

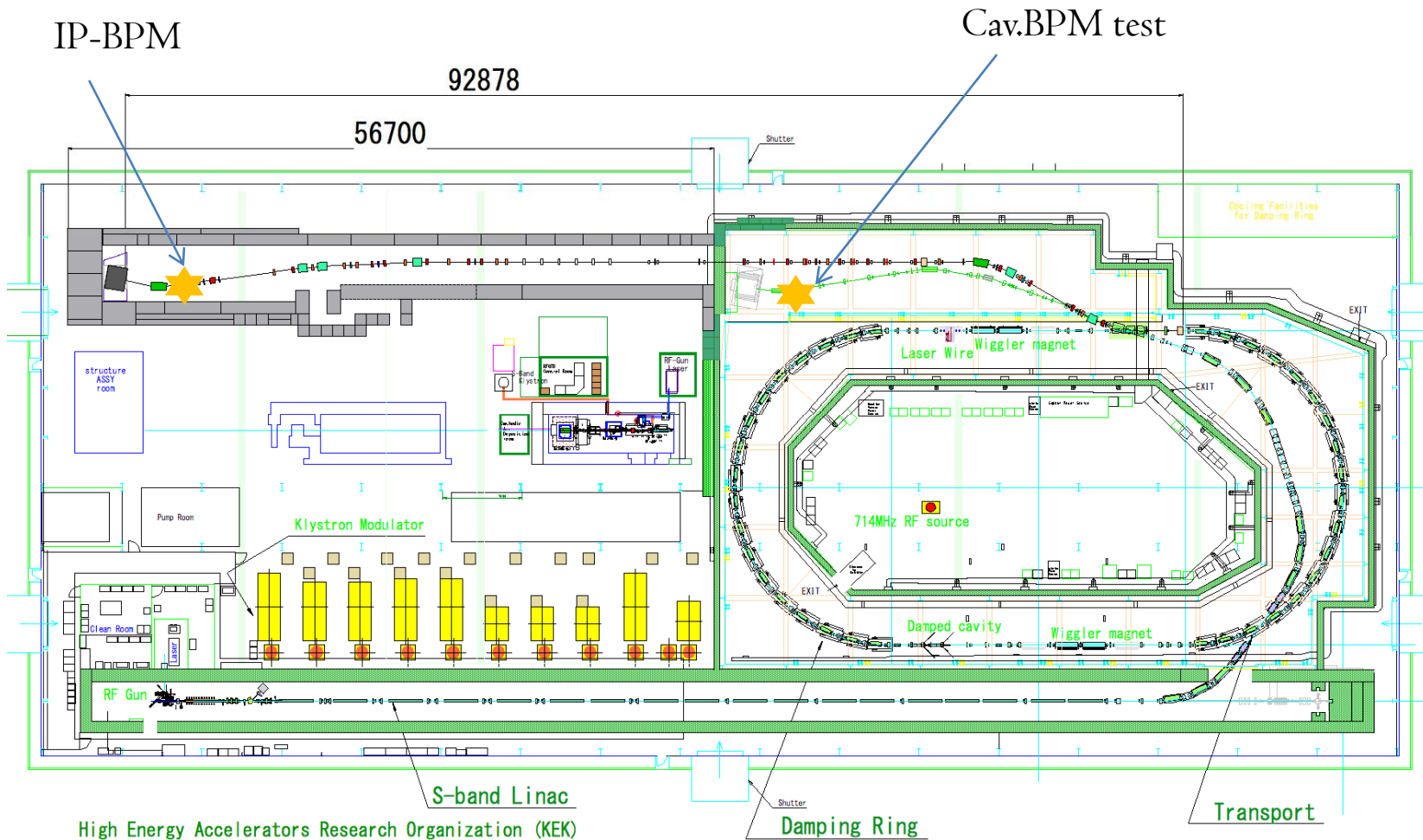
# Alignment issue of IPBPM as well as Shintake monitor

KEK-ATF S. ARAKI

The ATF2 KNU KEK collaboration meeting

17-18 Mar 2008

# KEK-ATF 2008 (under construction now)



# ATF-FF(ATF2) in Feb.



- Upper shield can have been almost done.
- Base cooling water and an electric wiring.
- Beam dump is under construction now it.



