

ATF International Collaboration



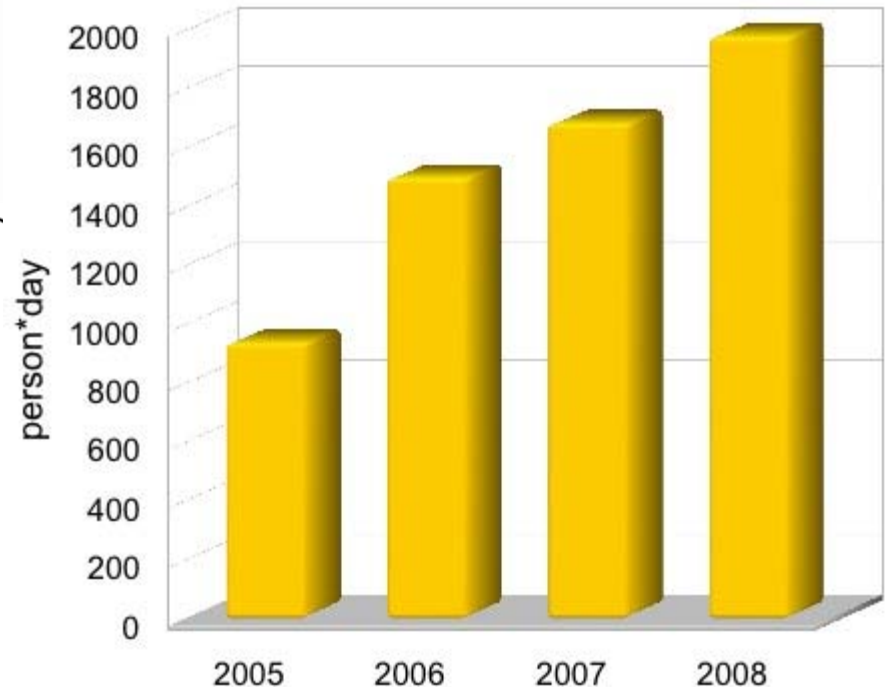
CERN
DESY
LAL, Orsay
IN2P3-LAPP
Tomsk Polytechnic Univ.
INFN, Frascati
University College London
Oxford Univ.
Royal Holloway Univ.
Cockcroft Inst.
STFC, Daresbury
Univ. of Manchester

KEK
Waseda U.
Nagoya U.
Tokyo U.
Kyoto U.
Tohoku Univ.
Hiroshima U.
PAL
IHEP
KNU
RRCAT

