

# Upcoming Shift Work at ATF (November 26 – December 21, 2007) and Remote Participation from SLAC

## ATF training shifts proposal

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**Mark Woodley**

*SLAC, USA*

### Involved institutes:

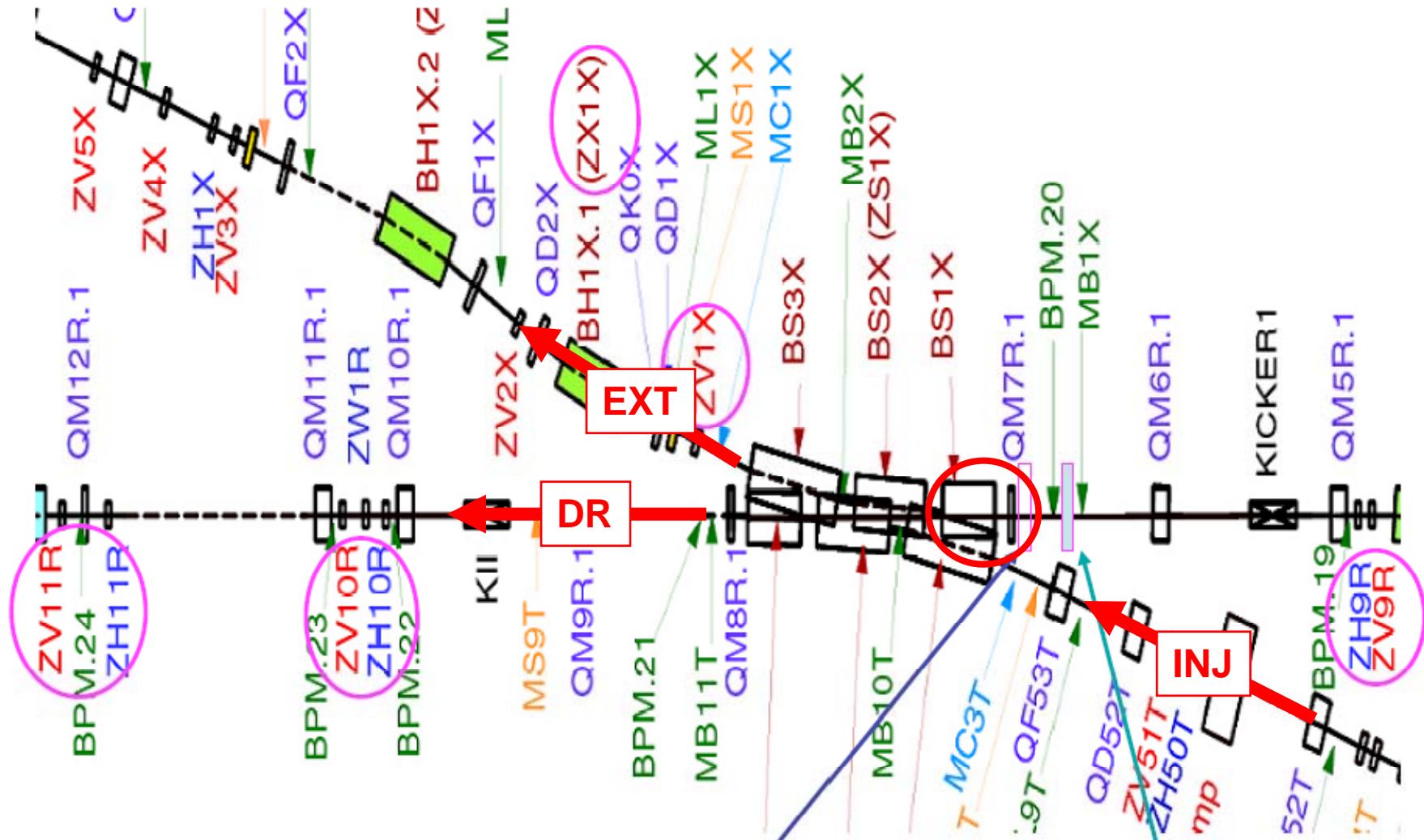
KEK (contact Kuroda-san)  
LAL (contact P. Bambade)  
IFIC (contact A. Faus-Golfe)  
CERN (contact F. Zimmermann)

Shift time required: 4 shifts required in week starting 26<sup>th</sup> November 2007

