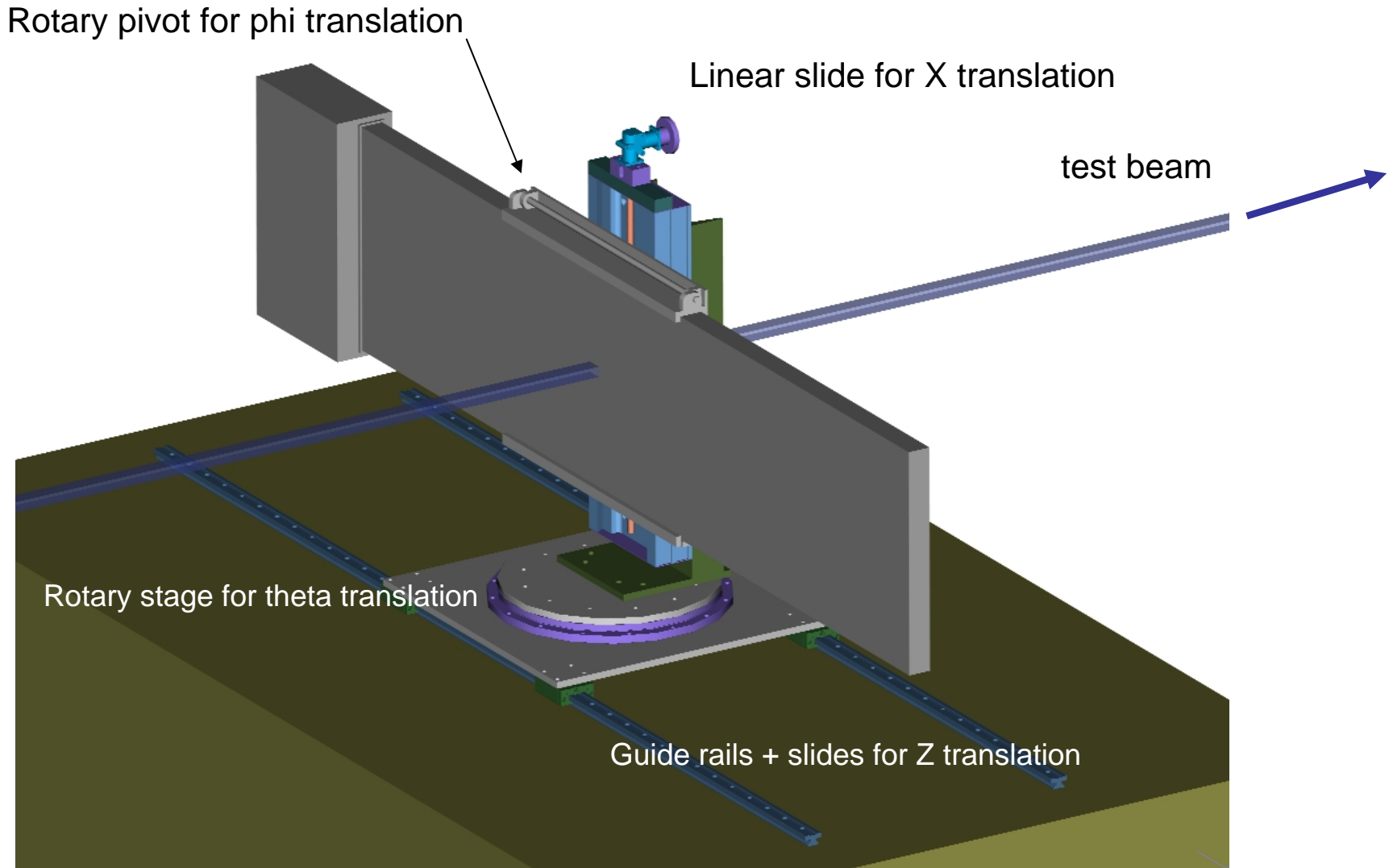


This positioning system was originally designed for the bPID beam test at CERN for mid-November 2010. **It was never used.**



