



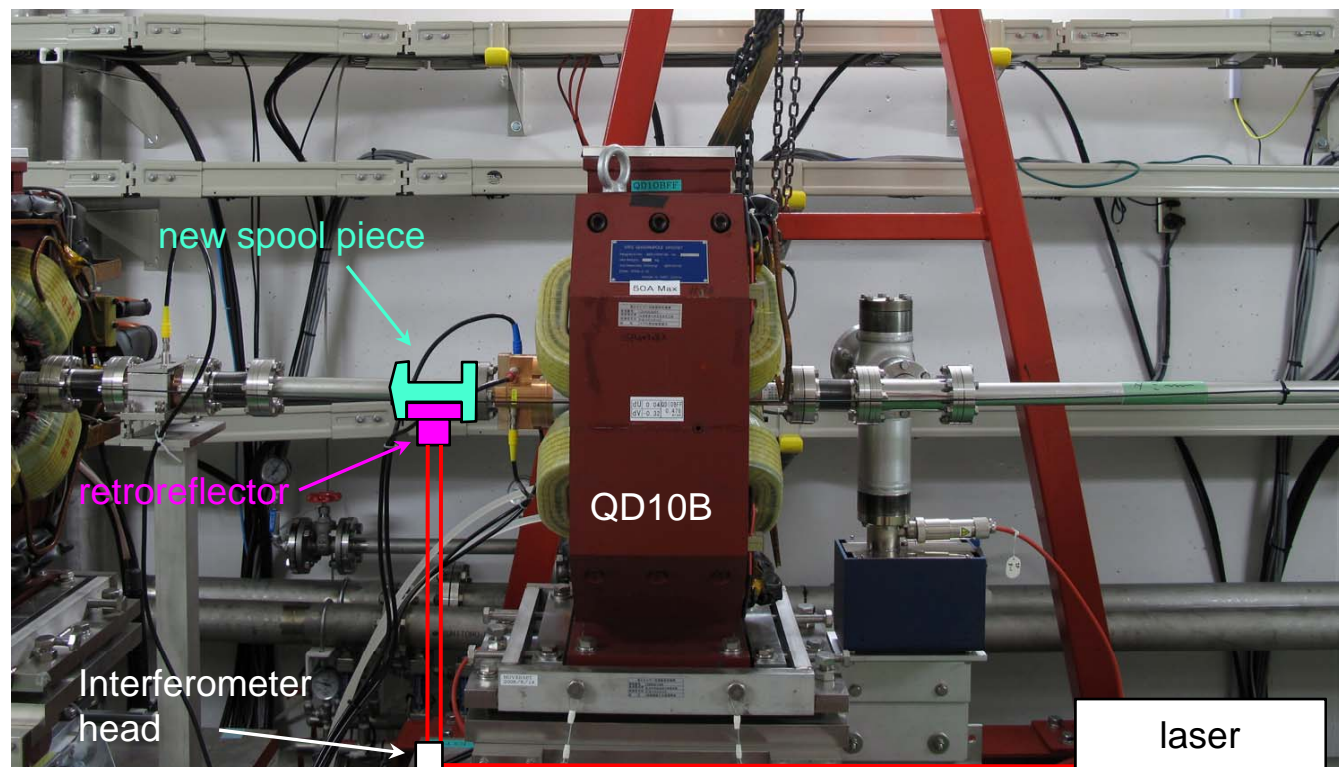
Proposal for 2009 ATF2 Interferometer Installation