# IP-BPM (Type Honda)

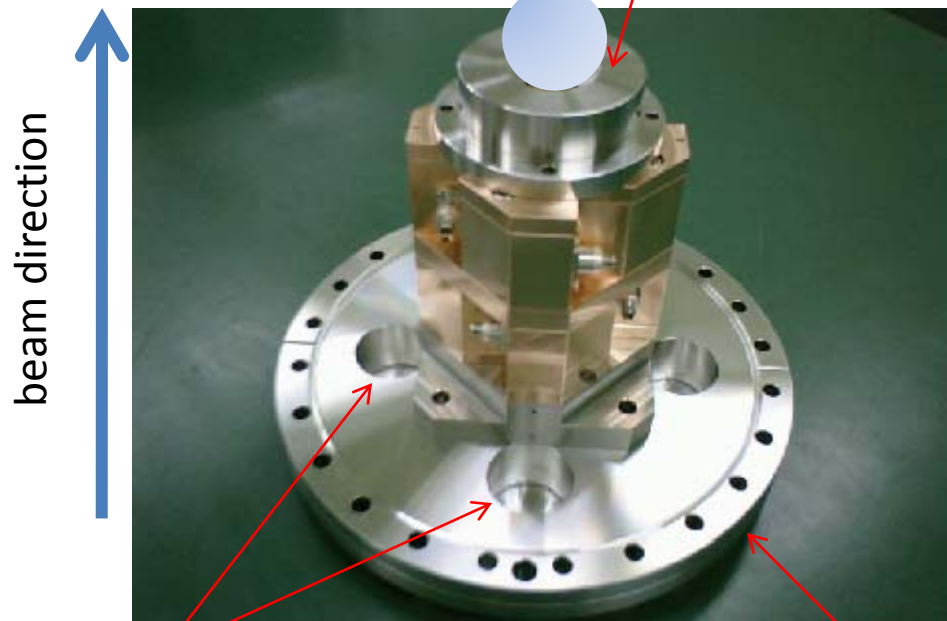
- IP-BPM block enters the vacuum chamber.
- BPM alignment = Alignment of the chamber.
- Installation accuracy
  - X, Y = 0.1mm.
  - Roll(x, y coupling) = 1 mrad.
  - Pitch, Yaw = 0.1mrad.

# IP-BPM

- New Type (Short WG...No beam test)

