



Workshop Goals

Marc Ross

LC 2013

27 May, 2013

Accelerator Plenary



2012 – 2013: Launching the LCC

This is the first workshop after the formation of the Linear Collider Collaboration (LCC).

It is dedicated to the physics potential of future high energy linear electron-positron colliders, especially in view of the new results from the LHC.

The status of the detectors and the accelerator designs for both technology options, ILC and CLIC, will be reviewed.



2012 – 2013: Launching the LCC

Both design teams have passed important milestones since LCWS2012 at Arlington.

- *Completion of the ILC-TDR*
- *Publishing the CLIC-CDR*

Upcoming Milestones:

ILC: Japan may indicate in late 2013 their intent to bid to host ILC and

CLIC: project implementation plan development phase until 2016.

Regroup ILC and CLIC Working Groups and put together plans for the coming three years.



LCWS 2012: Arlington, Texas, USA

We are to **further improve** collaboration between CLIC and ILC machine experts.

LCC plenary accelerator – side (AC) working groups AC1-AC5 have been arranged to meet the challenges set forth by the Collaboration →

- Strongly support the Japanese initiative to construct a linear collider as a staged project in Japan.
- Prepare CLIC machine and detectors as an option for a future high-energy linear collider at CERN.
- Further improve collaboration between CLIC and ILC machine experts
- Move towards a “more normal” structure of collaboration in the detector community to prepare for the construction of two high-performance detectors.



LC2013 Accelerator Working Groups:

AC 1 Injector Systems (Sources, Damping Rings)

Wei Gai, Masao Kuriki and Yannis Papaphilippou

AC 2 Beam Delivery System, Machine-Detector Interface (MDI)

Rogelio Tomas, Glen White, Toshiaki Tauchi and Lau Gatignon

AC 3 Luminosity Performance

Andrea Latina, Nikolay Solyak, Kiyoshi Kubo

AC 4 SCRF Linac Technology

Wolf-Dietrich Moeller, Hitoshi Hayano and Rongli Geng

AC 5 Accelerator Design and Integration

Marc Ross, Akira Yamamoto and Olivier Napoly.



Working Groups General Charge:

- 1. update the technical status presented in the Design Reports,**
- 2. comment on outstanding issues and**
- 3. develop plans for the coming three year period.**

For working groups with strong CLIC / ILC commonality:

(Injector Systems, Beam Delivery System MDI, Luminosity Performance)

- 1. develop and optimize a few-year long common CLIC / ILC program**
- 2. evaluate and improve estimated electrical power consumption and efficiency (AD &I)**



Specific working group goals:

AC 1: (Injector Systems)

1. review source and damping ring R & D priorities.
2. summarize progress on alternate positron source schemes, such as the high – repetition rate 300 Hz normal-conducting linac based

AC 2: (BDS / MDI)

1. review needed beam delivery system and MDI design and R & D work.
2. recent analysis and results from the ATF-II at KEK should be summarized and lessons-learned should be reported

AC 3: (Luminosity Performance)

1. reassess the performance claims described in the CLIC / ILC Design Reports with special attention to luminosity estimates and feedback system performance.
2. The working group should participate in the discussion of ATF-II ‘lessons-learned’ and should recommend future work to be undertaken at ATF – II and should consider options for experiments at other facilities.



Specific working group goals:

AC 4: (SCRF Linac Technology)

- 1. present plans for strengthening links between the ILC - SCRF group and the EU-XFEL project. Plan a practical working relationship to take advantage of the information generated through the construction project.**
- 2. SCRF linac supporting technology (for example HLRG generation and distribution) studies should be reviewed and progress should be reported.**
- 3. Follow up on recommendations made in the Project Advisory Committee report: develop a program to study and improve coupler and tuner performance and cost.**



Specific working group goals:

AC 5: (Accelerator Design and Integration)

1) CFS

- a. review outstanding issues,
- b. compare CLIC and ILC power consumption 'drivers' and discuss performance improvements, and
- c. discuss site studies to be considered following the conclusion of the site selection recommendation activity in Japan. In addition to talking about geological survey results and site prioritization issues, the latter should include discussions of the main campus buildings and laboratory land, and should review the scale of the laboratory in terms of number of employees, visitors, sub-contractors etc..
- d. The Installation planning and cost estimate described in the TDR were identified in recent reviews as outstanding issues needing further attention and this should also be discussed in the CFS session.



Specific working group goals:

AC 5: (Accelerator Design and Integration – Continued)

2) **System-wide design status**

consider issues such as machine protection and timing constraints

3) **EDMS,**

review the aggregate collection of TDR documentation in the Team-Center repository and summarize and report on missing or out-of-date information.