- Shift 1: control system familiarisation, layout and structure, injection of beam into DR, extraction to EXT
- Shift 2: read the orbit of beam in DR and EXT, reading machine state (Twiss/R)
- Shift 3: creation and measurement of DR and EXT bumps, EXT emittance measurement part 1
- Shift 4: emittance measurement part 2, additional diagnostics, and ring voltage changes

# Study Topics for Nov/Dec

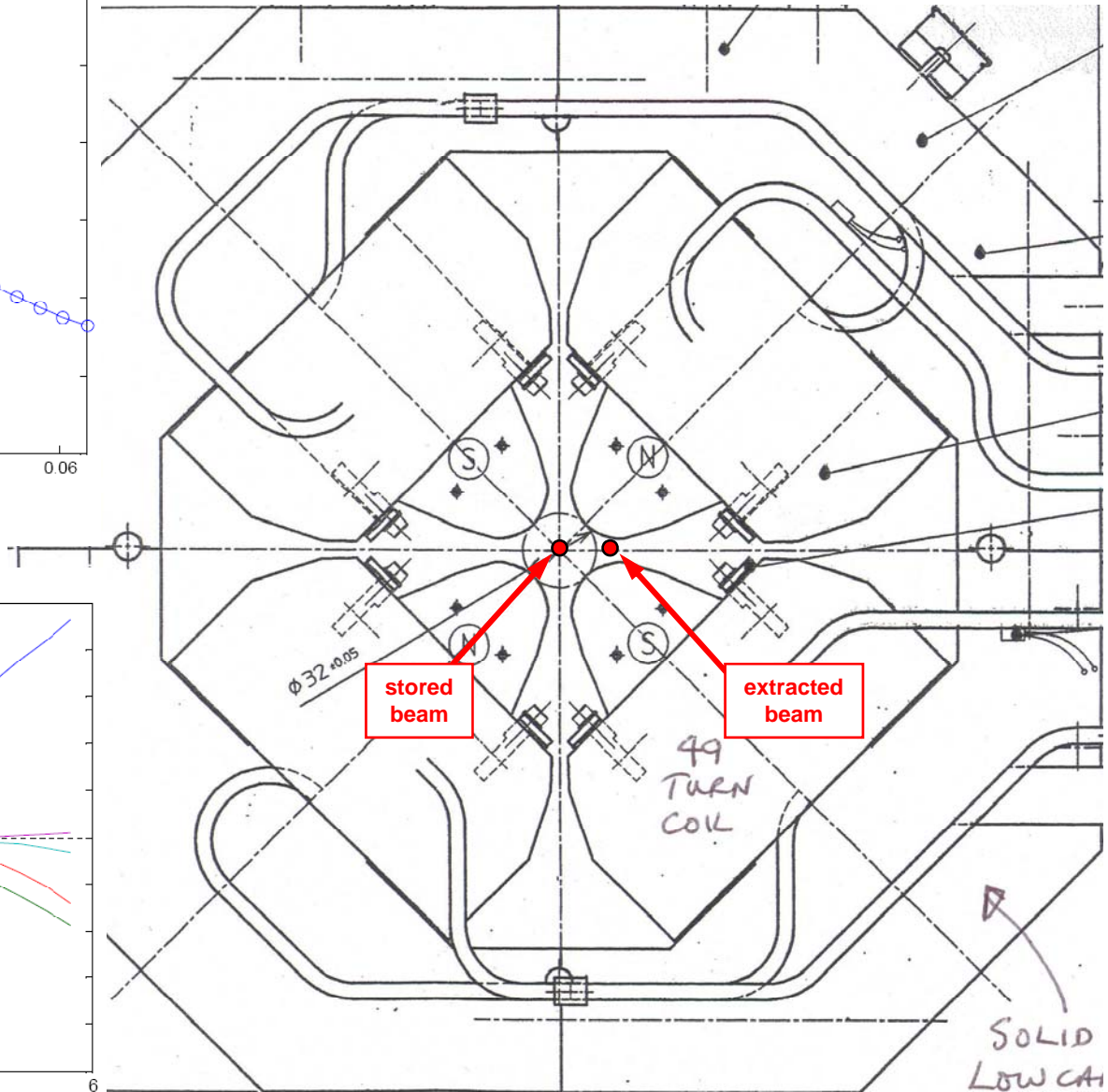
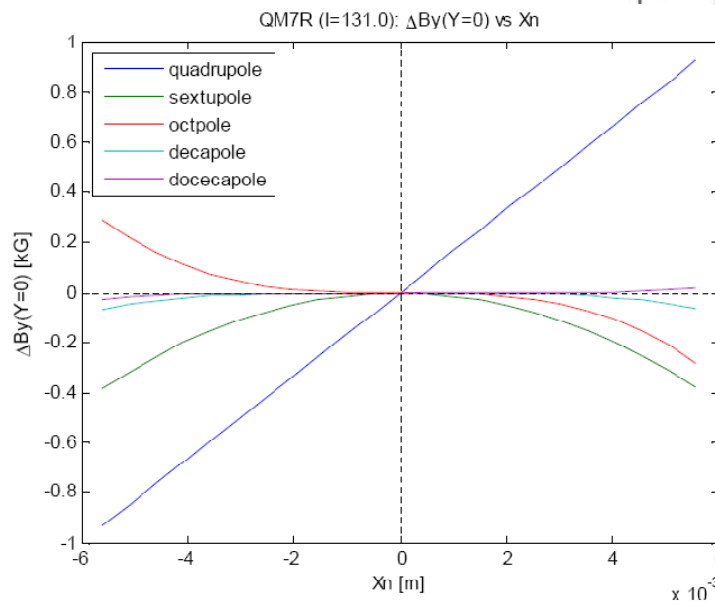
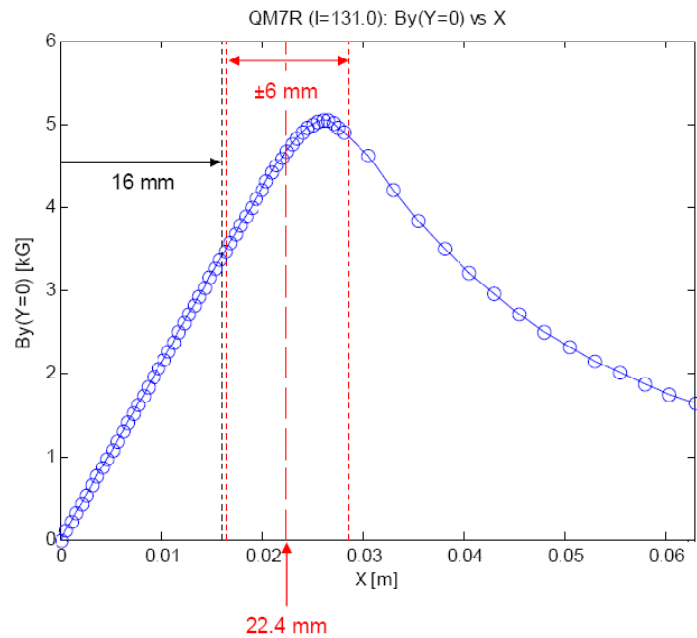
- “training shifts” (week of November 26-30)
  - [<http://www.slac.stanford.edu/~mdw/ATF/BeamStudies/TrainingShifts.doc>]
- ATF Damping Ring BPM upgrade (Echotek)
  - tests of calibration electronics
  - Turn-by-Turn orbit acquisition and analysis (MIA, coupling correction)
  - Beam Based Alignment (maybe ... )
  - [<http://www.slac.stanford.edu/~mdw/ATF/BeamStudies/BPMStudy.txt>]
- anomalous emittance growth in extraction channel
  - measured emittance versus localized orbit bumps in extraction components (QM6, QM7, septa)
  - generation of “trifurcated” closed orbit bumps
  - [<http://www.slac.stanford.edu/~mdw/ATF/BeamStudies/EmittanceGrowthStudy.doc>]
- emittance measurement and correction in EXT
  - multi-wire-scanner and quad-scan measurements; sensitivities to errors
  - beam phase space reconstruction
  - coupling correction
  - [<http://www.slac.stanford.edu/~mdw/ATF/BeamStudies/EmittanceMeasurementStudy.doc>]
- beam halo measurement in EXT



