans to demonstrate, by 2010, the feasibility of CLIC technology and to reduce the associated risk in the future. The ILC collaboration will focus on consolidation of the technology for global mass-production. Both collaborations consider it essential to continue to develop both technologies for the foreseeable future.

• Costing

Project planners from the CLIC and ILC projects are developing common methodologies and tools with the intention of enabling the development of similarly-structured project planning and costing documents for each of the two projects. The two collaborations agree to make no public statements about the comparative cost numbers of the two machines until these project planning and costing documents are complete.

Barry C. Barish

Barry C. Barish
ILC-GDE Director

J.P. Delahaye

J-P. Delahaye
CLIC Study Leader

CLIC/ILC Joint Statements

-- Barry Barish