Goals at this meeting

1. Commissioning status - critical review
   - BPMs, IPBSM, Multi-OTR, IPBPMs and LW
   - Continuous Run with the nominal optics
2. Plan the strategy and milestones

- in details for the 1st and 2nd goals
  by end of JFY2010 and 2012, respectively,
  discussing key issues

T. Tauchi, A.Seryi, G.White and P.Bambade,
11th ATF2 Project Meeting, SLAC, 1/13-14, 2011

Parameters at ATF2

IP Parameter	nominal	April 2010	May 2010	Dec 2010
Beam energy	1.3GeV	1.3GeV	1.3GeV	1.3GeV
Emittance in x	2 nm	1.7nm	1.7nm	1.8-2.7nm
Emittance in y	12 pm	<10pm	<10pm	28-64pm
Beta function in x	4 mm	4cm	4cm	10mm
Beta function in y	0.1mm	1mm	1mm	0.1mm
beam size in x	2.8 μm	~10 μm	~10 μm	7.5μm
beam size in y	35 nm	900 nm	300 nm	439(247) nm

“ATF2” works in this summer, 2010

1. New Modulators (#0,#8) at LINAC done
2. Alignment done
   - DR, QD0 and QF1
3. Laserwire (LW) done
   - commissioning the laser system
4. Shintake monitor done except for phase monitor/feedback
   - addition of carbon wires, 2nd fringe pattern and phase feedback
5. New targets of multi-OTRs done
6. Smoothing timing of fast kicker for the multi-bunch tested
7. Software development continued
8. Multipole components of QEA magnets studied

Results of Re-alignment of QD0FF and QF1FF presented by R. Sugahara, 14th September 2010

Summary of Analysis

QF1 rotations are -6.25mrad at E-end (upstream) and -4.09mrad at W-end.
Average is -5.17mrad.

QD0 rotations are +2.69mrad at E-end (upstream) and +2.79mrad at W-end.
Average is +2.74mrad.