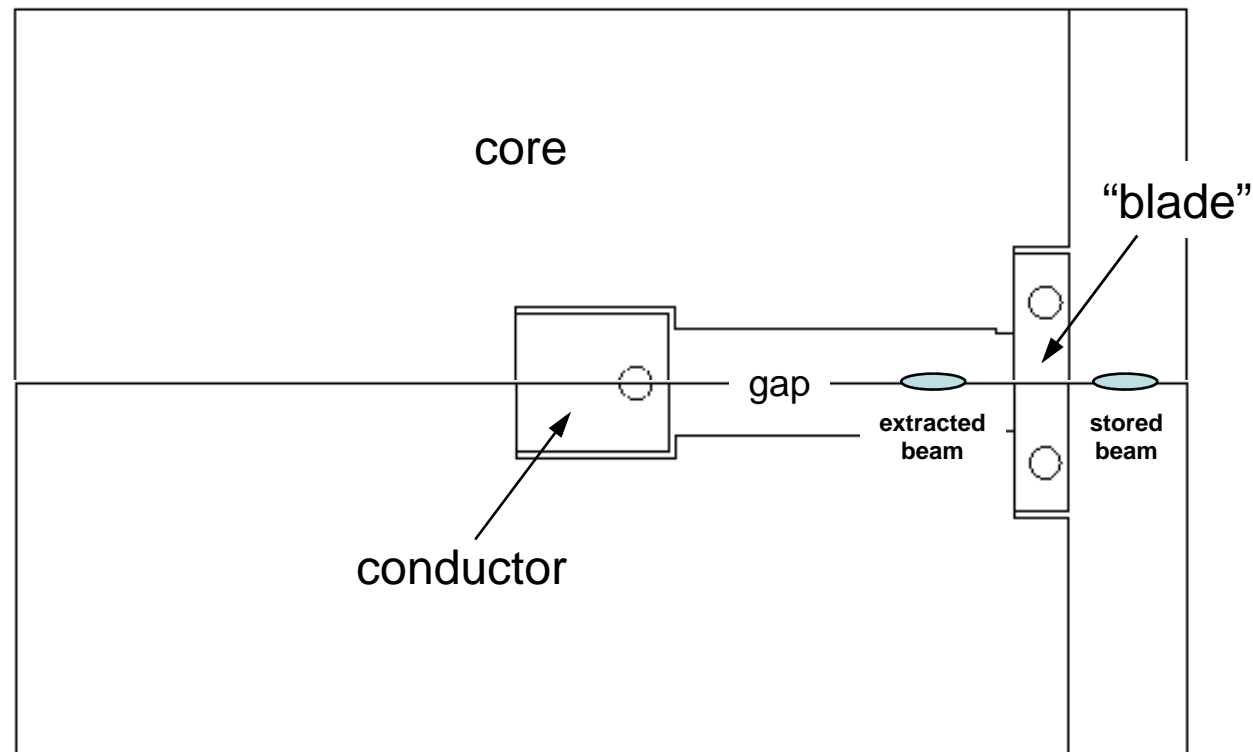
H corrector, installed by Naito group by Summer 2007?

