

IP configuration session

- Use of CLIC for FD
(presented by P.Bambade, LAL)
- Layout for FF optics
- High speed & high precision
movers for FD & Shintake
- Mount stabilization for Shintake
- Stabilization of focus at ATF2

A.Jérémie, Annecy

T.Okugi, KEK

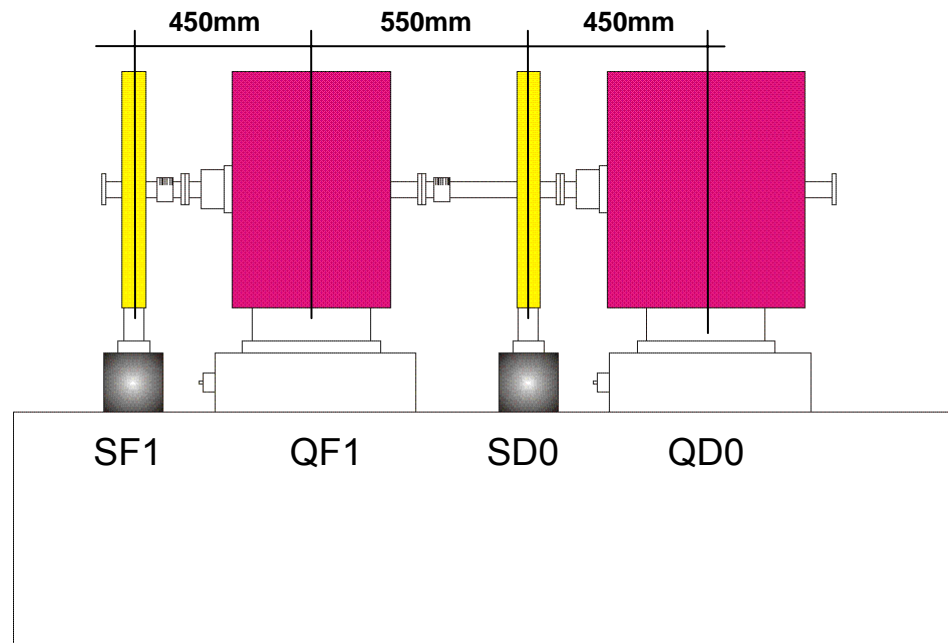
R.Sugahara, KEK

T.Kume, KEK

D. Urner, Oxford

Final Doublet layout : T.Okugi ↔ C. Spencer ↔ A.Jérémie

is and must become detailed



Original Design

We don't have enough space to put FFTB movers for the sextupoles.

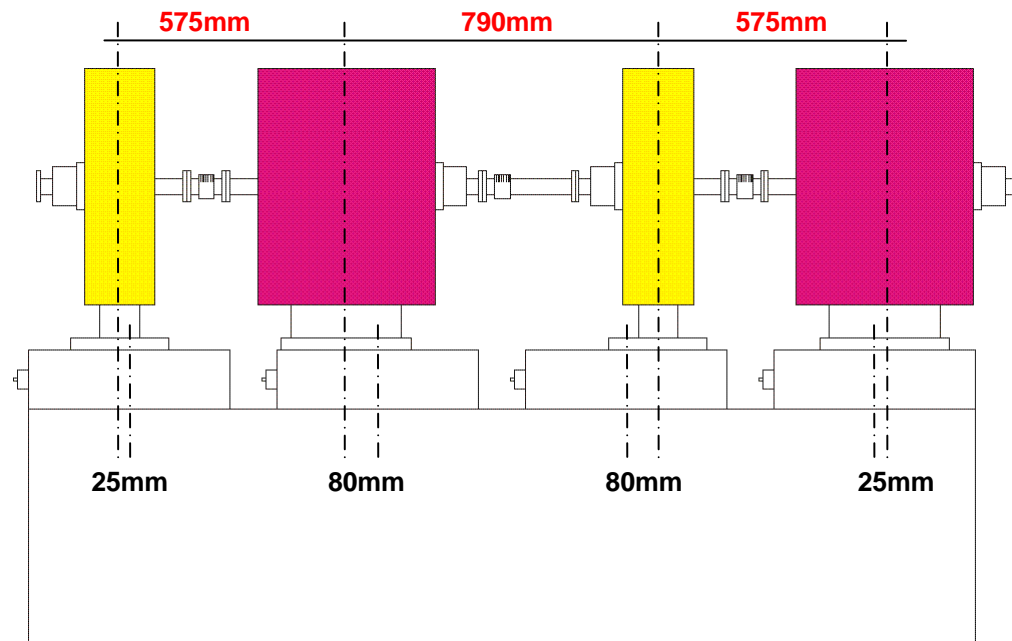
We don't have enough space to put cavity BPMs for sextupoles.