alignment target holder

- laser target is set up by this replacement



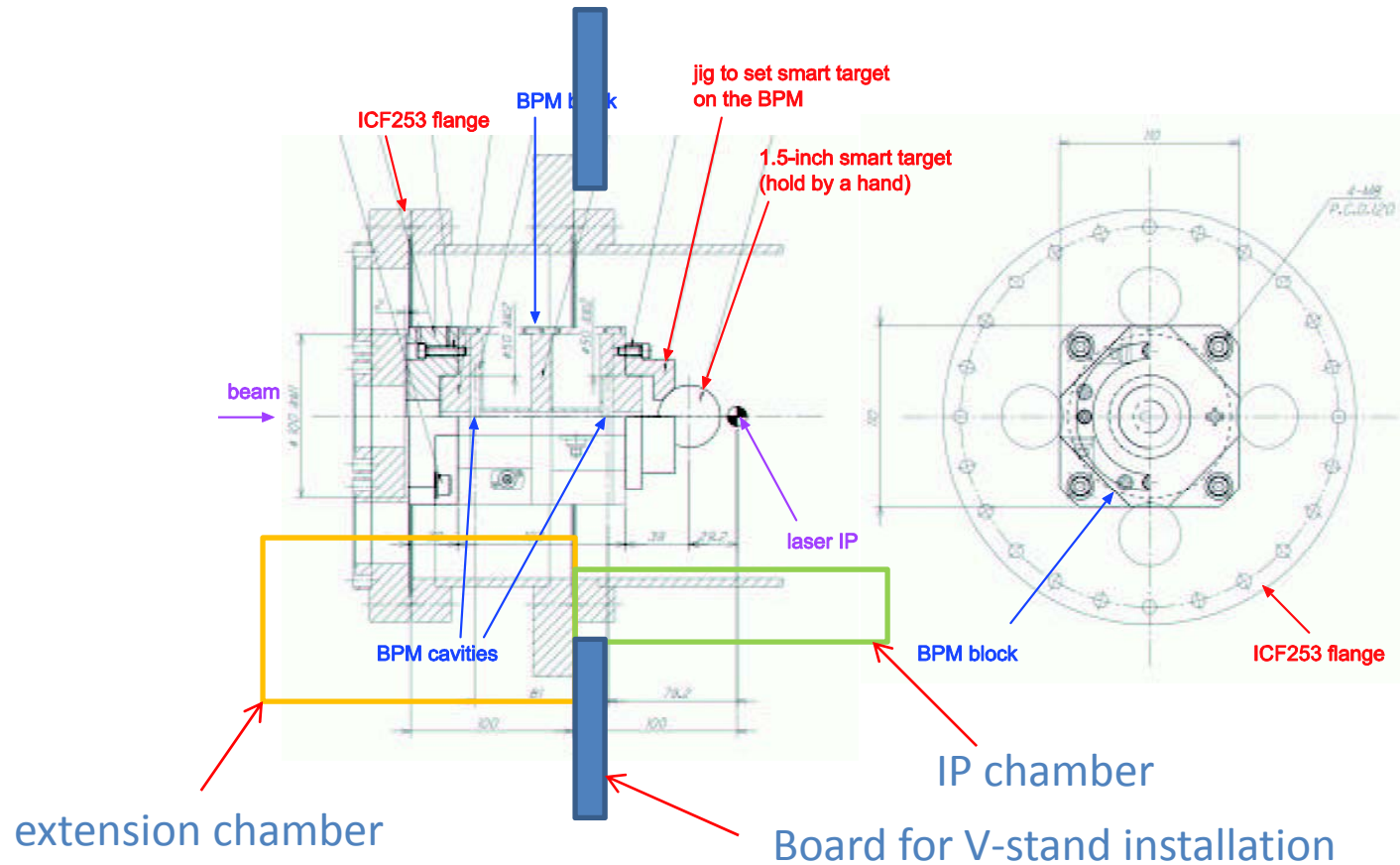
- Fix One point X,Y,Z can be measured.

- Roll, Pitch, Yaw defined by setting up the flange face

SMA goes out feed through (to be attached)

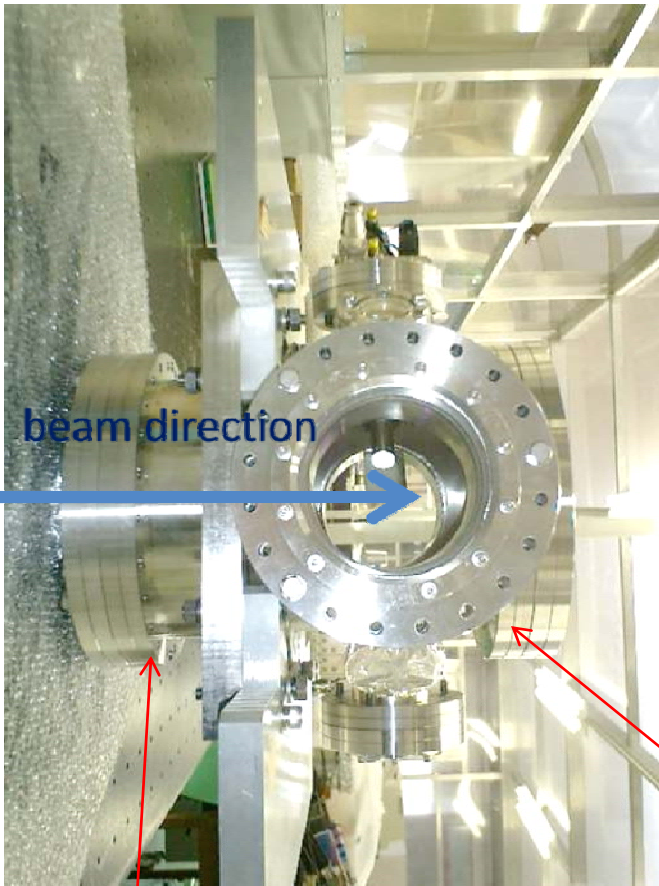
Fixes to the Flange on the extension chamber (upstream side)