V corrector, which needs to be installed

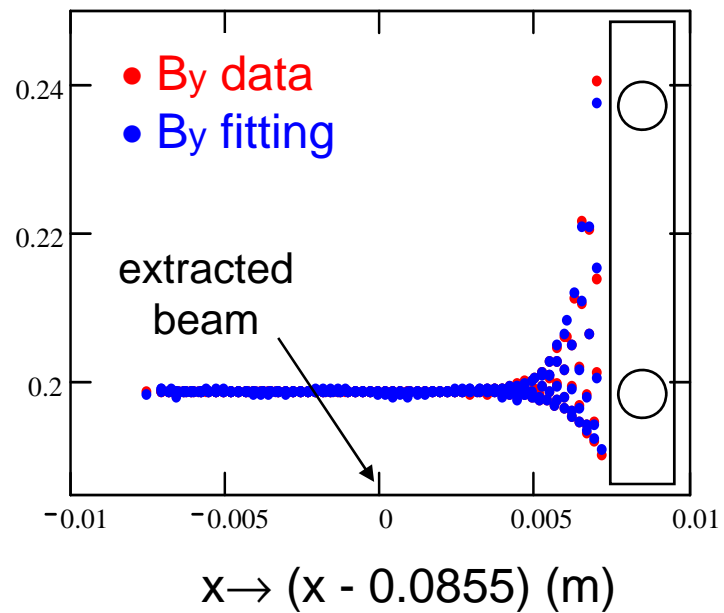
# QM7R



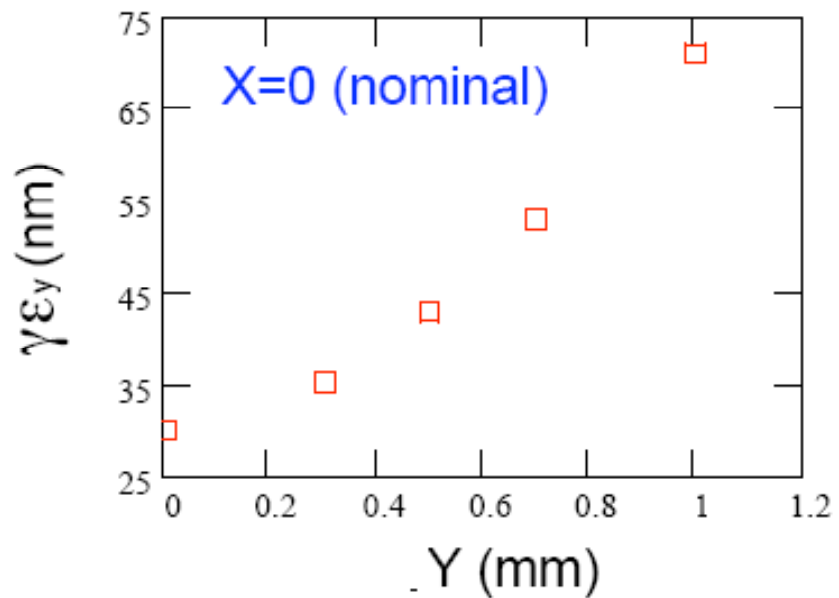
# Extraction Septum



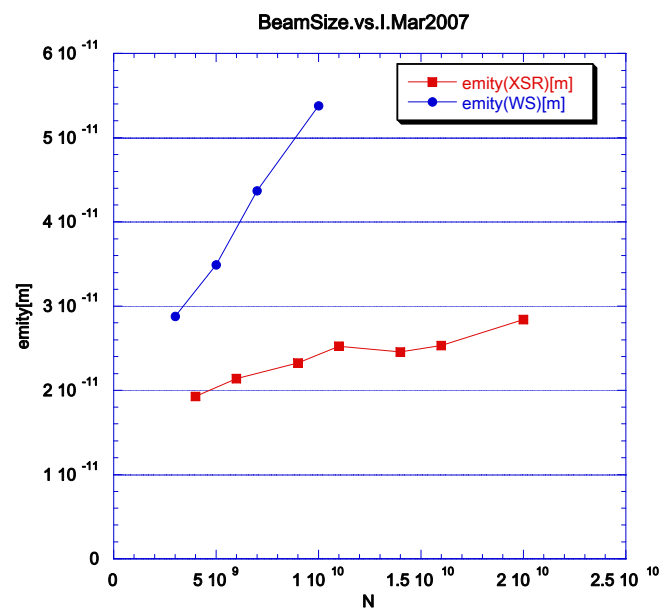
POISSON model of field in the gap  $\Rightarrow$



Simulation: vertical emittance  
versus vertical position (bump)  
in QM7R



Measurement: extracted  
emittances versus  
single-bunch current



# Shift Schedule

Schedule						
11 2007						
Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	
12 2007						
Su	Mo	Tu	We	Th	Fr	Sa
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

- unknown at present (study proposals call for a total of 22 shifts during this 4 week period)
- shift assignments for each week are made at weekly Monday 13:30 meeting
  - shift takers request (or are assigned) shifts
    - owl shift: 01:00-09:00 (09:00-17:00 here, previous day)
    - day shift: 09:00-17:00 (17:00-01:00 here, previous day)
    - swing shift: 17:00-01:00 (01:00-09:00 here, same day)
  - Kubo-san runs the show
- expect short notice of shifts early in any given week!
- some training sessions may take place when the machine isn't running (i.e. Monday morning there, Sunday evening here ... )
- hopefully Webex connection will be available from the ATF Control Room (not certain yet)
- remote participation (SLAC) from old PEP Control Room (B685)

ATF Personnel  
on Shift  
(leader / sub-leader)

<b>11/26 (Mon)</b>			Kuroda / Fukuda
<b>11/27 (Tue)</b>	Naito / Shimizu	Tauchi / Takahashi	Okugi / Nakamura
<b>11/28 (Wed)</b>	Omori / Honda	Kubo / Okuda	Hayano / Li
<b>11/29 (Thu)</b>	Nakajima / Sakaue	Toge / Miyoshi	Morozumi / Inoue
<b>11/30 (Fri)</b>	Terunuma / Kurihara	Urakawa / Watanabe	

<b>12/3 (Mon)</b>			Kubo / Shimizu
<b>12/4 (Tue)</b>	Kuroda / Nakamura	Urakawa / Okuda	Omori / Watanabe
<b>12/5 (Wed)</b>	Saeki / Inoue	Naito / Takahashi	Araki / Honda
<b>12/6 (Thu)</b>	Nakajima / Fukuda	Noguchi / Miyoshi	Tauchi / Sakaue
<b>12/7 (Fri)</b>	Morozumi / Alex	Toge / Li	

