



Report from Physics Coordinators

Keisuke Fujii
on behalf of the Physics WG
August 28, 2019

Situation in Japan

Not very much I can tell now.

- **LDP won the Upper House election on July 21** with a general policy book that explicitly mentions **ILC**.
→ **Cabinet re-shuffle will happen very soon.**
- **KEK International Working Group (IWG) on the ILC has so far met four times and produced its first fairly complete draft report.**
→ **This draft was shown to LCB members on Aug. 7 in Toronto. The draft was well received with some constructive feedback. The WG will finalize the draft by the end of September.**
- **Preparation on-going for starting governmental level Discussion Groups with France and Germany following the visit of the Japanese delegation in Berlin and Paris on July 1-2 and an agreement there to establish governmental level Discussion Groups. The IWG report is expected to be used for their discussions.**
- **KEK has just setup an Expert Panel for “Strategic Environmental Assessment”.**
- **Iwate Prefectural Government elevated its ILC Promotion Office to an ILC Promotion Bureau on August 1, boosting ILC promotion activities.**

LCC Physics WG
Inputs to ESU

Three letters have been submitted to ESU PPG

I. Document on improved precision electroweak at ILC

1. Reminder on ***accelerator parameters for Giga-Z***; We now agree that these will be the parameters in arXiv:1506.07830, with any needed updates from the accelerator folks
2. Estimates of the errors on the ***various Z couplings*** g_L and g_R for 3×10^9 Z's with polarization (***Giga-Z***).
3. Estimates for the errors on the ***various Z couplings*** from ***radiative return*** ($e^+e^- \rightarrow Z\gamma$) ***at 250 GeV***

II. Document on ILC capabilities at 1 TeV

1. Improved $e^+e^- \rightarrow W^+W^-$ inputs from 1 TeV
2. Improvements of the Higgs couplings from $e^+e^- \rightarrow \nu\nu h$
3. ***Top Yukawa*** couplings
4. ***Higgs self-coupling*** from $e^+e^- \rightarrow \nu\nu h$

III. An appropriate additional input for the BSM resonances group:

1. our own numbers for mass reach for various ***Z'*** resonances
2. our own numbers for ***W, Y*** discovery/exclusion
3. our own numbers for ***various compositeness scales (Λ 's)***
4. ***Anomalous bottom and top couplings***

An arXiv paper combining the three letters to ESU PPG in preparation

Tests of the Standard Model at the
International Linear Collider

LCC PHYSICS WORKING GROUP

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***1st draft has just been circulated for comments.
Aim at submitting it to arXiv by the end of August.***

***ILD Physics WG
Activities***

Benchmark Analyses

- *Keep interacting with reviewers and further updating analysis notes, update GitHub and Confluence pages:*

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

- *Today (August 28): on*
 - *IDR status from Jenny.*
 - *$h \rightarrow \mu^+ \mu^-$ from Shin-ichi*

Conference Presentations

ILD Contributions to HC2019 (Sep.30-Oct.4)

- Study of $H\gamma Z$ coupling at the ILC: **Yumi Aoki**
- Electroweak precision observables for the Higgs coupling determination at the ILC: **Jenny List**

Proposed S&A meeting schedule

Aug. 28: Daniel (Today)

Sep. 11: Keisuke

Sep. 25: Jenny

Oct. 9: Frank

...

Biweekly S&A meeting on Wednesday at 14:00 CERN time.

Physics conveners' meeting also switched to bi-weekly mode: every two weeks on Wednesday at 14:00 CERN time interleaved with S&A meetings.

Conveners' ML:

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Use this mailing list to send your talk request.