



Report from Physics Coordinators

Keisuke Fujii
on behalf of the Physics WG
May 22, 2019

Situation in Japan

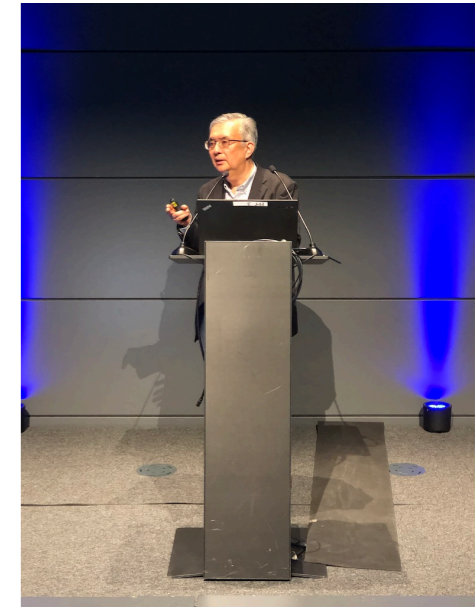
KEK presented its plan for the ILC project in Lausanne

2019/04/12

<https://www.kek.jp/en/newsroom/2019/04/12/1700/>

Masanori Yamauchi, Director General of KEK, made a presentation regarding KEK's plan for the ILC, at the international conference held on 8-9 April 2019 in Lausanne, Switzerland.

About 100 scientists from around the world who aim for the realization of electron-positron linear colliders gathered at the Linear Collider Community Meeting, to discuss the future linear collider activities.



Masa explaining his plan in a Lausanne session

In the conference, Yamauchi presented KEK's plan for the ILC for the upcoming year, summarized as follows:

- **Organize the *international working group* with close consultation with the Ministry of Education, Culture, Sports, Science and Technology (MEXT).**
- **Promote activities to gain a better understanding of the broader academic community in Japan (Propose the ILC project to *the Science Council of Japan's Master Plan*; Organize a symposium)**
- **Cooperate with MEXT to establish the *governmental level discussion groups with France and Germany*. Also, strengthen the discussion group with the US DOE.**
- **Conduct *technical development program at ATF, STF and CFF facilities* collaborating with the international teams**

.....

KEK's plan is in accord with the ICFA statement and MEXT's view, and illustrates the specific steps that will be taken by KEK toward an early realization of the ILC. The result of the discussions at the Lausanne conference will be used as an input for the discussions of the Update of the European Strategy for Particle Physics.

Not very much I can tell now.

- *The KEK International WG activity has started.*
 - *A preparatory group formed in KEK and started the preparation for the International WG.*
 - *The International WG had its 1st meeting.*
- *SCJ Master Plan Process on-going.*
- *Preparation on-going for establishing governmental level Discussion Groups with France and Germany.*
- *Planning on-going of collaboration for technical development regarding potential issues pointed out by SCJ.*

LCC Physics WG
Inputs to ESU

LCC Physics WG had a teleconference today to discuss actions to be taken before the physics briefing book is frozen:

Prepare and submit

- a paper on ***the machine parameters for the Giga-Z option at ILC*** (Jenny with inputs from Kaoru Yokoya),
- a paper ***on on-shell and off-shell Z-ff couplings (g_L and g_R) at Giga-Z and Z-tt at 0.5 and 1 TeV*** (Roman with Marcel, Junping),
- a paper on ***on-shell Z-ff couplings (g_L and g_R) using radiative return to Z events at 250 GeV*** (KF with Hitoshi, Taikan, Junping, Takahiro, Tim?), and
- a paper on ***Higgs couplings with 1 TeV data, including top Yukawa and cubic self-coupling*** (Michael, Junping)

to the relevant ESU working groups

→ Draft due by June 7

***ILD Physics WG
Activities***

Benchmark Analyses

- **Candidate plots from most analyses have been uploaded to the confluence page:**

<https://confluence.desy.de/pages/viewpage.action?pageId=89671192>

Keep interacting with reviewers and updating analysis notes.

- **May 27-29: IDR Editors' Meeting @ DESY**

<https://confluence.desy.de/display/ILD/The+ILD+Design+Report%2C+IDR>

250 GeV Analysis

- **Today (May 22): update on**

$e^+e^- \rightarrow cc$

by Adrian Irles

$e^+e^- \rightarrow tq$ (FCNC single top)

by Subhasish Behera

Conference Presentations

ILD Contributions to EPS-HEP 2019

- Probing the dark sector via searches for invisible decays of the Higgs boson at the ILC: (Higgs) : **Yu Kato**
- Production and electroweak couplings of 3rd generation quarks at the ILC: (Top & EW) : **Yuichi Okugawa, Adrian Irlles**
- The ILC as a natural SUSY discovery machine and precision microscope: From light higgsinos to tests of unification: (Searches for New Physics) : **Swathi Sasikumar**

ILD Contributions to Lepton-Photon 2019

- Probing the dark sector via searches for invisible decays of the Higgs boson at the ILC: (Higgs) : **Akimasa Ishikawa? (TBC)**
- Production and electroweak couplings of 3rd generation quarks at the ILC: (Top & EW) : **Roman Poeschl? (TBC)**
- The ILC as a natural SUSY discovery machine and precision microscope: From light higgsinos to tests of unification: (Searches for New Physics) : **Mikael Berggren**

Papers

Papers

- ***Kinetic Edge Detection Using Finite Impulse Response Filters: Madalina Chera → draft being reviewed***
- ***$e^+e^- \rightarrow bb$: Roman / Francois → new draft being reviewed***
- ***Higgsinos : Tomohiko / Jenny → draft almost final***
- Higgs self-coupling : Claude / Jumping / Masakazu : status?
- Anomalous HVV couplings : Tomohisa / Junping : status?
- ***Low mass Extra Higgs : Yan Wang → draft by end of June?***
- ...

Proposed S&A meeting schedule

May 22: Daniel

May 27-29: === IDR Editors' Meeting @ DESY ===

June 5: KF

June 12: Jenny

June 19: Frank

...

***Weekly physics conveners' meeting every Tuesday (w/o GW)
at 9:00 CERN time (changed from 13:00)***

Weekly S&A meeting until complete IDR draft becomes available.

Conveners' ML:

ild-physics-conveners@desy.de

Use this mailing list to send your talk request.