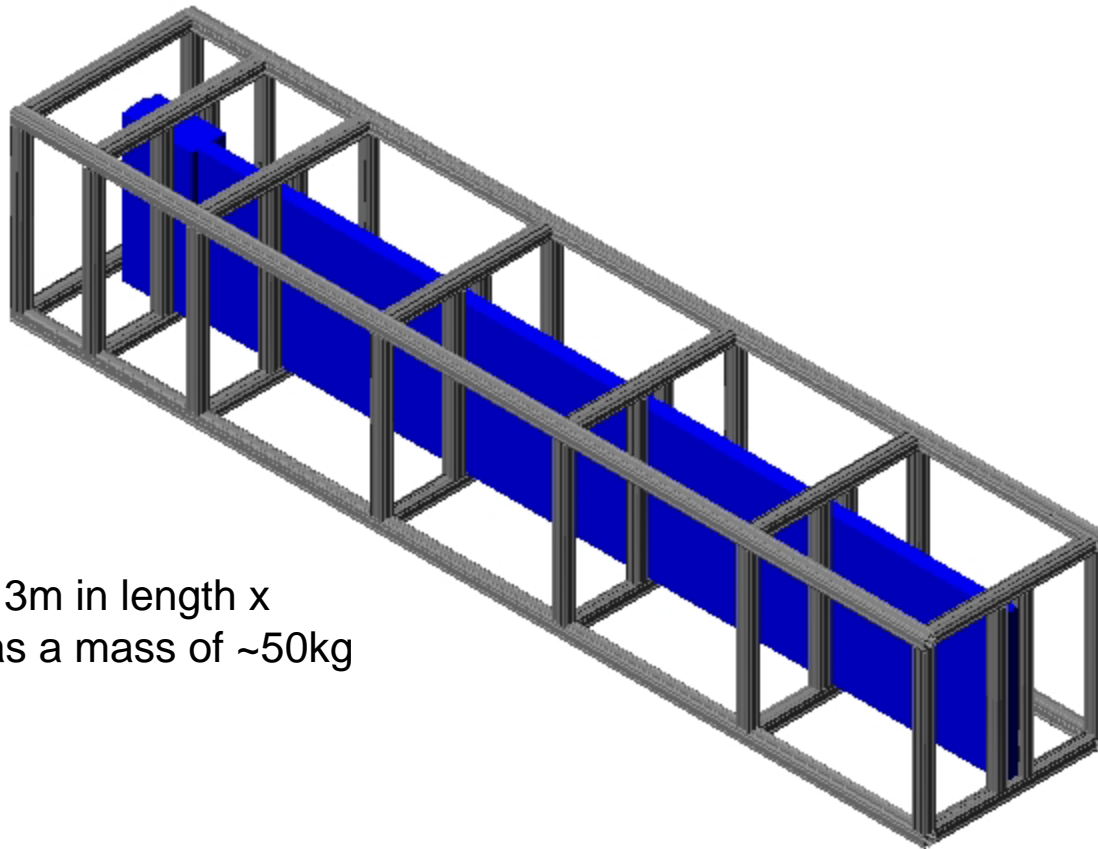
Actual system was completed in October 2010



The vertical translation stage and the phi capture hardware are not compatible with the current beam test module due to size and mass considerations.

The rotary translation stage may be possibly used for the upcoming FNAL beam test. It is load rated for 1 metric Ton.

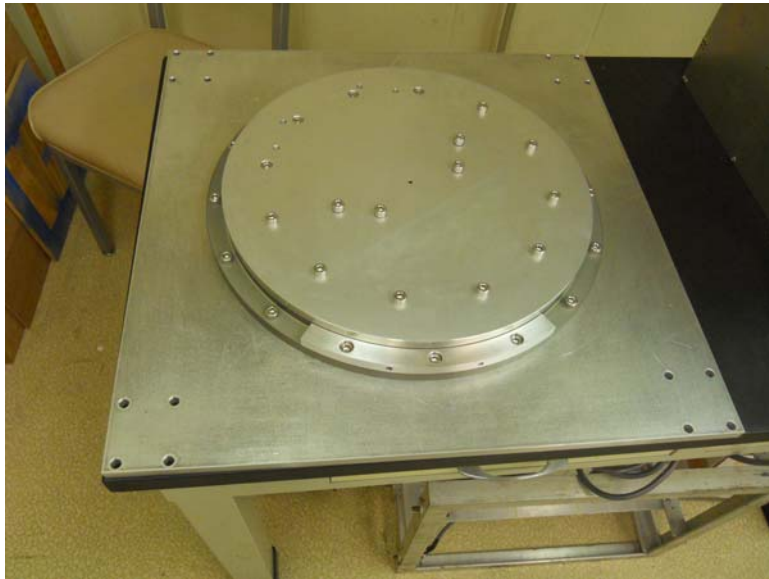
For the upcoming FNAL beam test, the quartz and readout electronics will be supported by an external frame, made from 40mm wide double T-slot aluminum extrusion.