SLAC
LBNL
FNAL
Cornell Univ.
LLNL
BNL

**Overseas collaborators
visited for R&D at ATF.**

**29 Institutes,
~70 peoples,
~1900 people-days**



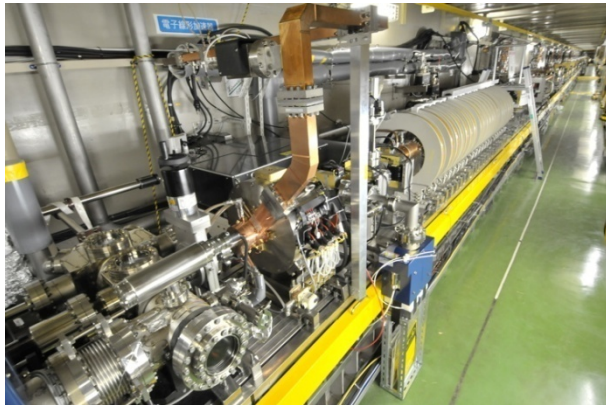
Meeting for ATF operation



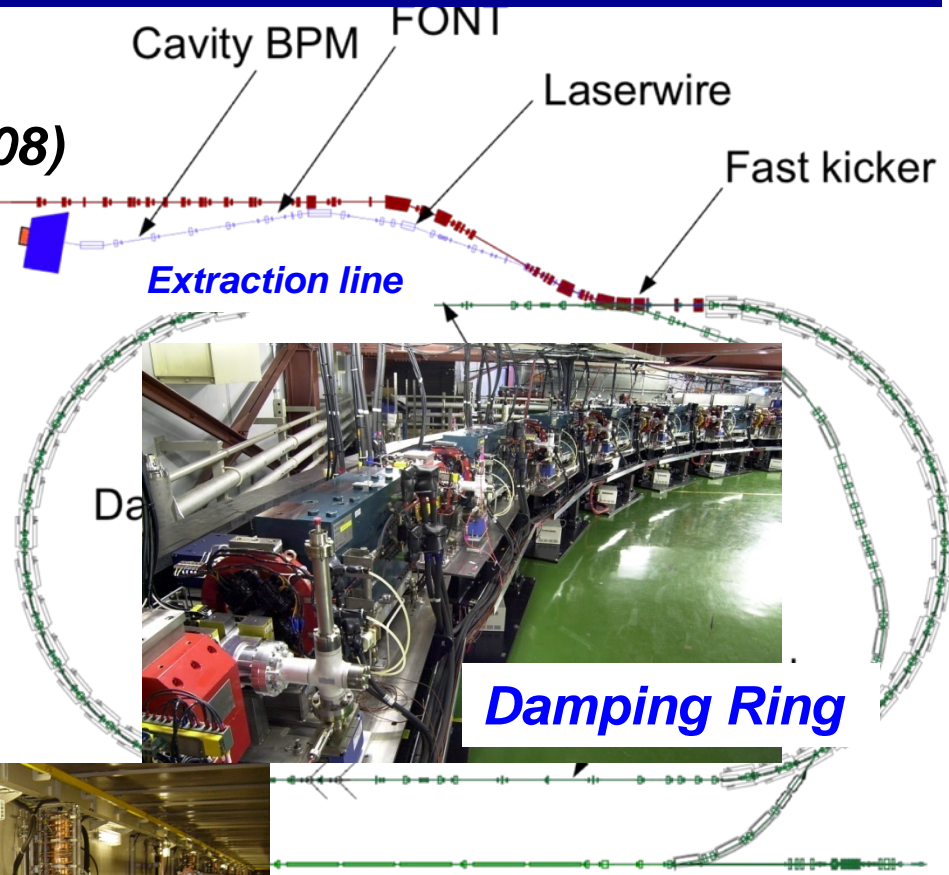
Accelerator Test Facility

ATF2 beam line (end of 2008)