Modifications

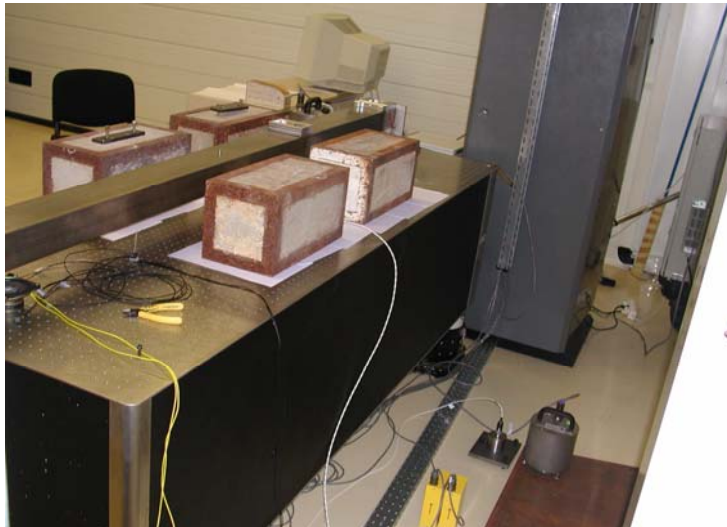
Distance between movers are fixed to be 9cm in order to put all the movers on the table.

Distance between centers of movers and magnets are shorter than 8cm.

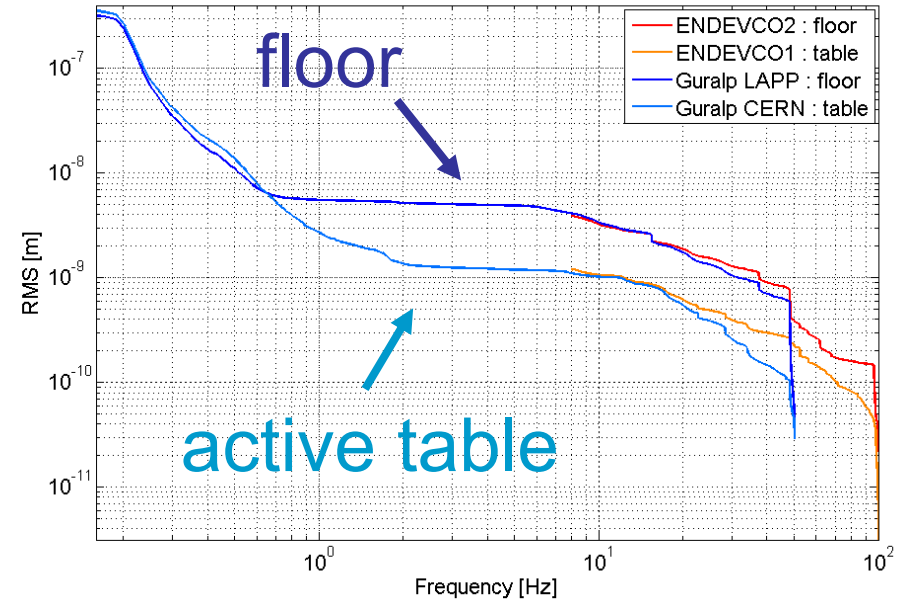
Space of cavity BPMs are need to be 12cm for one side, and 8cm for another side, 10cm of bellows are put between the cavity BPMs.