This frame is 3m in length x  
.6m<sup>2</sup> and has a mass of ~50kg

## Rotary stage considerations:

- 1) Can the Nagoya frame be mounted to the rotary stage? (this is a decision for Inami-san/Nagoya)
- 2) If chosen, can the rotary stage be mounted to the FTBF table 2.

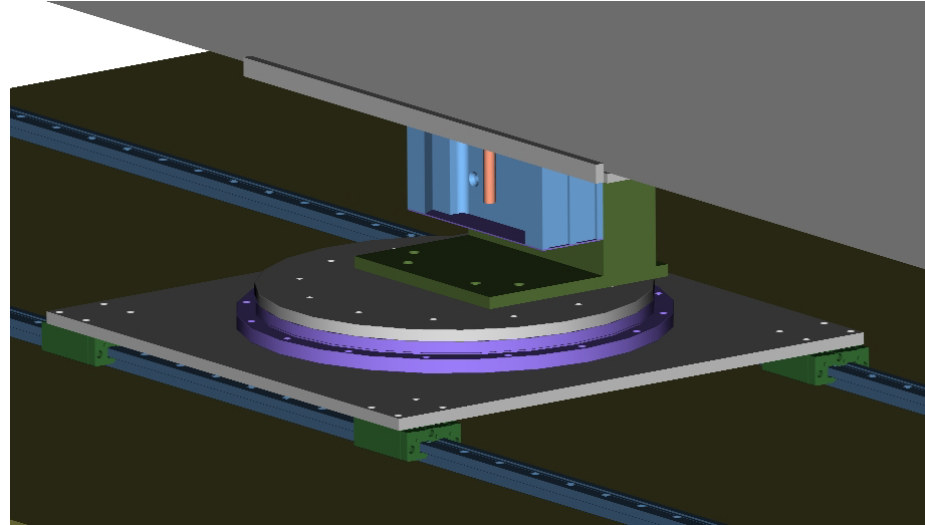
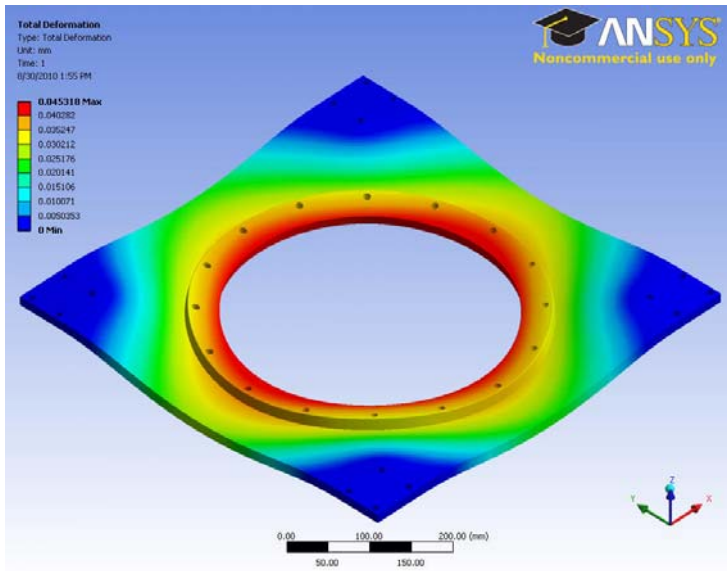


.5" thick base plate x 23.5" <sup>2</sup>, with  
16" dia. rotating platform, ~50lbs.

(FTBF table 2)



## FEA of rotary stage base plate



- Boundary conditions:
- Fixed at corners, load =  $\sim 125\%$
- FEA distortion always looks scary but the actual displacement is only 45um!