Cavity BPM FONT Laserwire Fast kicker
Extraction line



**Photo-cathode RF gun
(electron source)**



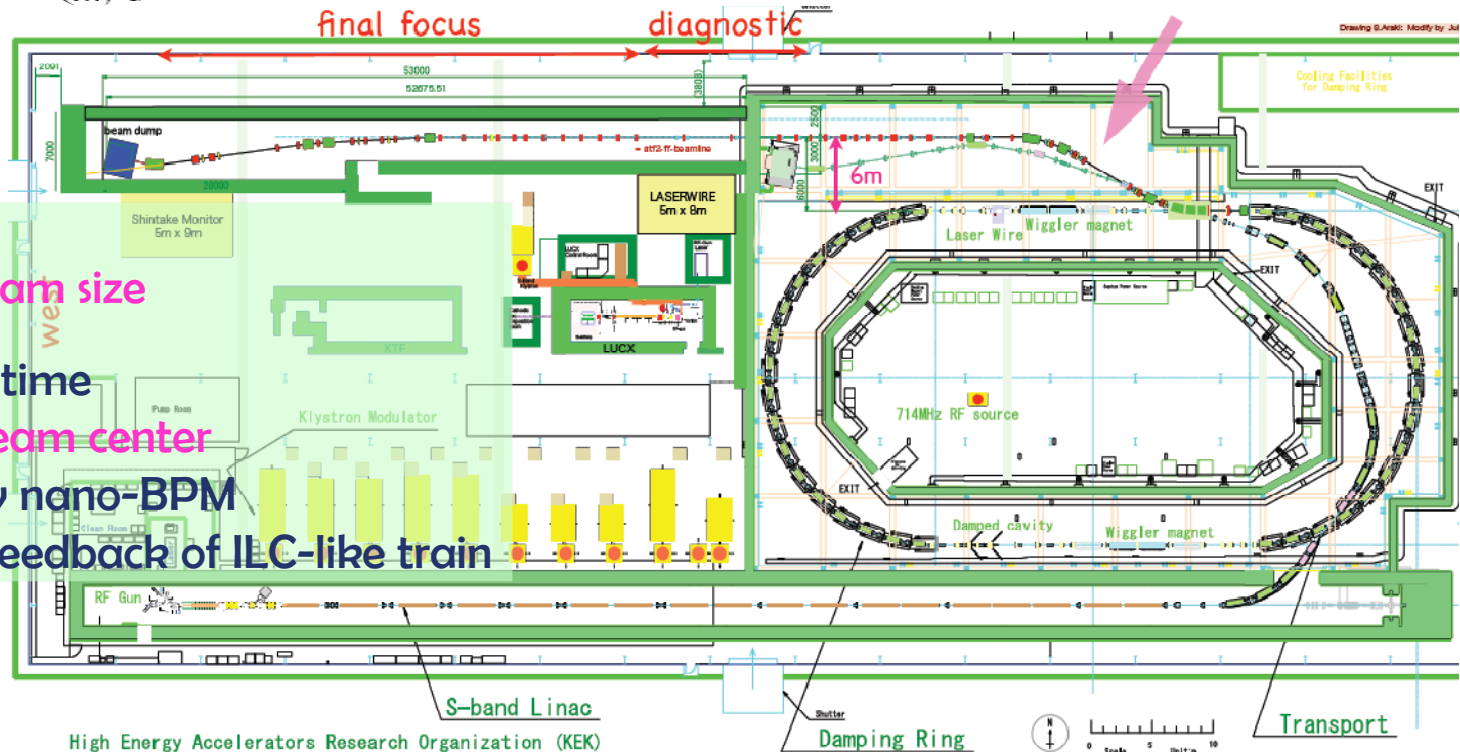
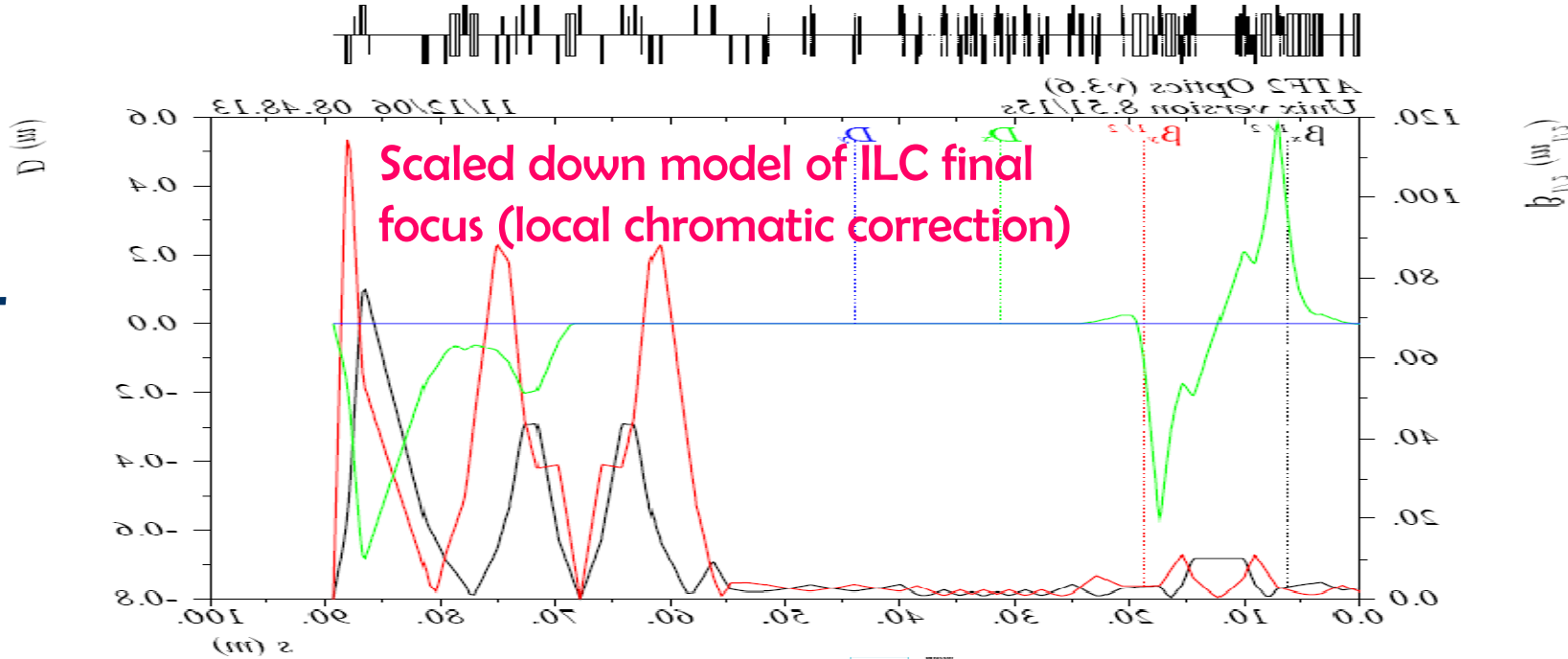
Da