# IP-BPM (& IP) Chamber



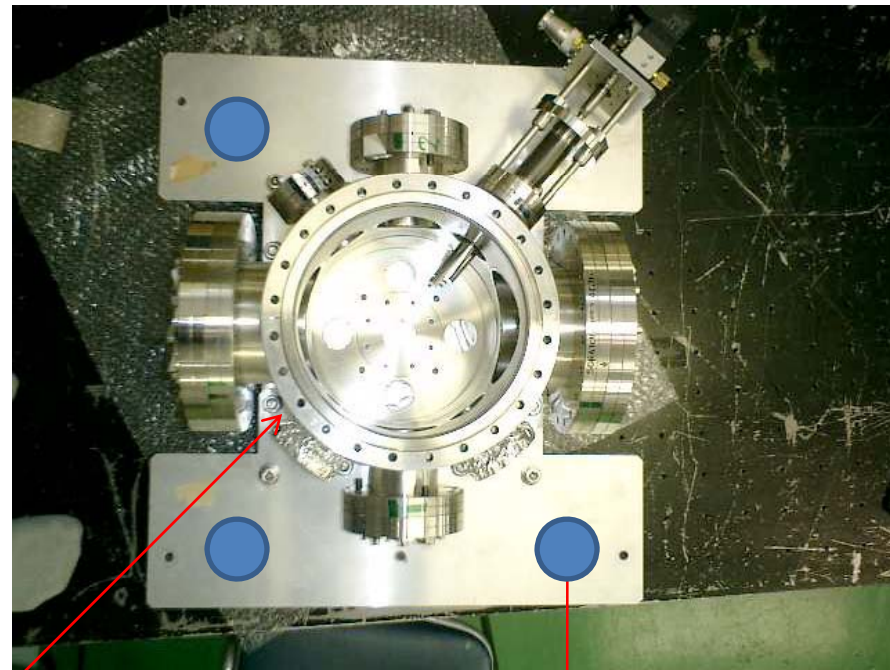
# S-MONITOR Chamber

Side View



Extension chamber

Down stream View (Optics side)