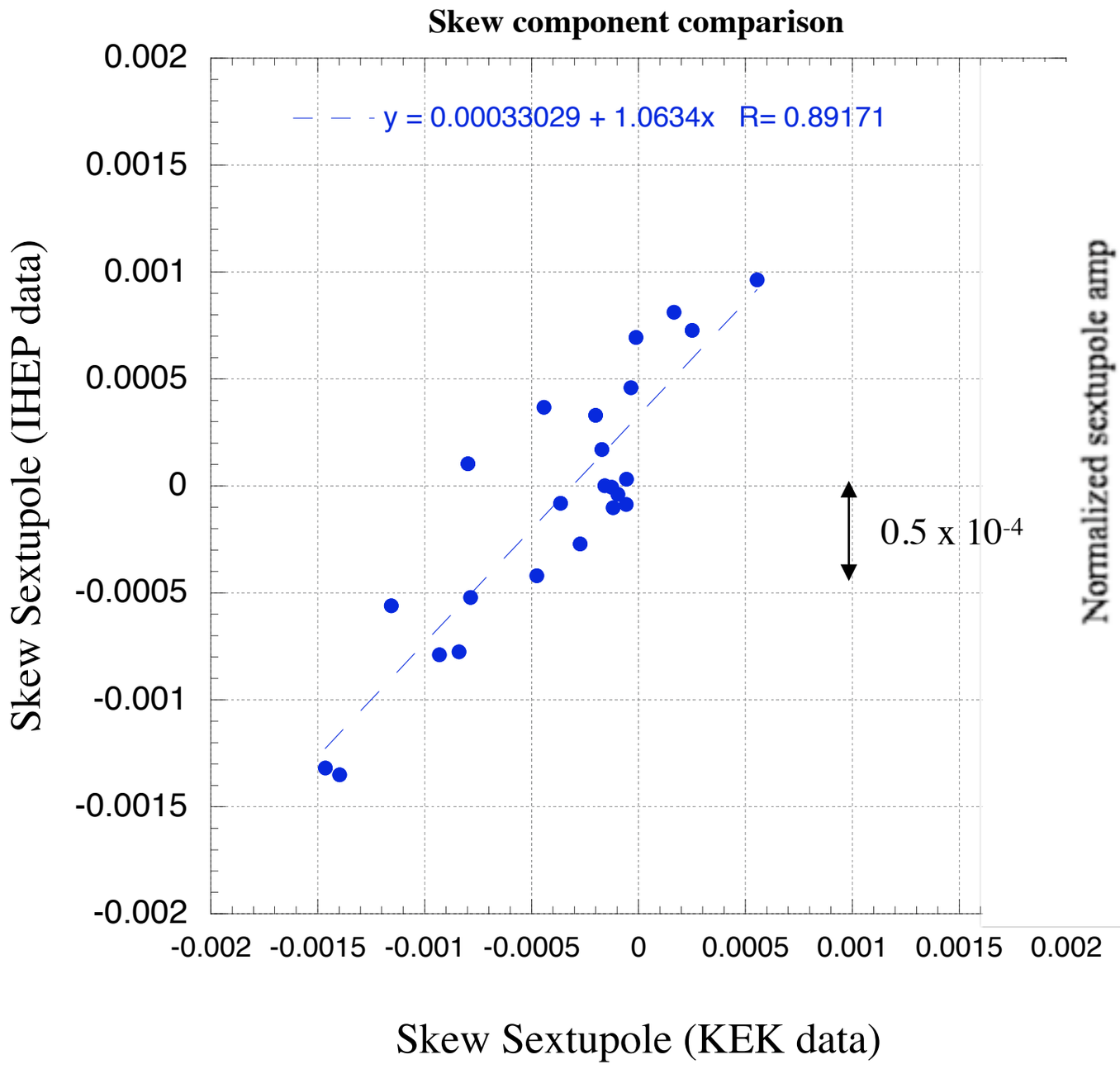
After all, we have decided to rotate

QD0 by -2.5mrad and

QF1 by +4.5mrad

in re-alignment, so that the fine correction can be done with movers at the time of beam tuning

Measurement comparison between IHEP and KEK for sextupole skew component: good agreement