4) **Project Implementation and Planning**

outline in-kind contribution considerations and constraints. The working group should consider hub-lab infrastructure capabilities and review plug-compatibility interface definitions, especially as these must be broadened to include accelerator equipment beyond SCRF

5) **Integration.**

consider system interface definition and propose in-kind contribution definition schemes



ILC Flags in the streets of southern Japan





LINEAR COLLIDER COLLABORATION

ILC - ten

ILC展





ILC Symposium in northern, rural, Japan

奥州市から世界へ

ILC

国際リニアコライダー

シンポジウム IN おおしりゅう

入場無料

3/9 2013 (土)

午後1:30~ (受付/午後1:00~)

江刺体育文化会館 ささらホール (KOSS)



On a building in northern Japan:



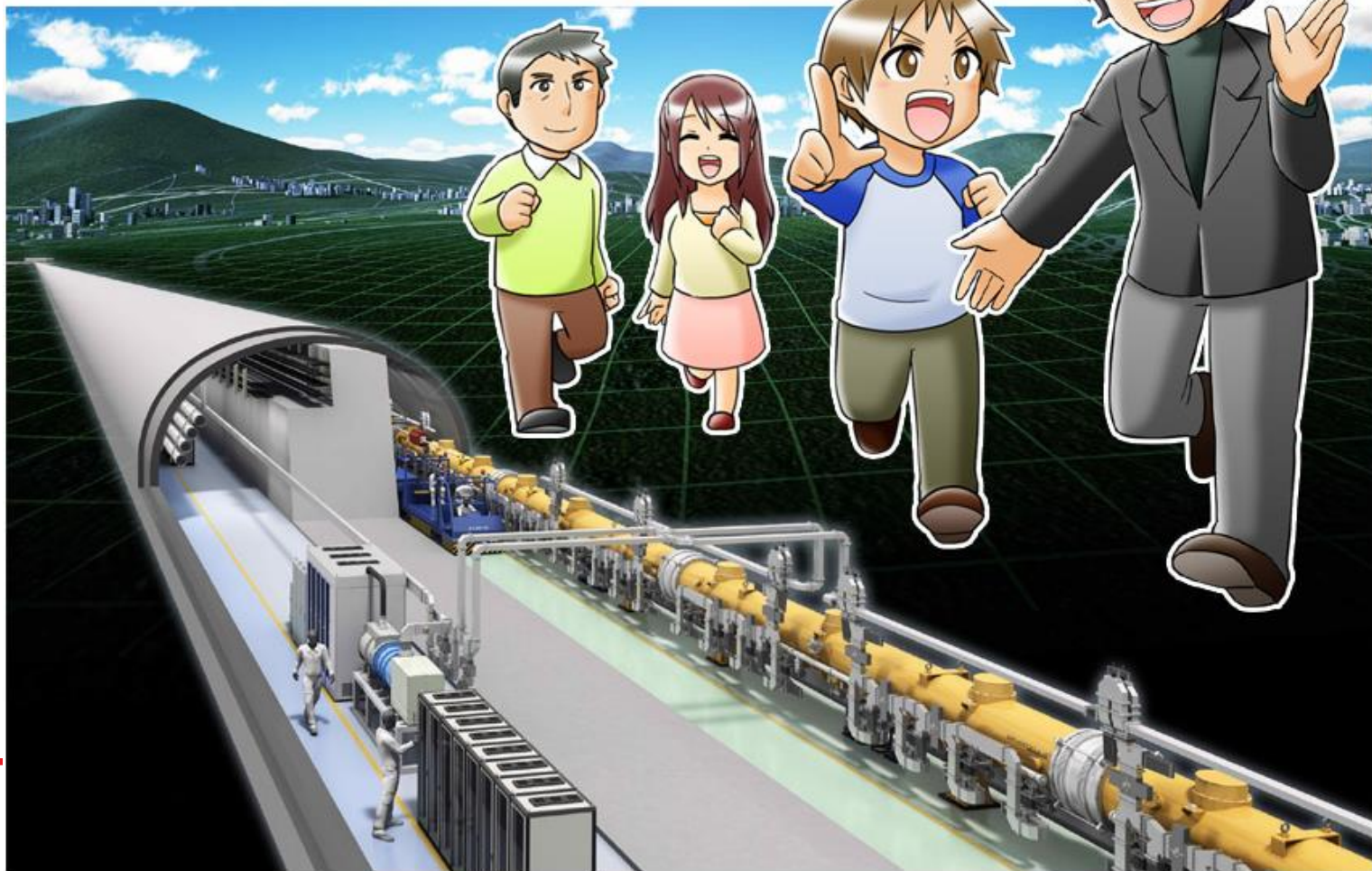
Let's be healthy at 100!

Bring ILC to Tohoku!

Expand highway #4 to four lanes!

宇宙をつくる加速器 [国際リニアコライダー] がやってくる!?

Dr. M



Fun
Comics:

‘ILC –
accelerator
to create
the
universe is
coming...’