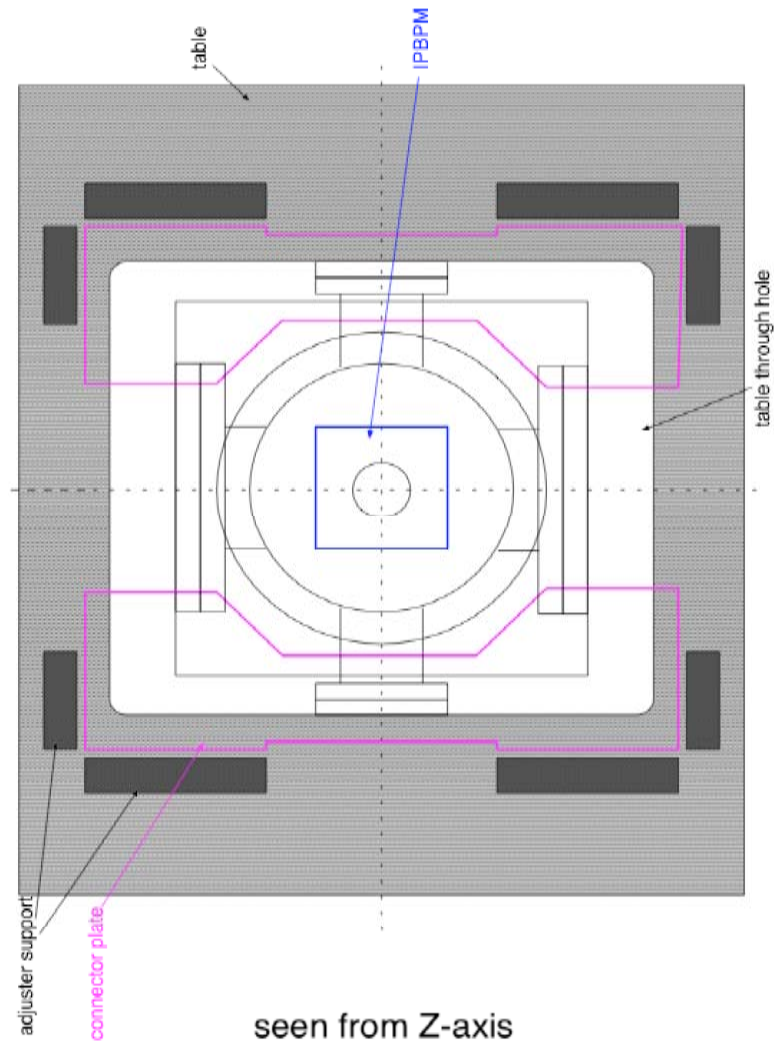
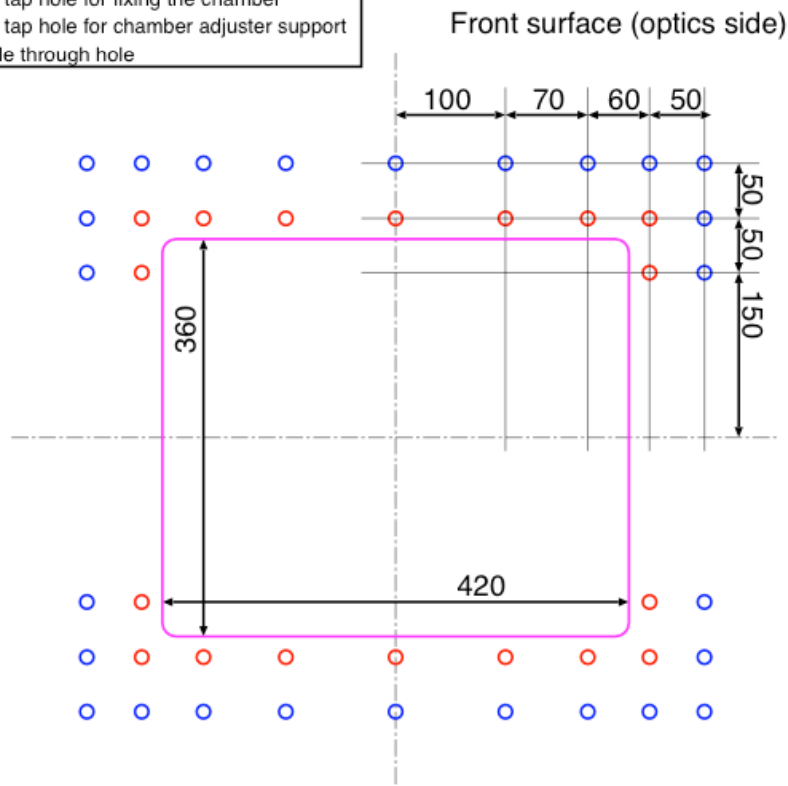


S-MONITOR chamber

It's test board, real thing is being made.  
I will prepare the alignment target by three points.