Mike Hildreth

Université de Notre Dame du Lac

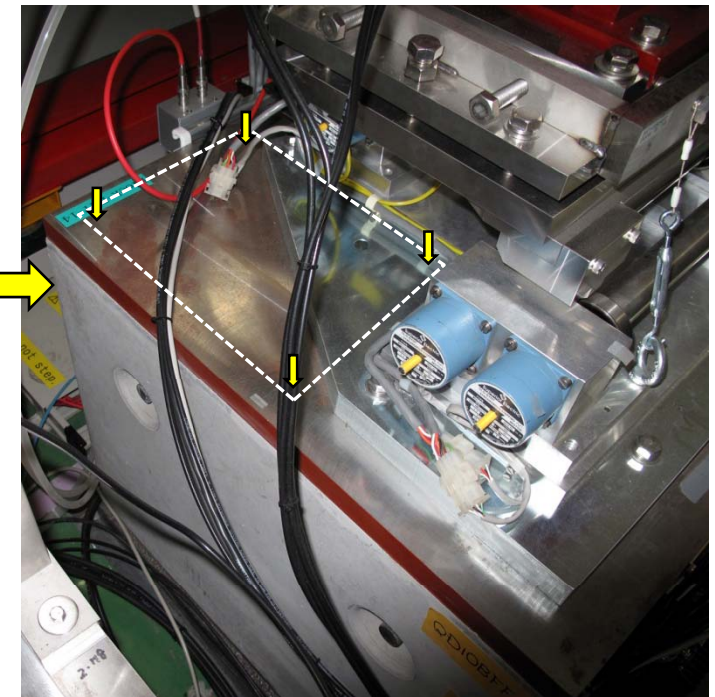
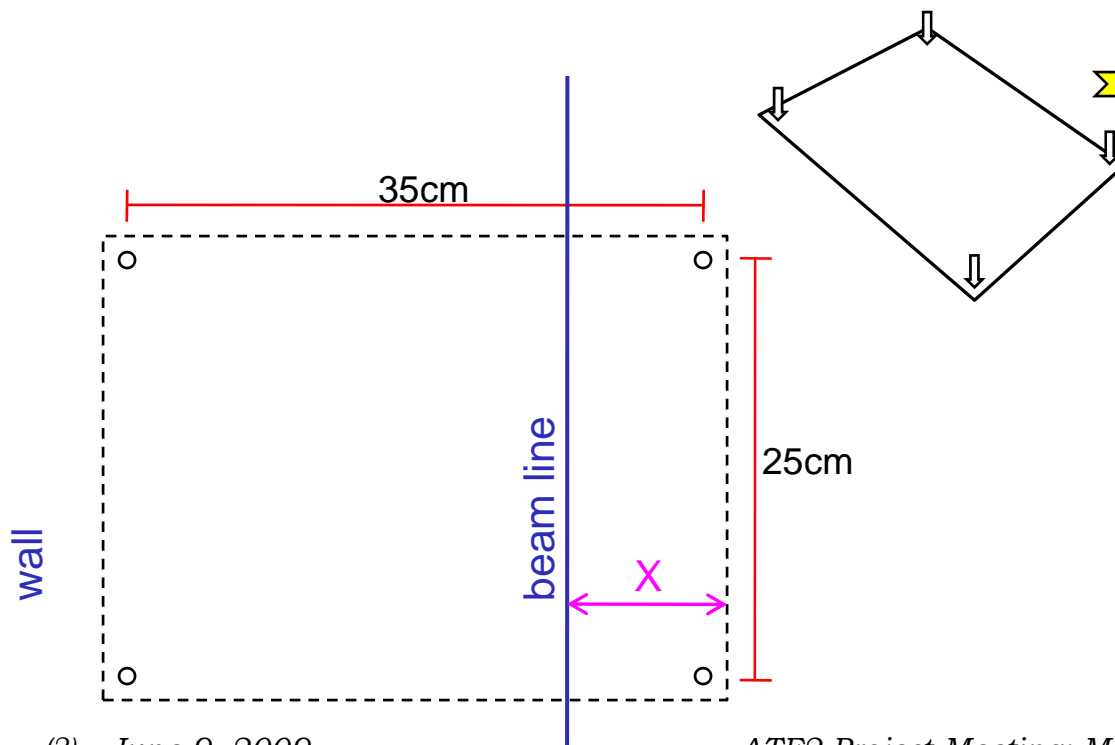
Overview

- Since BPM MFB2 is not yet installed, propose to put in single interferometer to “monitor” the other Feedback BPM on QD10B
 - Simpler installation
 - no evacuated tube
 - requires new spool piece upstream of BPM for retro-reflector mount



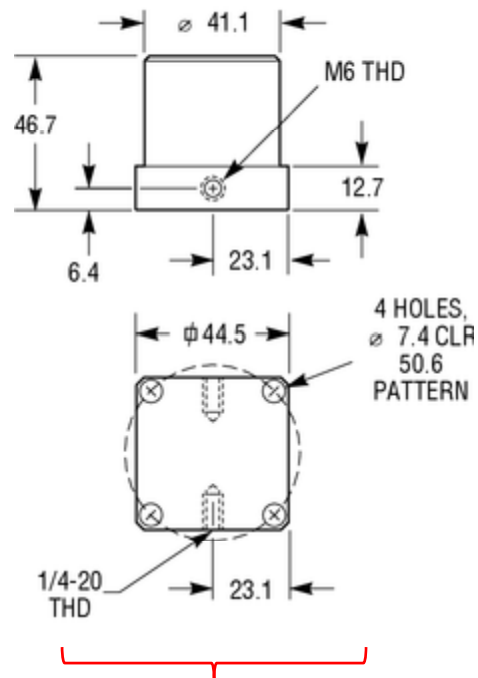
Modifications to QD10B Support

- Breadboard must be mounted to support interferometer head, and possibly CCD camera to monitor laser profile/position
 - Will need three M6 holes in the concrete top plate
 - precise z location not important
 - as much overlap on beam center as possible (maximize X, below)