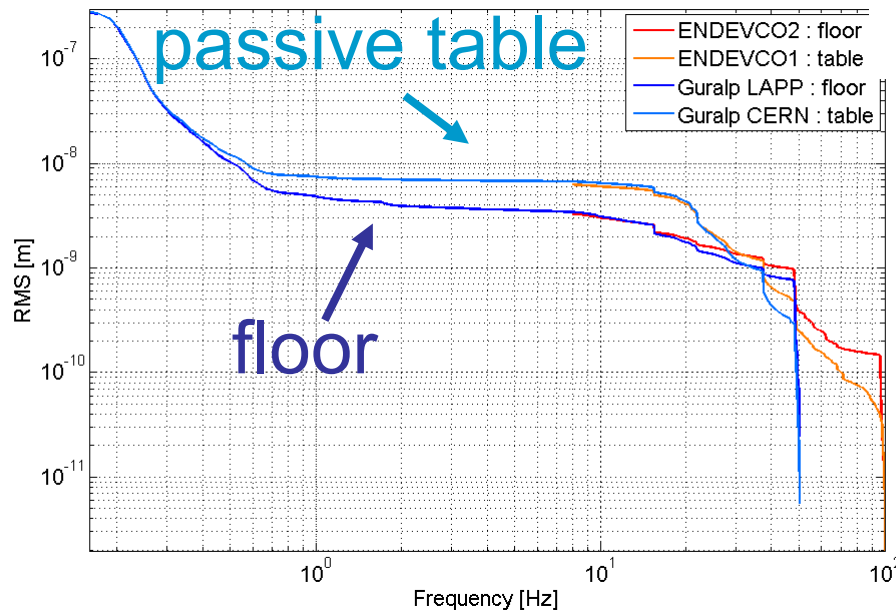
Measurements with 50 kg + 4 × 38.9 kg blocs centered on the table



Displacement RMS of the floor and of the active table with centered blocks



Displacement RMS of the floor and of the passive table with centered blocks



At 10 Hz, floor has RMS of 3nm
passive table 6nm
active table 1nm

Table still works with ~ 200 kg on in its middle

Checking table suitability to be continued at Annecy

- nm stabilization above 1 Hz, behavior fine down to 0.2 Hz
→ check for NO enhancements of lower frequency drifts
- Combining vibration insulation and supports for slow control on top may modify (degrade ?) the transfer function in the stabilized region in non trivial ways
→ check stabilization with 4 FFTB movers (and suitable loads on top) : measurements, simulation
- Modify support base of FFTB movers to satisfy 120 cm constraint on beam height
→ thinner by ~ 8 cm (+ some margin...)