Damping Ring



S-band Linac
 Δf ECS for multi-bunch beam

ATF2 – model of ILC BDS



ATF2 goals

(A) **Small nominal beam size**

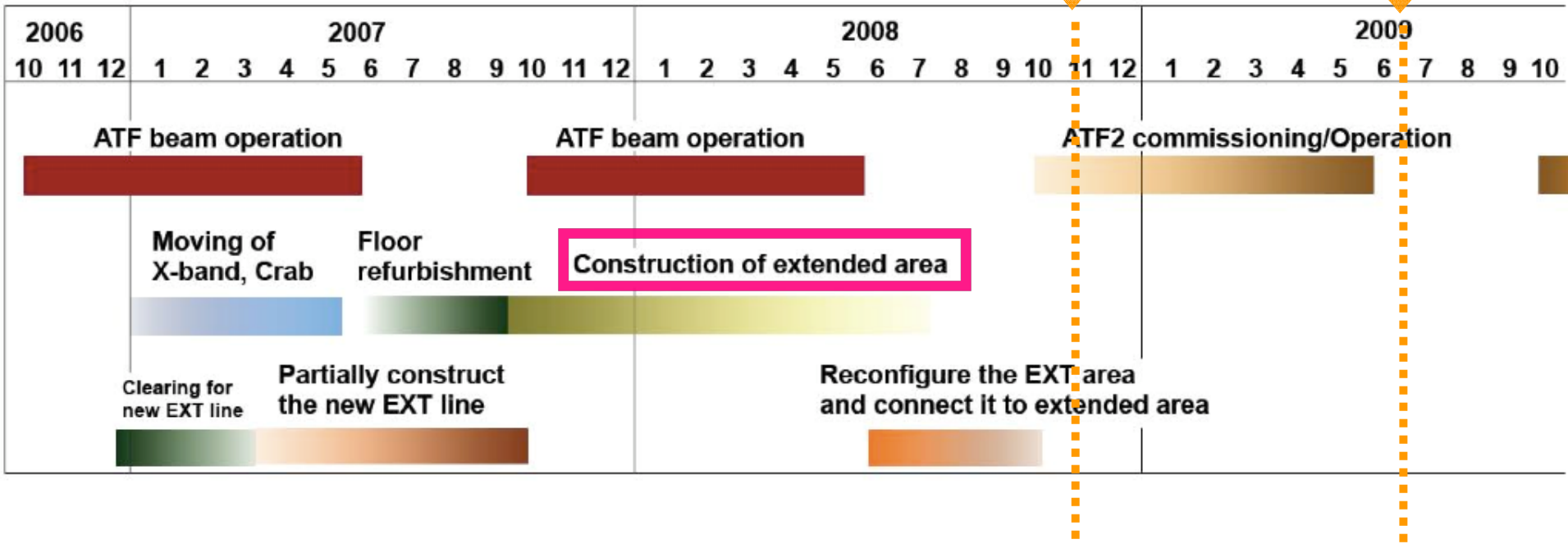
Obtain $\sigma_y \sim 35\text{nm}$
Maintain for long time

(B) **Stabilization of beam center**

Down to $< 2\text{nm}$ by nano-BPM
Bunch-to-bunch feedback of ILC-like train

Passed ATF – beam operation schedule

ATF2 ON We are here.



Commissioning started in December 2008.

We have to consider future plan in this meeting.

Summary

Test Facility	Deliverable	Date
<i>Hardware development, Optics and stabilisation demonstrations:</i>		
ATF	Demo. of reliable operation of fast kickers meeting the specifications for the ILC damping ring.	2010
	Generation of 1 pm-rad low emittance beam	2009
ATF2	Demo. of compact Final Focus optics (design demagnification, resulting in a nominal 35 nm beam size at focal point).	2010
	Demo. of prototype SC and PM final doublet magnets	2012
	Stabilisation of 35 nm beam over various time scales.	2012
<i>Electron cloud mitigation studies:</i>		
CESR-TA	Re-config. (re-build) of CESR as low-emittance e-cloud test facility. First meas. of e-cloud build-up using instrumented sections in dipoles and drifts sections (large emittance).	2008
	Achieve lower emittance beams. Meas. of e-cloud build up in wiggler chambers.	2009
	Characterisation of e-cloud build-up and instability thresholds as a func. of low vertical emittance (≤ 20 pm)	2010
DAΦNE	Fast kicker design and pulser reliability check	2010
	Characterisation of e-cloud build-up and instability thresholds	2010
SLAC/LLNL	Fast kicker pulser development	2010

Acknowledgement

- Thanks to many colleagues from the ATF Collaboration, those on this photo.



7th ATF2 Project Meeting, 15-18 Dec. 2008

I hope we will get a good discussion and results during 8th ATF2 project meeting and 8th TB meeting.

Enjoy End Run Party at the end of this meeting.

Thank you for your attention.