<b>12/10 (Mon)</b>			Terunuma / Alex
<b>12/11 (Tue)</b>	Okugi / Watanabe	Noguchi / Okuda	Tauchi / Fukuda
<b>12/12 (Wed)</b>	Hayano / Shimizu	Saeki / Honda	Naito / Nakamura
<b>12/13 (Thu)</b>	Araki / Sakaue	Morozumi / Li	Nakajima / Inoue
<b>12/14 (Fri)</b>	Kuroda / Kurihara	Urakawa / Takahashi	

<b>12/17 (Mon)</b>			Kuroda / Nakamura
<b>12/18 (Tue)</b>	Terunuma / Shimizu	Tauchi / Li	Saeki / Sakaue
<b>12/19 (Wed)</b>	Araki / Watanabe	Noguchi / Inoue	Araki / Honda
<b>12/20 (Thu)</b>	Omori / Alex	Toge / Takahashi	Okugi / Kurihara
<b>12/21 (Fri)</b>	Morozumi / Fukuda	Kubo / Okuda	



## PEP Control Room (Building 685)



# ATF Visitors

- The Europeans (emittance growth, emittance measurement, halo measurement)
  - Rob Appleby, Cécile Rimbault, Julien Brossard, Maria Alabau, Anthony Scarfe, James Jones, Hayg Guler
- The Fermions (DR BPM upgrade, TBT studies)
  - Charlie Briegel (11/28 – 12/13), Nathan Eddy (12/10 – 12/22), Eliana Gianfelice (12/10 – 12/22), Peter Prieto (11/28 – 12/13), Ron Rechenmacher (11/28 – 12/8), Duan Voy (11/28 – 12/13), Manfred Wendt (11/28 – 12/10)
- The SLACers (DR BPM upgrade, TBT studies, emittance growth)
  - Doug McCormick (11/30 – 12/22), Tonee Smith (12/4 – 12/22), Justin May (11/30 – 12/22), Mark Woodley (12/8 – 12-22), Yiton Yan (12/3 – 12/15)
- others
- remote participants?

# References

- remote participation
  - Andrei's presentation at the ATF2 Weekly Meeting (May 16, 2007)  
[[http://atf.kek.jp/collab/projects/atf2/ATF2meeting/minutes/transparency/d070516/remote\\_participation.pdf](http://atf.kek.jp/collab/projects/atf2/ATF2meeting/minutes/transparency/d070516/remote_participation.pdf)]
- anomalous emittance growth
  - Feng's presentation at the ATF2 Weekly Meeting of (September 5, 2007)  
[<http://atf.kek.jp/collab/projects/atf2/ATF2meeting/minutes/transparency/d070905/sep5-atf.pdf>]
  - Kuroda-san's comments from ATF2 Annecy Meeting (October 15-17, 2007)  
[<http://ilcagenda.linearcollider.org/getFile.py/access?contribId=76&sessionId=20&resId=1&materialId=slides&confId=2268>]
  - Maria Alabau's presentation from ATF2 Annecy Meeting (October 15-17, 2007)  
[<http://ilcagenda.linearcollider.org/getFile.py/access?contribId=48&sessionId=16&resId=0&materialId=slides&confId=2268>]
  - Rob Appleby's presentation from ATF2 Annecy Meeting (October 15-17, 2007)  
[<http://ilcagenda.linearcollider.org/getFile.py/access?contribId=49&sessionId=16&resId=0&materialId=slides&confId=2268>]
- Damping Ring BPM upgrade
  - Manfred's presentation at the ATF2 Weekly Meeting (August 29, 2007)  
[[http://atf.kek.jp/collab/projects/atf2/ATF2meeting/minutes/transparency/d070829/ATFDRBPM\\_63.pdf](http://atf.kek.jp/collab/projects/atf2/ATF2meeting/minutes/transparency/d070829/ATFDRBPM_63.pdf)]
  - Manfred's presentation at LCWS07 (May 31, 2007)  
[[http://www.slac.stanford.edu/~mdw/ATF/BeamStudies/ATF\\_DR\\_BPM\\_Status.ppt](http://www.slac.stanford.edu/~mdw/ATF/BeamStudies/ATF_DR_BPM_Status.ppt)]