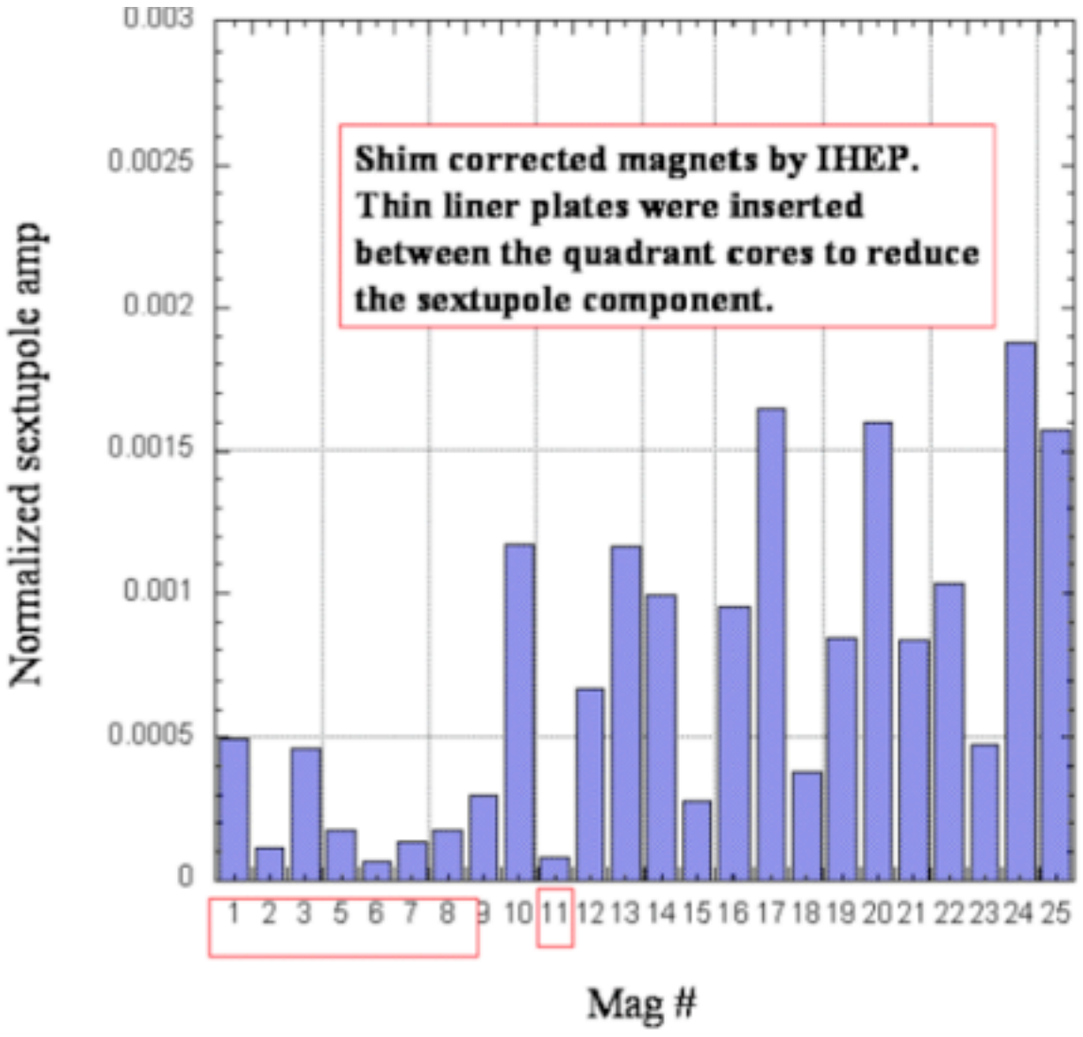
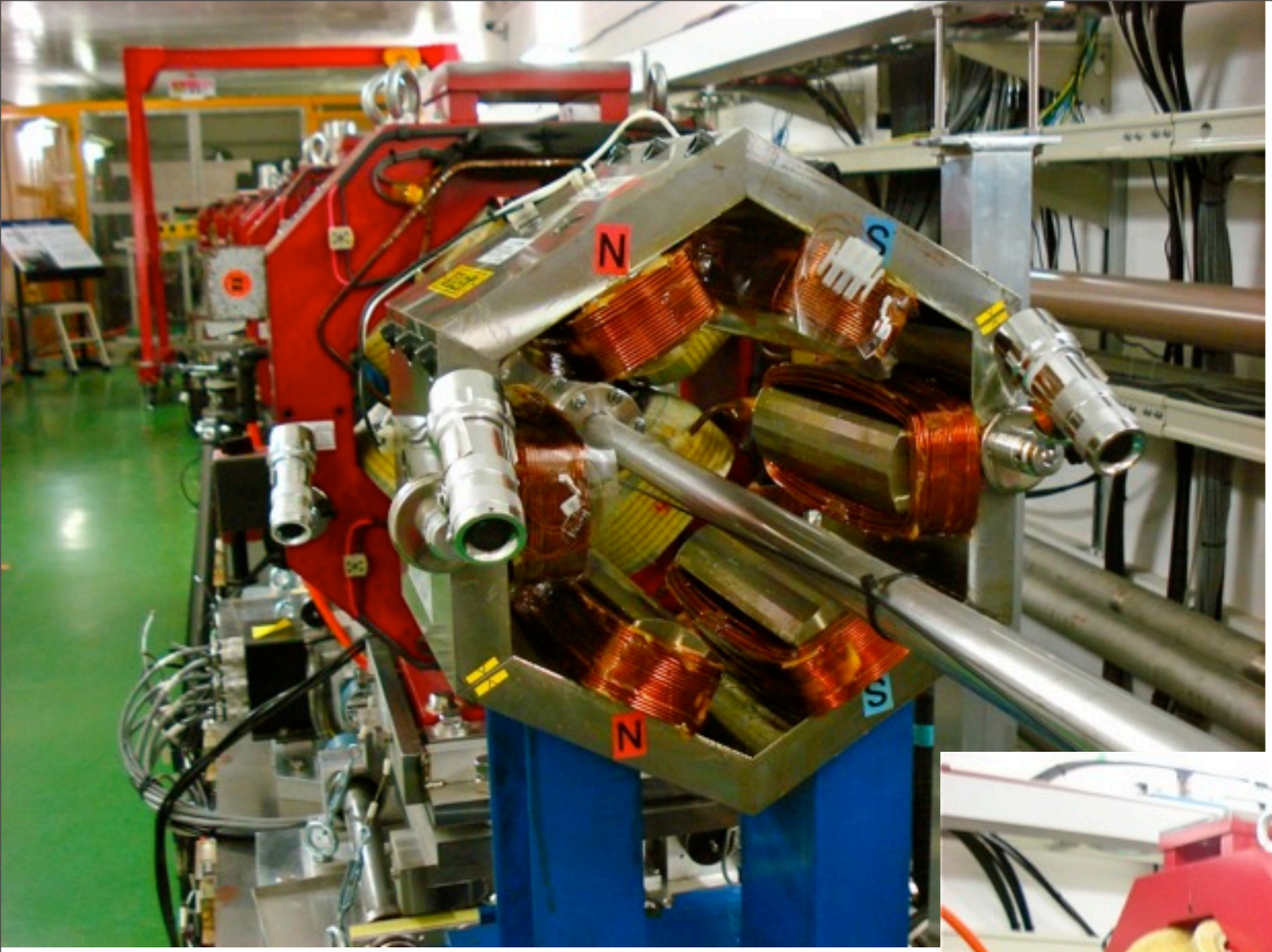