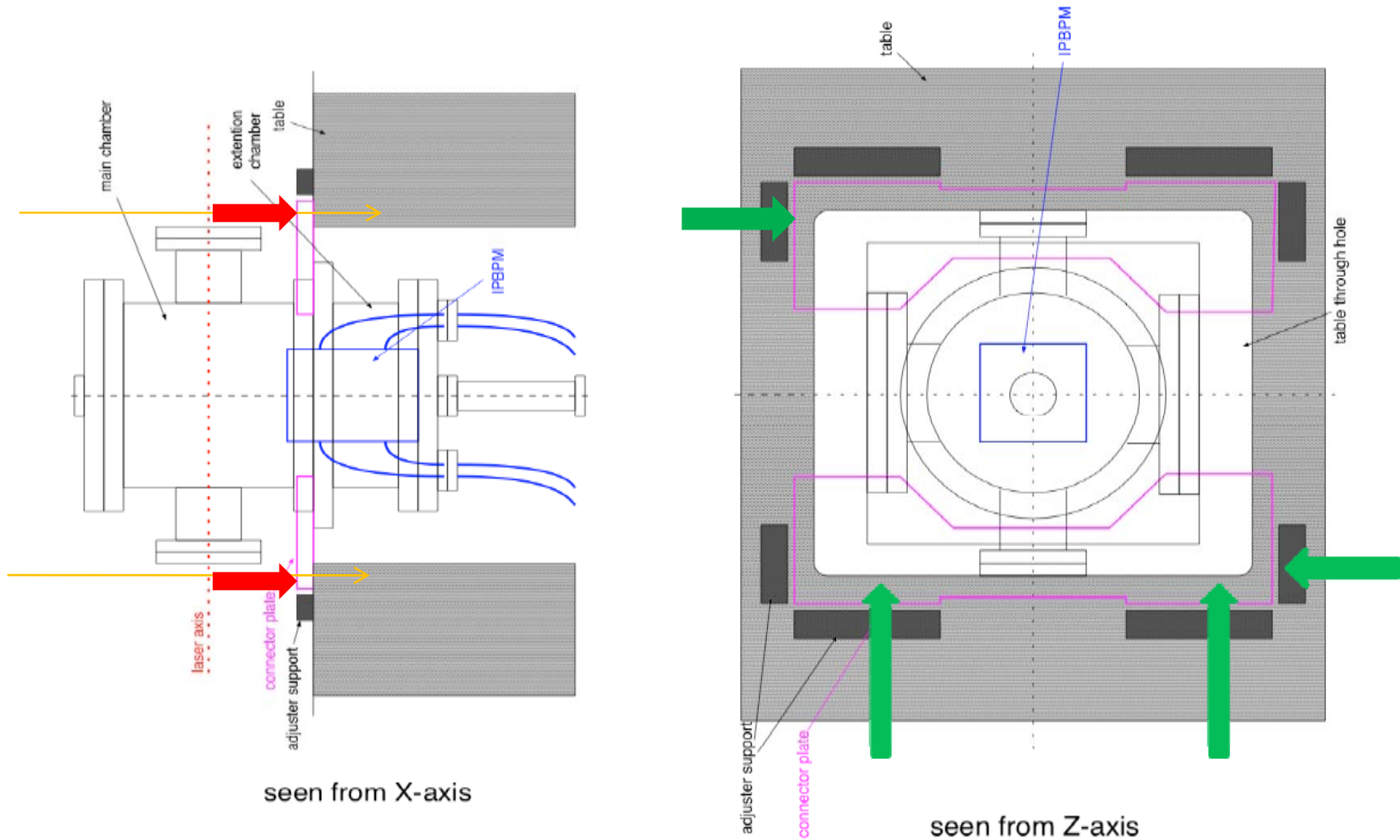
# Installation of chamber (1)

- M8 tap hole for fixing the chamber
- M8 tap hole for chamber adjuster support
- table through hole

