

Mount stabilization for Shintake monitor-5

ATF2 meeting in Annecy October 15, 2007

Tatsuya KUME, Yosuke HONDA, and Toshiaki TAUCHI

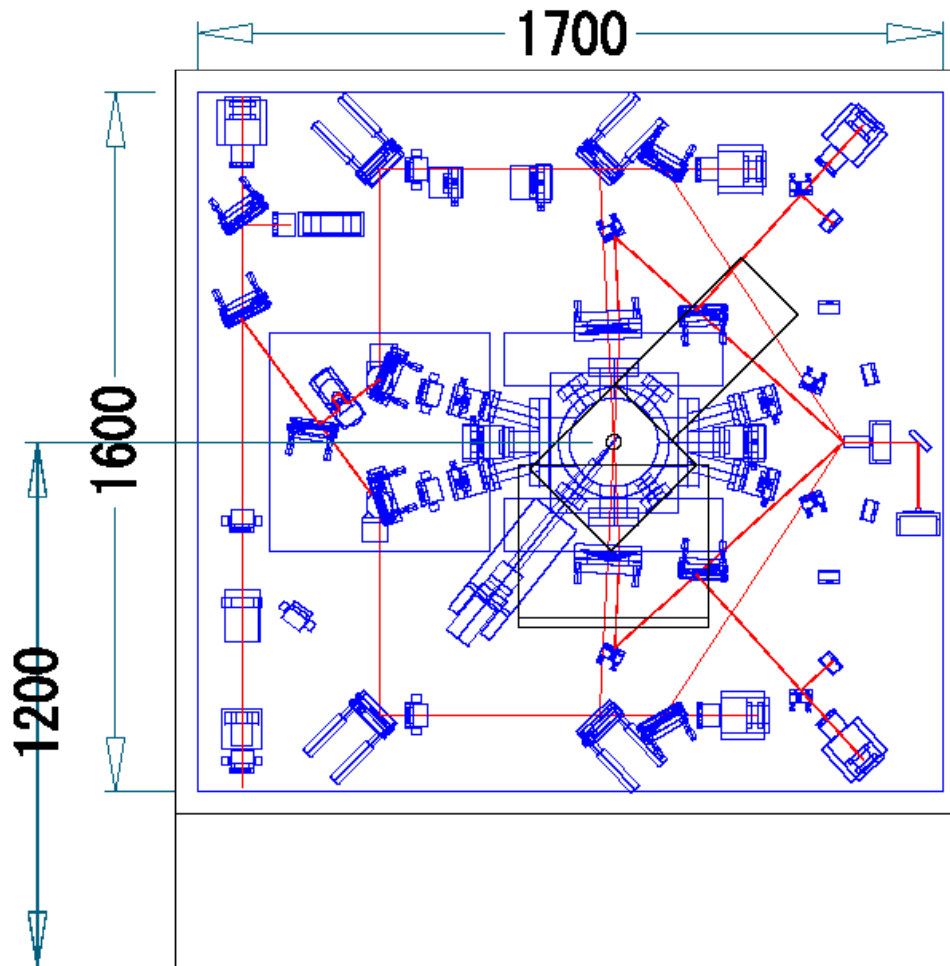
High Energy Accelerator Research Organization (KEK) 

Taikan SUEHARA, YODA, OOROKU, YAMANAKA and KAMIYA

The univ. of Tokyo

New optical table for Shintake monitor

-tentative design (view from down stream)



- Using optical table
($1.6 \times 1.7 \times 0.25$ m)