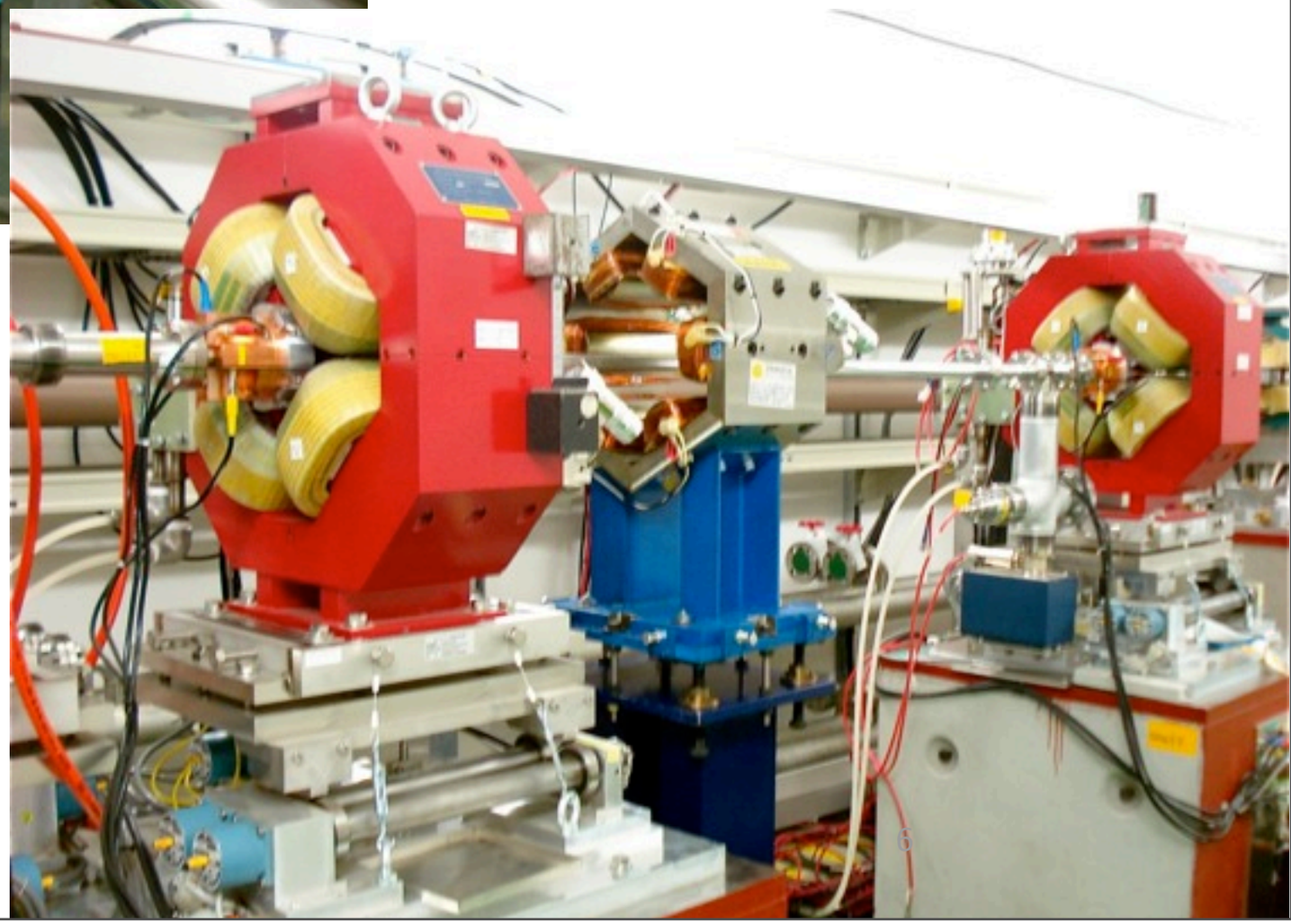