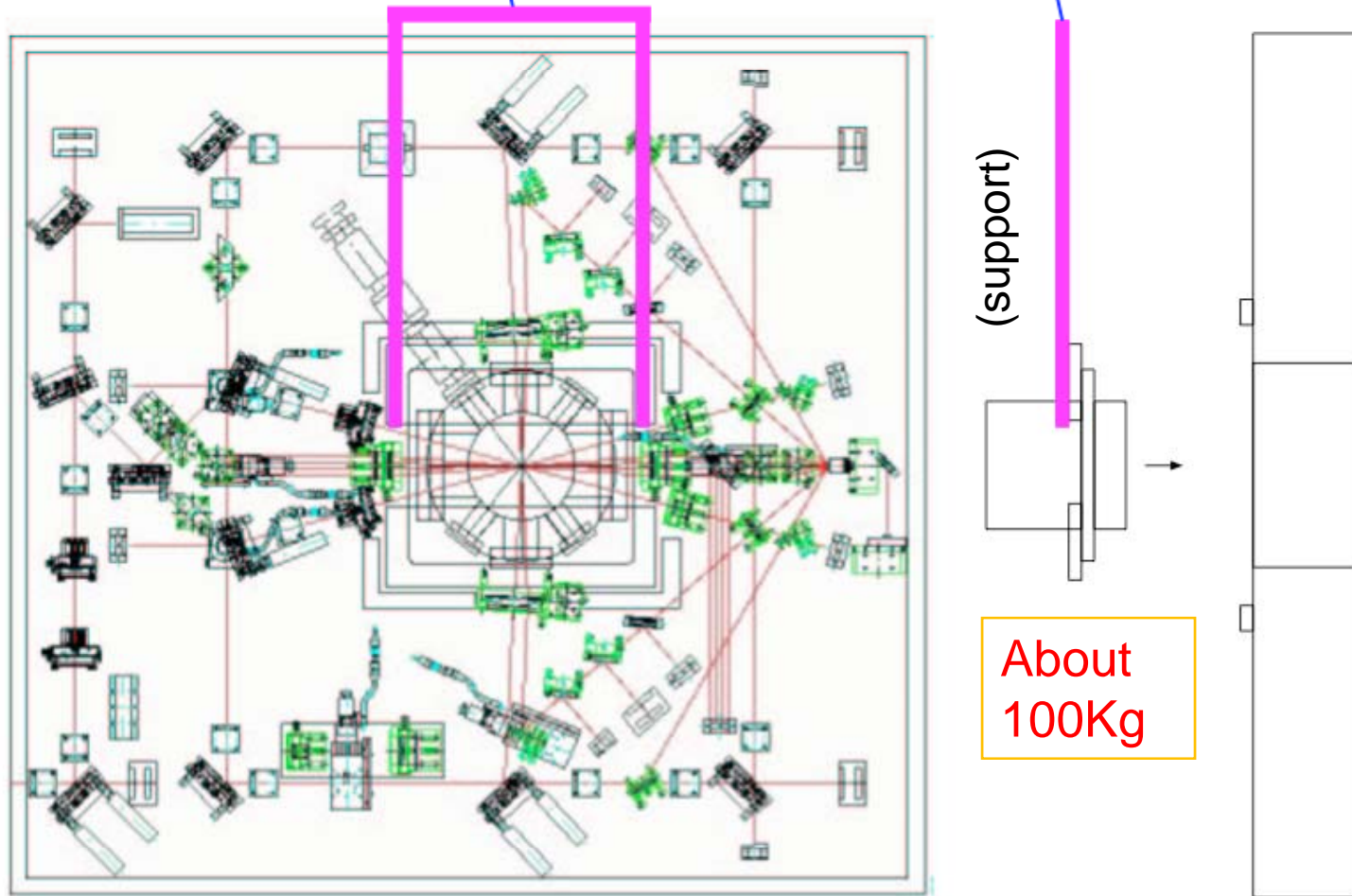




# Installation of chamber (2)



# The installation method ... and how to remove (?)



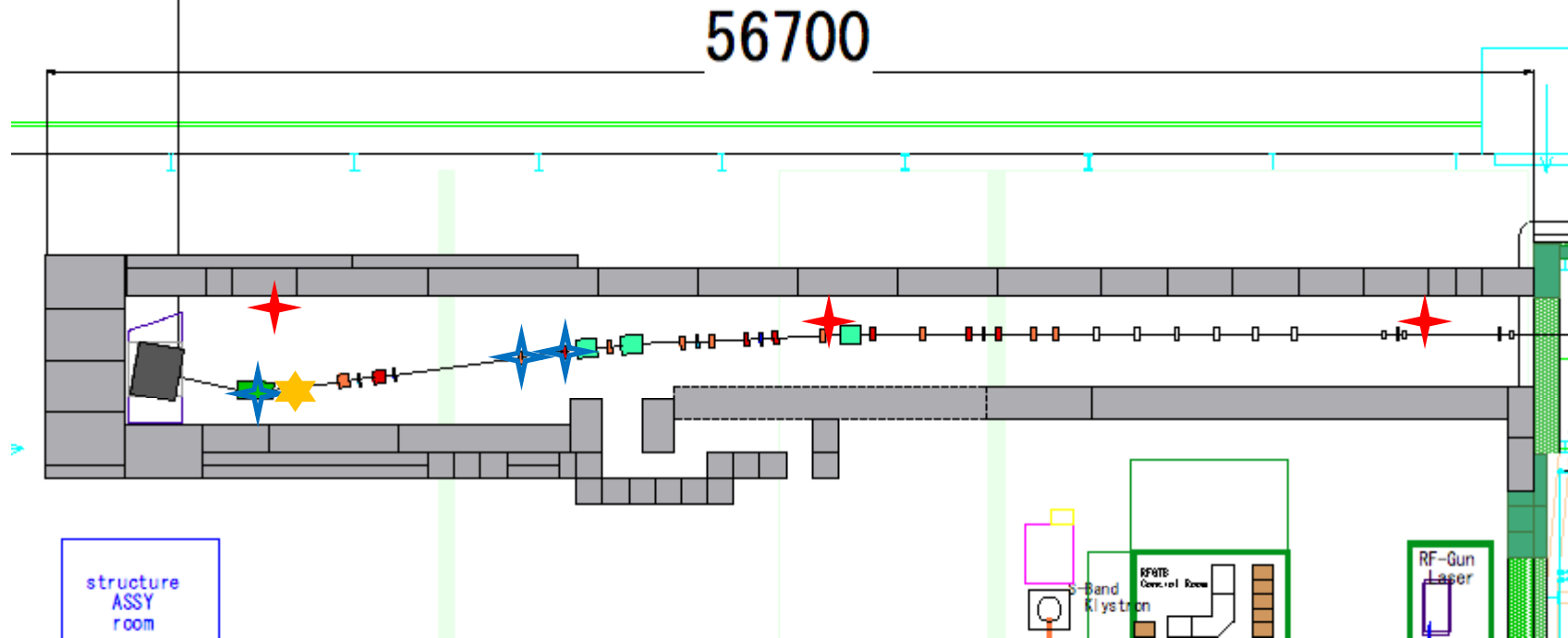
# Alignment

- --

# Target Reference

★ = Level Maker (Height)

★ = Target Ref. (Mag.)



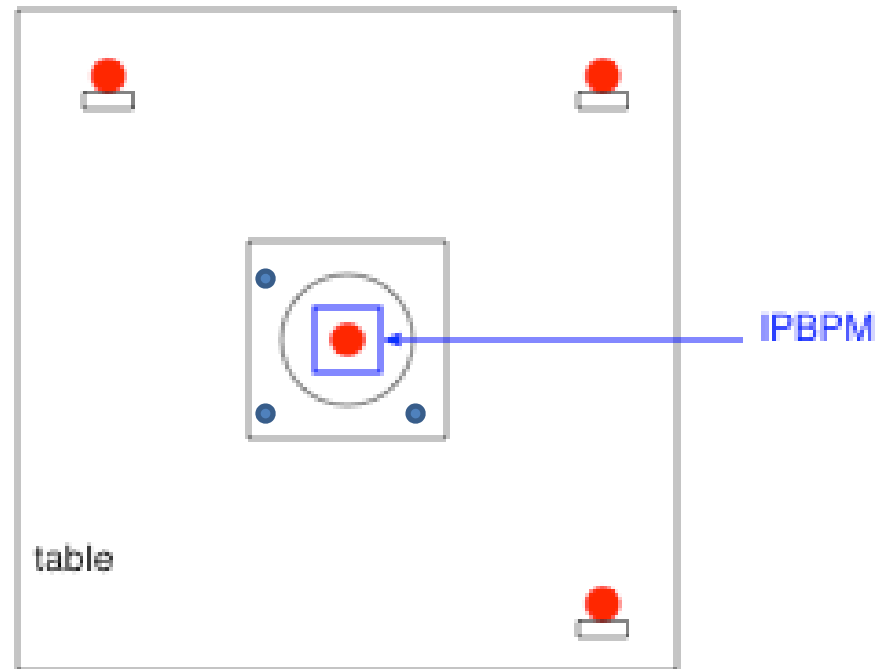


# Var. IP Table

- TEST <- Apr.
  - Vibration measurement.
  - setup in beam line by 1mm accuracy.
  - Installation of chamber.
  - Assembly of L. optical line.

# Copy to Target Ref.

- Necessary to move the center target in the chamber to target Ref.(A) on the outside.
- Target Ref. (B) is moved to an optical table.
- Finally,  
A and B are captured and  
the beam line  
and correlation are captured.



# Alignment issue (SAMARY)

- Setup to Var. IP table on beam line by 1mm accuracy.  
However,  
Pitching & Yaw is put together on  $< 0.1\text{mrad}$ .
- A center Ref. is moved besides the chamber.
- The alignment of the chamber is put together within 0.1mm.

END, Thanks....