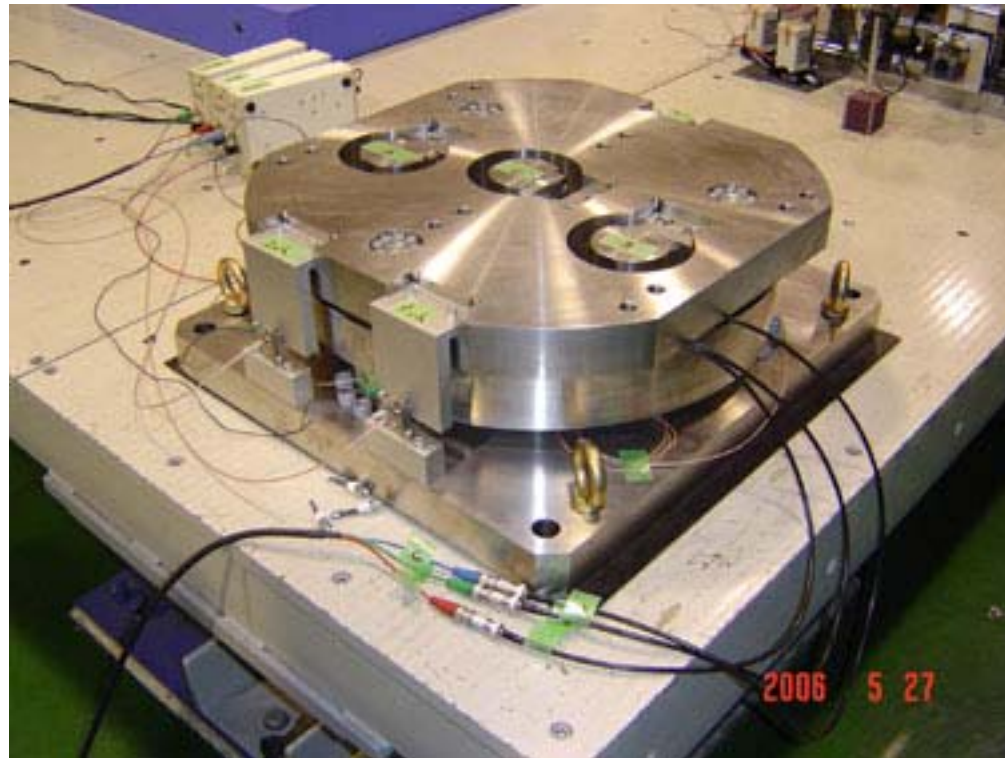
ATF2 Project Meeting

May 30 - June 1, 2006

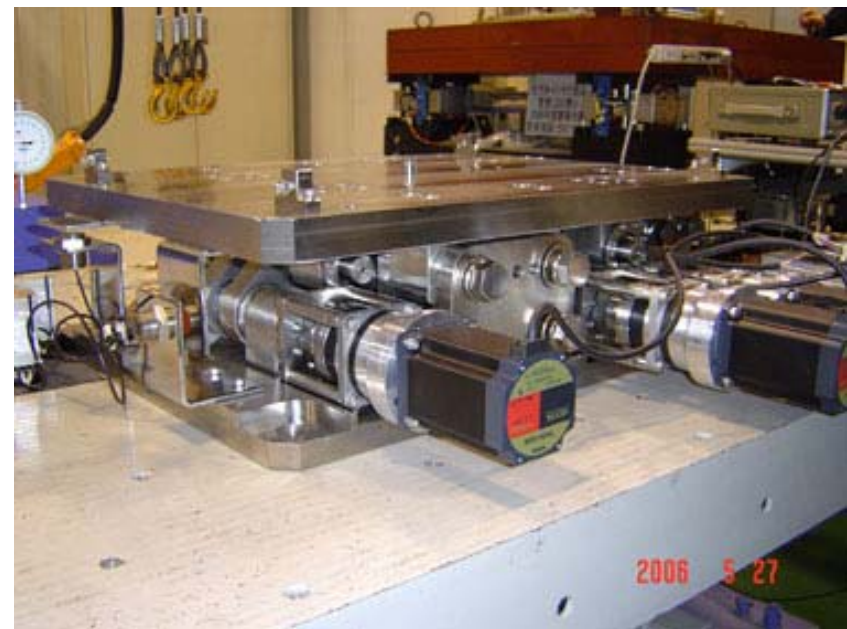
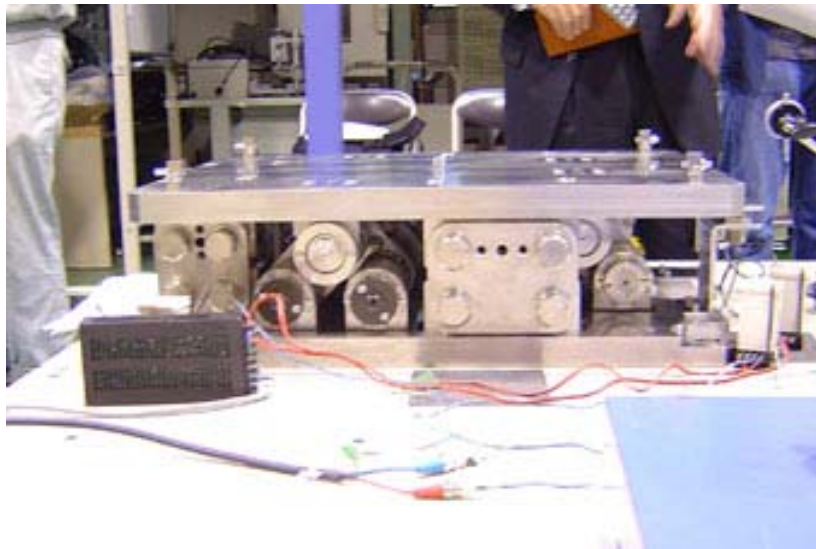
R. Sugahara

Prototype of
5-dimensional
CAM + piezo
movers

not suitable
for Shintake



Better than
10 nm, faster
than 30 Hz
may reach
~nm level
meets
requirements
for individual
FD elements



Summary on stabilizing the Shintake from T.Kume

- Interferometer is going to be mounted with stability of few micrometers in the first design using conventional methods for basis of system stabilization.
- It seems necessary to stabilize relative position between interference fringes and electron to be few nano-meters from the expected resolution.
- It's necessary to define position reference for systematic stabilization.
- It's necessary to decide target in stability (term, amplitude, etc.).

Placement of MonALiSA monitoring system at ATF2, by D.Urner

- Easiest if we have direct line of sight between FF quadrupole and Shintake monitor.
 - Which is the crucial element of Shintake monitor do we have to monitor.
 - Are there several parts to monitor
 - Can we get optical access to the crucial element(s)
- We need room (30-50cm) above either the Shintake monitor or above the FF magnet
 - Probably easier to get above magnet.