



Contribution ID: 1175

Type: **Parallel Talk**

Current Status of the ILC and CLIC projects

Friday, 8 July 2022 10:00 (20 minutes)

The International Linear Collider (ILC) is an electron–positron collider with a total length of around 20 km in its initial configuration as a 250 GeV centre-of-mass energy Higgs factory.

Key technologies at ILC are superconducting RF (SRF) acceleration in the main linacs and nano-beam technology at the interaction point (IP). A total of about 8,000 superconducting niobium cavities will be installed in the main linacs. The e^-/e^+ beams are focused around to 8 nm (vertical) at the interaction region.

One of the advantages of the linear collider is its energy scalability: in addition to the 250 GeV collision energy as the Higgs factory, the accelerator tunnel can be extended to more than 1 TeV, and possibly well above with further progress in SRF technology.

In addition, a sustainable implementation of the ILC has been pursued under the heading “Green ILC” for about 10 years. The superconducting accelerator itself is highly energy-efficient, and the luminosity per AC power has been increased using nano-beam technology. The use of waste heat, renewable energies and integration in the local communities are part of these studies.

In June 2021, IDT released its proposal for the ILC Preparatory Laboratory (Pre-lab). This document outlines the roles of the Pre-lab, which will be established prior to the construction of the ILC, as well as technical preparations related to the ILC accelerator. In July 2021, the Ministry of Education, Culture, Sports, Science and Technology (MEXT) in Japan convened the ILC advisory panel and the panel released its recommendations on February 14. In the recommendations, Pre-lab was still considered premature, but on the other hand, strengthened the accelerator-related R&D efforts was recommended. Currently, the IDT is working on organizing particularly important topics to be addressed, including increasing the international cooperation for their execution. The IDT aims to start these R&D efforts in 2023.

In-person participation

Yes

Primary authors: Dr FAUS-GOLFE, Angeles (IJCLab); MICHIZONO, Shinichiro (KEK); LIST, Benno (DESY-IPP-); STAPNES, Steinar (CERN); BURROWS, Philip (John Adams Institute, Oxford University)

Presenter: BURROWS, Philip (John Adams Institute, Oxford University)

Session Classification: Accelerators: Physics, Performance, and R&D for future facilities

Track Classification: Accelerators: Physics, Performance and R&D for future facilities