

Opening Comments

2021/12/15

Keisuke Fujii

WG Objectives

- The discovery of the 125 GeV Higgs boson at LHC has vaulted the question of its properties on the top of the list of questions in HEP. **The 125GeV boson is a window to BSM physics and ILC is an ideal machine to use it.**

So far no “definite” signs of additional new particles or new phenomena have been reported, suggesting that there seem to be no easily discoverable new particles. This situation enhanced the importance of the precision measurements of H125 and loophole-less searches at ILC more than ever. There can be a zoo of new uncolored particles or new phenomena in the blind spots of LHC but can be discovered and studied in detail at ILC. We also need to further investigate what the ILC’s precision will imply in terms of BSM physics searches and identifications.

We need to demonstrate that ILC will advance our understanding of particle physics **qualitatively** beyond the information that will be available from the results expected from various experiments but the time of the first collision at the ILC. We hence need to **closely monitor, analyze, and examine developments of LHC and other experiments.**

- **With the strong support from the U.S. and favorable mention of ILC in a draft European Particle Physics Strategy Update 2020, LCB/ICFA met on Feb. 20, 2020 at SLAC together with a MEXT representative and a key diet member from Japan, and made a statement outlining the timeline towards ILC realization including International Development Team (IDT) hosted at KEK. IDT was established on Aug.2, 2020. After 10 months of hard work the IDT completed its Pre-lab proposal and submitted it to MEXT on June 2, 2021, which is being evaluated by MEXT. We need to show that there is a strong community supporting ILC so as to encourage decision makers to decide favorably about our plan. We need to show strong presence in the Snowmass process. The next target is the Snowmass White Paper deadline: March 15, 2022.**

Reminder

***Registration Page for
The ILC White Paper for Snowmass 2022***

***Register on the authors/supporters list for the ILC White Paper
for Snowmass through***

<https://agenda.linearcollider.org/event/9135/>

Physics Potential & Opportunity Group

- Schedule for regular open meetings:
 - August 12: talks from Tim Barklow on $e\gamma \rightarrow eH$ and on the new CEPS paper
 - September 16: talks from Matt Basso on $H \rightarrow ss$ and from Yu Kato on $H \rightarrow 4b$
 - No meeting in October
 - November 11/12: bottom, $e+$ pol, SMEFT, $t\bar{t}$ threshold (see next page):
<https://agenda.linearcollider.org/event/9351/>
 - December 16/17: generators, CPV in SMEFT, H^3 effects in 2HDM, energy calibration and luminosity spectrum (GW)**
<https://agenda.linearcollider.org/event/9352/>
 - Jan. 13, Feb. 10, Mar. 10, Apr. 14
<https://indico.fnal.gov/event/49756/>
- Snowmass is restarting (EF from July);
EF workshop Aug. 30 - Sep.3
<https://indico.fnal.gov/event/50538/>

Software & Computing Group

Software tutorials <https://agenda.linearcollider.org/category/273/>

- July 21, Introduction to iLCSoft: <https://agenda.linearcollider.org/event/9272/>
- August 18, LCFIPlus: <https://agenda.linearcollider.org/event/9318/>
- October 13, SGV fast simulation: <https://agenda.linearcollider.org/event/9394/>
- **Planning *the next one for PFA***

Dec. 17

<https://agenda.linearcollider.org/event/9352/>

IDT-WG3-Phys Open Meeting

📅 Friday 17 Dec 2021, 07:00 → 09:01 Japan

Description Topic: IDT-WG3-Phys Open Meeting

Join Zoom Meeting

<https://desy.zoom.us/j/84806732791>

Meeting ID: 848 0673 2791

Passcode: 314159

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|--------------|---------|---|-------|
| 07:00 | → 07:30 | Status of event generators for e+e- colliders: report on the November workshop at CERN | 🕒 30m |
| | | Speaker: Jürgen Reuter (DESY Hamburg, Germany) | |
| 07:30 | → 08:00 | CP violating operators in SMEFT | 🕒 30m |
| | | Speaker: Emanuele Gendy (DESY) | |
| 08:01 | → 08:31 | Effects from triple Higgs couplings in the 2HDM at e+e- colliders | 🕒 30m |
| | | Speaker: Francisco Arco | |
| 08:31 | → 09:01 | Energy calibration and luminosity spectrum using dimuons for precision EW at ILC | 🕒 30m |
| | | Speaker: Graham Wilson | |

Our Group's Activities

Today

<https://agenda.linearcollider.org/event/9506/>

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|-------|---------|---|-------|
| 10:30 | → 10:50 | Opening Remarks
Speaker: Keisuke Fujii | 🕒 20m |
| 10:50 | → 11:20 | Invited talk: Muon g-2 anomaly + SUSY (theory)
Speaker: Teppei Kitahara (Nagoya University) | 🕒 30m |
| 11:20 | → 11:50 | Muon g-2 anomaly + SUSY at the ILC (experiment)
Speaker: Dr Shin-ichi Kawada (KEK) | 🕒 30m |
| 12:00 | → 13:00 | lunch | 🕒 1h |
| 13:00 | → 13:20 | Tau reconstruction in $e^+e^- \rightarrow \tau^+\tau^-$ at the ILC250
Speaker: Keita Yumino (SOKENDAI) | 🕒 20m |
| 13:20 | → 13:40 | Precise measurement of Left-Right Asymmetry using $e^+e^- \rightarrow \gamma Z$ process at the ILC
Speaker: Takahiro Mizuno (Sokendai) | 🕒 20m |
| 13:40 | → 14:00 | Exploring Right handed neutrino at ILC
Speaker: Jurina Nakajima (SOKENDAI/KEK) | 🕒 20m |
| 14:00 | → 14:20 | Search of Higgs decaying to exotic scalars using kinematic fit
Speaker: Yu Kato (University of Tokyo) | 🕒 20m |
| 14:20 | → 14:50 | Discussions | 🕒 30m |

Short Term Schedule

- Weekly Meeting
 - Every Fri. at 14:30 (conf. ID: to be announced)
- General Meeting
 - 10:30 on **Wed. March 2, 2022?** (or on Saturday?)
- **Snowmass White Paper deadline: March 15, 2022**
- **Snowmass Summer Study: July, 2022 (Seattle)**