Fig. 9. Sextupole component vs magnet number. presented at the APAC 2007, M. Masuzawa

Phase information needed for calculating the skew component. Sextupole phase with respect to the quadrupole phase was used.



A Skew Sextupole magnet was installed at upstream of QF5B in January, 2011.
power supply : ±20A
cooling ?



Achievements in this continuous run, Dec.2010

Beam sizes :

12./15 ~10:00 min. σ^*_x =7.53um at 130.048A by QD0FF scan by IP carbon wire

12/16 15:00 The minimum σ^*_y was ~400nm, one fluctuated to 247nm (M=0.95).

note: during the scans (12/16 12:30 -15:30), the modulation (M) frequently exceeded 1 for M became negative at the minimum due to statistical fluctuation.

Then, 6 to 30 degree made , skipping 8 deg. ?

Emittances :

DR : ε_y=14.1±0.7pm,

EXT:

Large emittance growth in ATF2 ?

12/13 ε_y=33.9±0.7pm (ε_x=2.74±0.04nm) by OTR,

12/14 6:49 - 8:35 ε_y=41.33±0.26pm (ε_x=2.699±0.004nm) by OTR

12:00 - 14:00 ε_y=27.6±1.8pm (ε_x=1.78±0.13nm) at MW1X by wire scanners

20:00 optimize fit parameters in OTR code to get consistent emittance results

12/15 21:35 ε_y (proj) = 54pm, ε_y (intr)=45pm by OTR

12/17 5:30 ε_y (proj) = 63.6pm

Difference between OTRs and MW ?

Dispersions :

12/14 18:05- η_x=0.56±0.05mm, η_y=-0.27±0.03 mm

12/15 ~3:00 η_x = 2mm, η_y=2mm by IP wires, Δf = ±3KHz

η y is small enough ?

Session Organization

	13th January Thursday	14th January Friday
9:00 12:40	(Introduction) Instrumentation FONT5, QBPMs, IPBSM (Shintake monitor), IPBPM, LW, Multi-OTR,	Towards the 1st goal Effect of multipoles in ATF2 magnets, QEA field measurements, IPBSM operation and strategy Towards the 2nd goal IPBPM, FONT for IP feedback and milestones for 2011 to 2012
14:00 18:30	Beam Tuning DR, EXT, FFS,IPBSM, simulation, EXT/FFS matching & BBA, steering and dispersion (SVD), beam jitter at EXT/FFS	11th TB/SGC Meeting Summary of the ATF2 project meeting, proposals, future plan etc.

19:30- Banquet

Goals at this meeting

1. Detailed plan / strategy for the goal 1
by end of 31 March, 2011

2. Milestones of the second goal in 2011 -2012

3. Discussion of future prospect