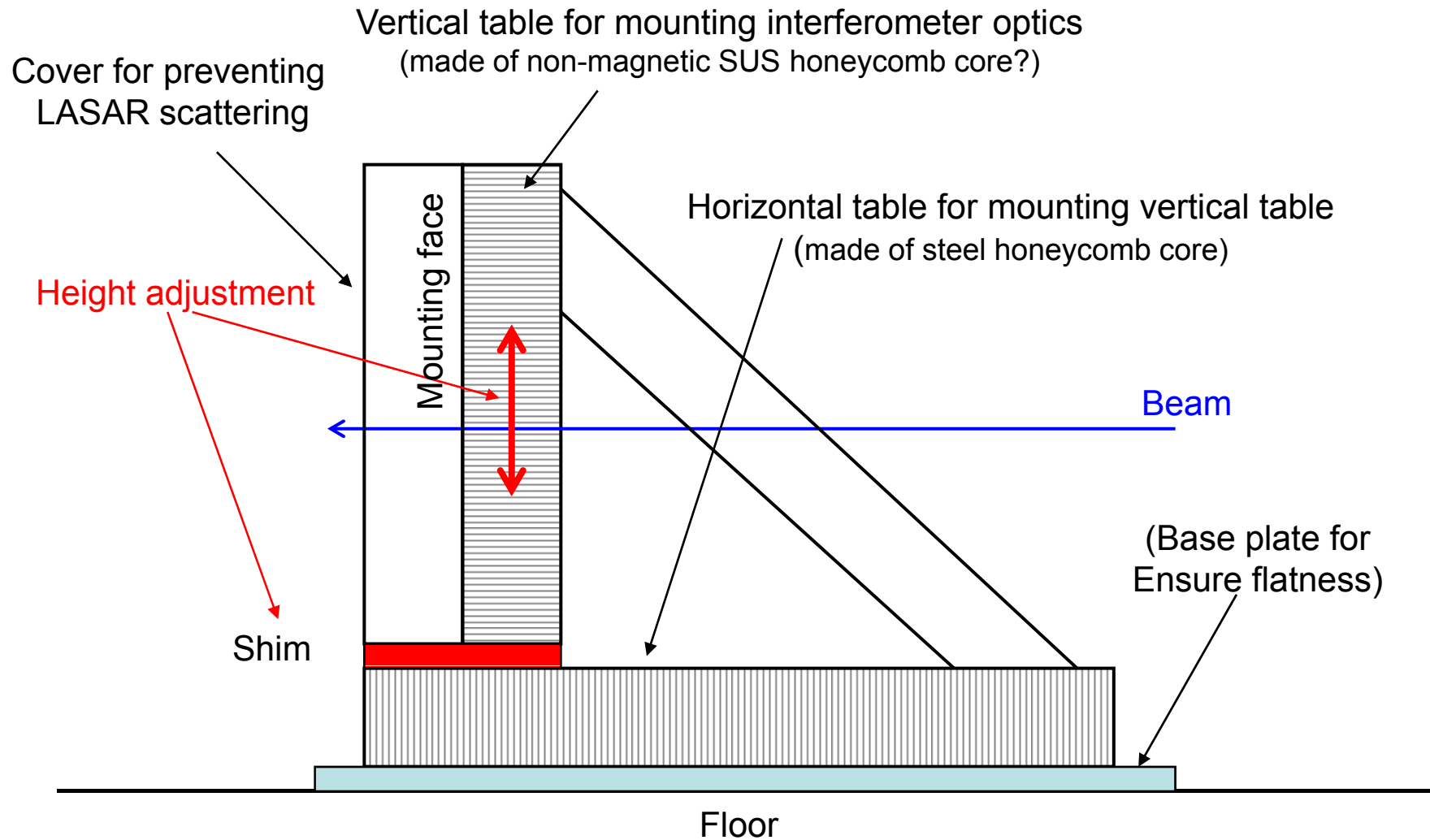
- Made of non-magnetic
SUS honeycomb core

Specifications expected for new table support

- $\sim 10\text{nm}$ of amplitude for incoherent vibration with floor
- $\pm 5\text{mm}$ of adjustable range for height with accuracy of $\pm 1\text{mm}$
- $\pm 2.5\text{mm}$ of adjustable range for horizontal perpendicular to beam with accuracy of $\pm 1\text{mm}$
- Not use magnetic material within $300\text{mm}\phi$ around beam

