

ILC-GDE: KEK-ATF-II Technical Review
to be held at KEK, April 3-4, 2013

Dear ATF2 Review participants

We would like to thank you for agreeing to participate in the upcoming two-day review of ATF2, which will take place at KEK on **3rd** and **4th April**. Currently we are planning on starting the review at 09:00 on the 3rd. We expect to conclude the meeting by 13:00 on the 4th.

The Indico site for the KEK-ATF-II Technical Review is being prepared as follows:

<https://ilcagenda.linearcollider.org/conferenceDisplay.py?confId=5973>

Please make your travel and accommodation arrangements yourself as soon as possible. Since this is a GDE organised review (in collaboration with the KEK LC project office), we kindly ask you to have your home institutes cover your travel expenses. If you have problems finding accommodation, or difficulty securing travel funding, please contact us as soon as possible and we will endeavour to help you.

The following hotels are suggested for your accommodation and you may receive the KEK rate (discount). Please visit the following URL, and you will find a specific mark or instruction to reserve your accommodation for the "KEK ATF Technical Review".

Urban Hotel:

Address: Tsukuho 2-1-2 Tsukuba, Japan:

Tel: +81-29-877-0001

http://www.urbanhotel.co.jp/index_en.html

(Specific column will come soon)

Access: "GDE/KEK ATF2 Technical Review"

Promotion-code: KEK-ATF

Okura Frontier Hotel, Tsukuba, EPOCHAL:

Address: 2-20-1 Takezono, Tsukuba, 305-0032, Japan

Tel: +81-29-860-7701

<http://www.okura-tsukuba.co.jp/eng/>

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Special URL for GDE/KEK ATF2 Technical Review

<https://asp.hotel-story.ne.jp/ver3d/ASPP0200.asp?hidSELECTPLAN=A1004&hidSELECTCOD1=09051&hidSELECTCOD2=001&hchannel=>

Promotion-code: KEK-ATF

With the achievement of the milestone 70 nm vertical beam size in the recent December run, we believe that now is a good opportunity to take stock of the project and its goals. The review itself will be comprehensive and focused on both the status of the project and the next steps which need to be taken to achieve the as yet unachieved published ILC Technical Design Phase goals (37 nm vertical beam size, stabilisation). Furthermore, the importance of the ATF2 programme for ILC was acknowledged in the recent PAC TDR technical review. In particular the PAC report noted that "The lack of progress towards the 37 nm ATF2 IP goal is a concern. Several issues have already been resolved, and the

currently scheduled modifications should lead to significant progress towards the goal.” This review is primarily to address this observation.

Specifically, the goals of the review are to:

1. evaluate and comment on progress made toward achieving the stated goals;
2. assess the current readiness of the ATF/ATF2 complex toward achieving the goals, including, for example, understanding of beam dynamics and expected instrumentation performance;
3. comment on lessons-learned at the ATF/ATF2 for the ILC complex and how these may be included in the ILC design;
4. discuss future plans and set milestones for the short and medium term towards achieving the ILC goals.

With the ILC goals in mind, the types of questions we will endeavour to answer are:

- Is the ATF2 machine well understood in terms of its accelerator performance (requirements, tolerances, tuning algorithms, diagnostics)?
- Does the ATF routinely provide a stable low-emittance beam to allow ATF2 tuning to proceed in an efficient manner?
- Given the current status and knowledge of the ATF2 hardware, what are the major challenges and possible hurdles to achieving 37 nm?
- What are the exact plans for demonstrating ‘stability’ and how will they be implemented?
- Given the answer to the above, what hardware upgrades (if any) need to be considered to mitigate identified problems which are limiting performance?
- If the above upgrades or modifications are not practical, what is the realistic performance expectations from ATF2?
- What are the KEK management’s plans and schedule for ATF2 to facilitate a successfully conclusion to this part of the programme? How will the broader international collaboration interact with these plans to achieve them?

The GDE review panel will consist of

Barry Barish (Caltech), Alex Chao (SLAC), Olivier Napoly (CEA Saclay), Katsunobu Oide (KEK), Pantaleo Raimondi (ESRF, TBC), Marc Ross (SLAC), Nick Walker (DESY, chair), and Akira Yamamoto (KEK)

The structure of review presentations should focus on the following themes (sessions):

April 3: Wednesday	Session topics	Presenters/coordinators
8:30 - 9:00	Closed session	Chair: N. Walker
09:00- 09:20	Opening Introduction	B. Barish N. Terunuma
09:20-10: 50	ATF DR performance; - Including extraction line and low-emittance tuning. ATF/ATF2 alignment and stability.	Kicker optics: M. Woodley Emittance tuning: S. Kuroda Alignment: S. Araki Injection tuning: T. Naito
10:50 - 11:10	<i>Coffee/tea break</i>	
11:10-12:40	Accelerator physics issues;	Wake field calc. : A. Liapin

	- Beamline impedance (wakefields); magnetic multipole components; impact on ATF2 performance; possible mitigations.	Wake field effect calc.: K. Kubo Wake field simulation: G. White Multipole comp. effect: R. Tomas/Marin
12:40-13:40	<i>Lunch (& close session)</i>	Chair: N. Walker
13:40-15:40	Beam optics design; - Tuning algorithms and their implementation; actual performance versus simulation; operational experience and know issues (overview)	IP beam size tuning 1: G. White IP beam size tuning 2: T. Okugi Beam dynamics: K. Kubo
15:40	<i>Coffee/tea break</i>	
16:00-17:30	Achieving the stability goal; - Feedback systems and stabilisation techniques.	Overview for goal-II: T. Tauchi IP feedback: P. Burrows IP-BPM: J. Jang
17:30 - 18:00	Closed session	Chair: N. Walker
18:00	<i>Reception</i>	
April 4: Thursday	Session topics	Presenters/coordinators
8:30-10:00	Instrumentation & diagnostics	BPM system: S. Boogert OTR emitt. matching: A. Faus-golfe IP-BSM: J. Yan
10:00	<i>Coffee/tea break</i>	
10:15-11:15	Management issues; - Resources. Schedule. International collaboration	Hosting ATF: N. Terunuma ICB issue: P. Burrows TB issue: P. Bambade
11:15-12:15	Close session	Chair: N. Walker
12:15-12:45	Close out, <i>(followed by Lunch)</i>	Chair: N. Walker

Contact:

Please contact us for any questions:

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