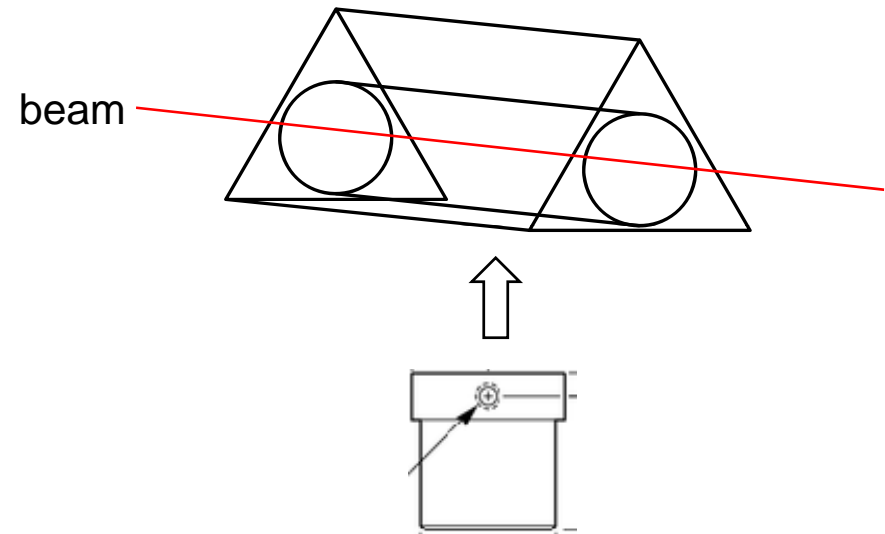
Spool Piece

- Retroreflector looks like this: (dimensions in mm)



need these four holes on flat bottom of spool piece

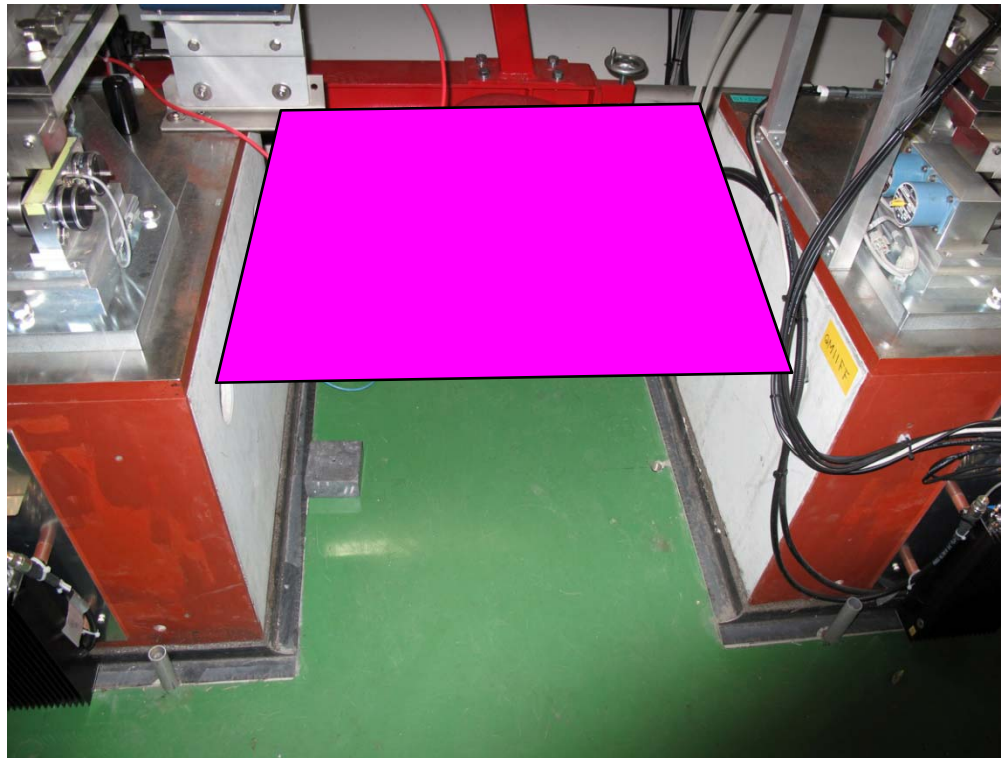
something like this could work:





Installation of optical table for laser

- Optical table for support of laser will be installed between QD10B and QD11
 - can be used later to support BPM MFB2
 - will need appropriate threaded holes in the floor
 - dimensions 60x80cm
 - should be set closer to cable wall than open aisle





Services

- AC power for laser power supply inside enclosure
- data acquisition fibers need to be pulled through the wall to the electronics rack
- lead bricks to protect laser from radiation

DAQ:

- I will provide 5-slot 6U VME crate, horizontal rack mount, VME electronics, PC for DAQ
- **I will need:**
 - reference timing signals from the Accelerator (2.2 MHz ring frequency or pre-extraction signal would be ok)
 - network connection for Epics
 - DB structure for interferometer data

Progress: DAQ software: timing module completed, work on Epics interface underway
Hardware is ready.

Installation Dates: July 9-17, 2009