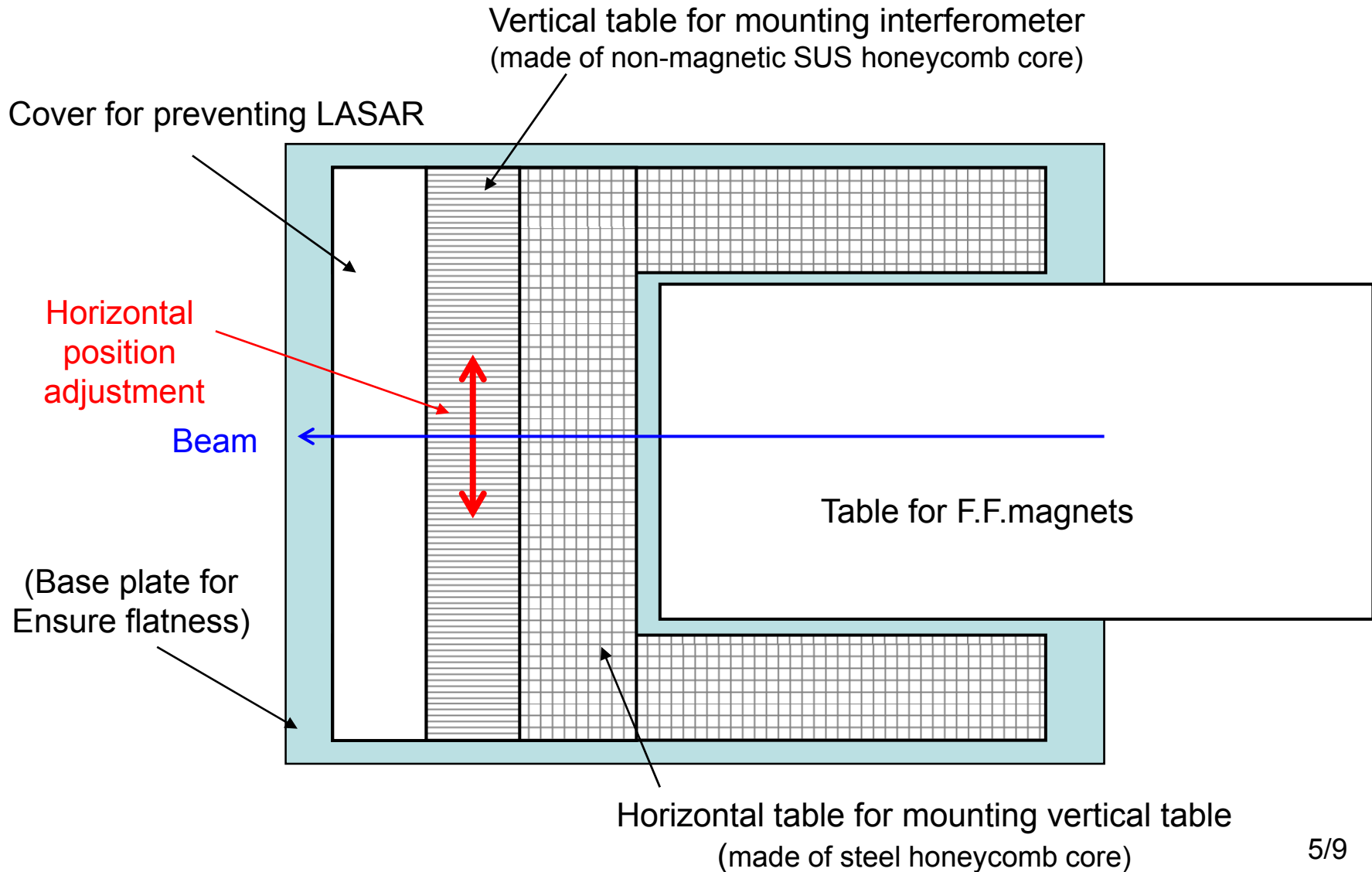
Rigid mount for optical table

-side view outline



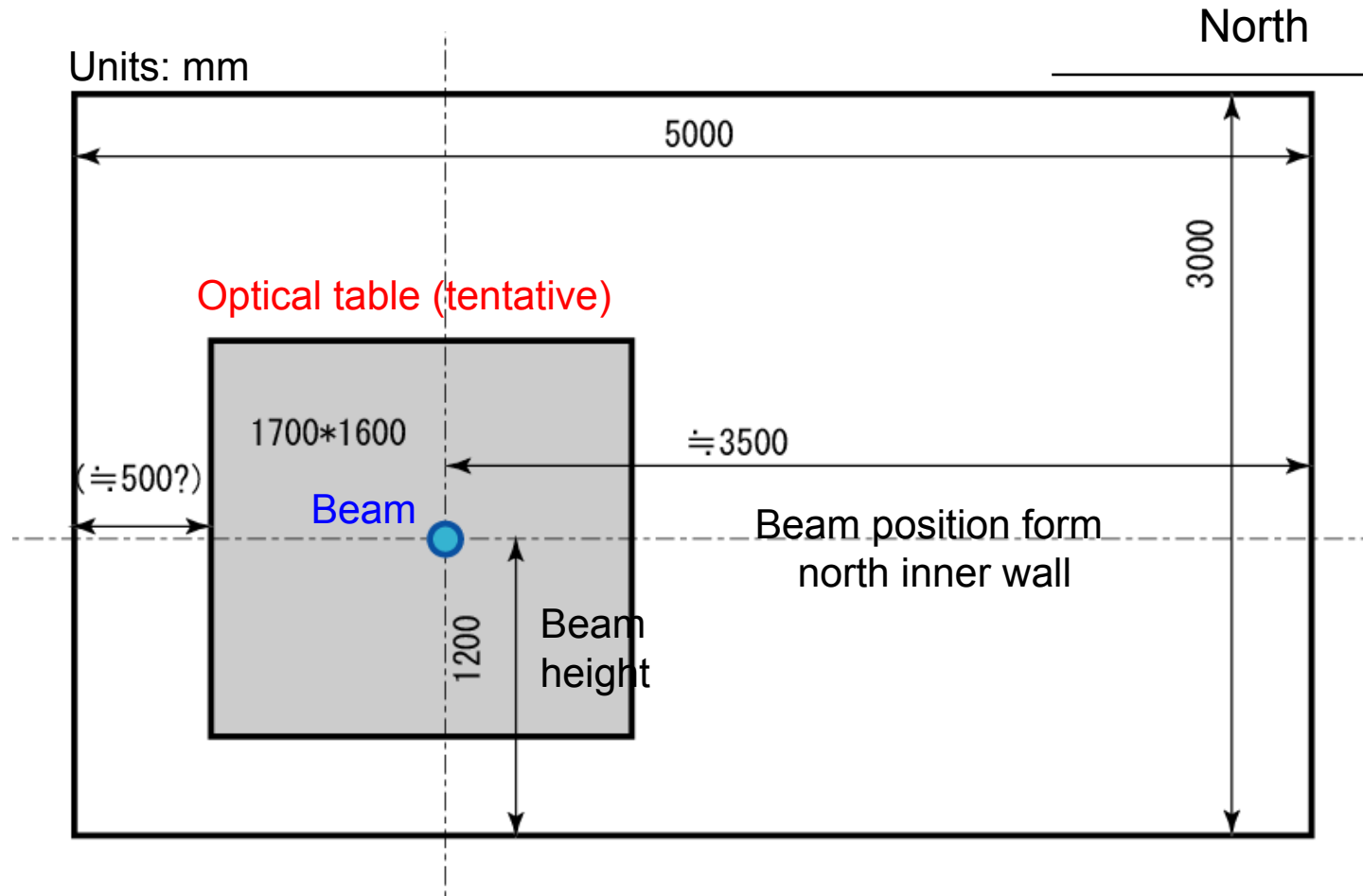
Rigid mount for optical table

-top view outline



Work position in shield

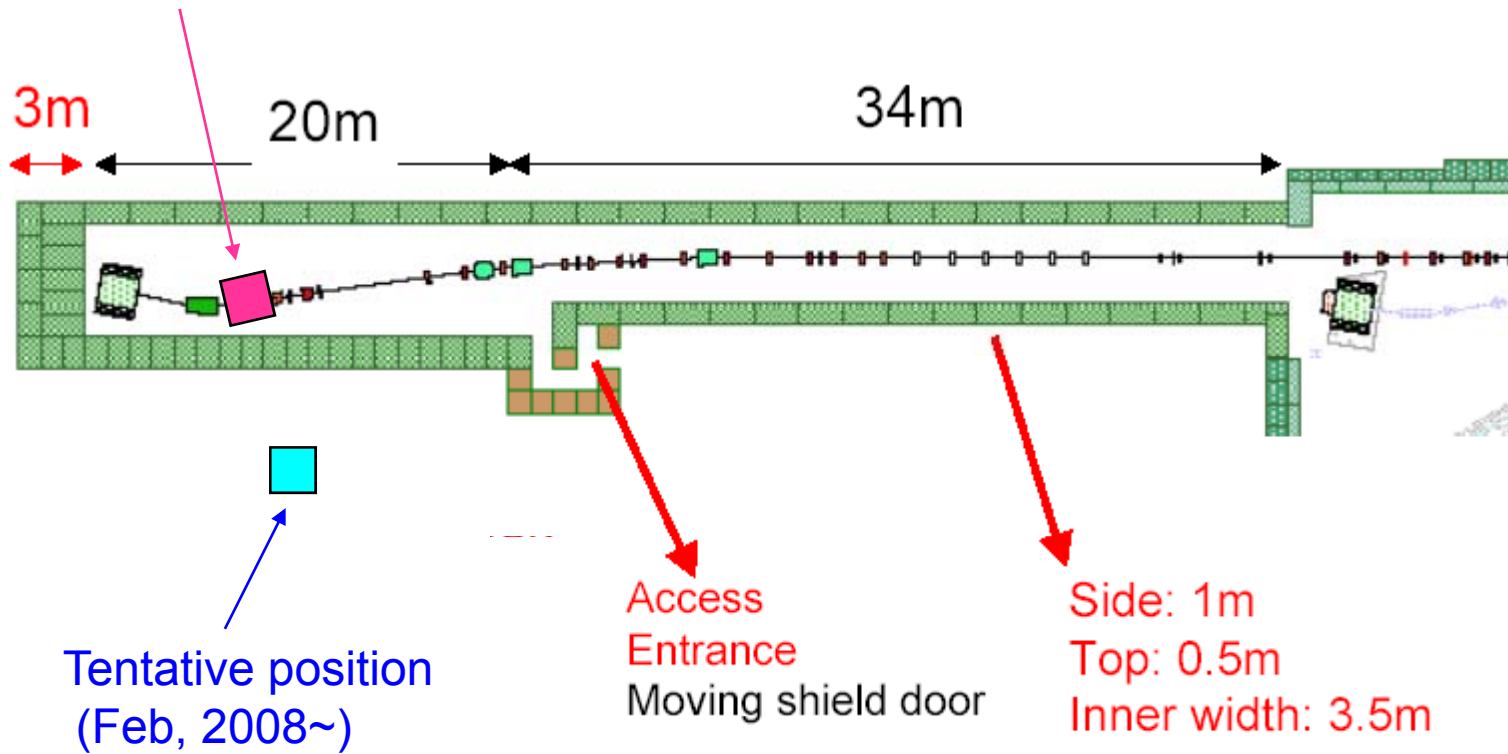
-view from up stream



Positions to be set

-for preventing interference with shield construction

Work position (May, 2008~)



Plan

- Consider & design interferometer optics (Univ. of Tokyo & KEK)
 - Consider interferometer optics optimized for ATF2.
 - Decide table size and mounting holes for new optical table.
 - Show size and mounting holes to manufacturer (Herz co.) by end of Oct.
- Make new optical table and mount (~Feb.,2008., Herz co.)
- Put new table and mount on tentative place @ ATF2 (on ~Feb.-Mar., 2008., Herz co.)
- Replace them on work place (=IP) (Mar.-May, 2008, U of Tokyo & KEK)
- Align and fix new table on IP (~May, 2008. (U of Tokyo & KEK)
- Vibration measurement and analysis (May, 2008., Herz co.)

Schedule

| | 2007 | | | 2008 | | | | | |
|----------------------|--|--|------|--|-------------------------------------|------|------|--------------------------------|------|
| | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | Jul. |
| Overall | Design | Make | | Optics install & test (Tentative place @ATF2) | | | | Install | |
| Univ. of Tokyo & KEK | Design new optical table → ☆ Design fixing | | | | Install Optics ←→ Optics test | | | ☆ Install @IP | |
| HERZ Co. LTD. | Design table mount → | | | | ☆ Put on tentative place @ATF2 | | | ☆ Vibration measurement @IP | |
| | | ←→ Make new optical table & table mount | | | | | | | |