

SQZ HAM5-7 alignment - 28th October 2021

Took photos of all locations. Changed SRM to aligned and slider values of post-O3 commissioning time. We now have bright light though OFI. So iris are good enough.

Attempt to center ion ZM5 using ZM4 sliders. Not enough Pitch range so restored. Successful with Yaw: +700 (?) to +1700.

9.53am. [P +240, Y +1700].

ZM4 pitch until nearly saturating [P +3240].

9.57am. ZM4 [P +3240, Y +1700]. Now still going through OFI and more centered on OFI iris.

ZM4 mechanical Pitch adjustment (in SAFE) to center on ZM5

10.08am After Mechanical Pitch on ZM4 (moving beam down). HAM7 iris low and slightly off in Yaw. Better on HAM5 iris and going through OFI.

10:22am adjusted ZM4 Y slider. To ZM4 [P+8552, Y +9550] but saturating. Now beam clipping on 1st HAM7 iris. Distance from iris base to top = 153mm

Now nearly clipping 2nd iris (low), HAM5 iris fine, OFI beam good.

10:29am: Took Y alignment slider back to 0 then. Mechanical ~~ZM5~~- ZM4(?) Yaw adjustment.

10:40am Rahul tightened ZM4, took photo, sliders @ [P +8552, Y +0]

Removed 2nd iris, 158mm from base to top. Now light low on HAM5 iris but still through OFI

10:49am ZM5 [P +530 , Y +300], will use ZM5 to center on HAM5 iris, until [P -471, Y +300] .

THEN use ZM6 to center on SR2. Before starting ZM6 [P 0, Y 0]

Some suspensions were saturating to re-centered.

LUNCH

2:32pm Rahul down the tube to check SR2 centering, before ZM5 = [P -71, Y +600]; OFI pico [x +3800, y +2800]

In tube:

ZM5 for HAM5 iris, (ZM6 for Sr2 saturated so reversed), pico for SRM, IFO return beam, adjustd ITMY, 2 beams at SRM and HAM6

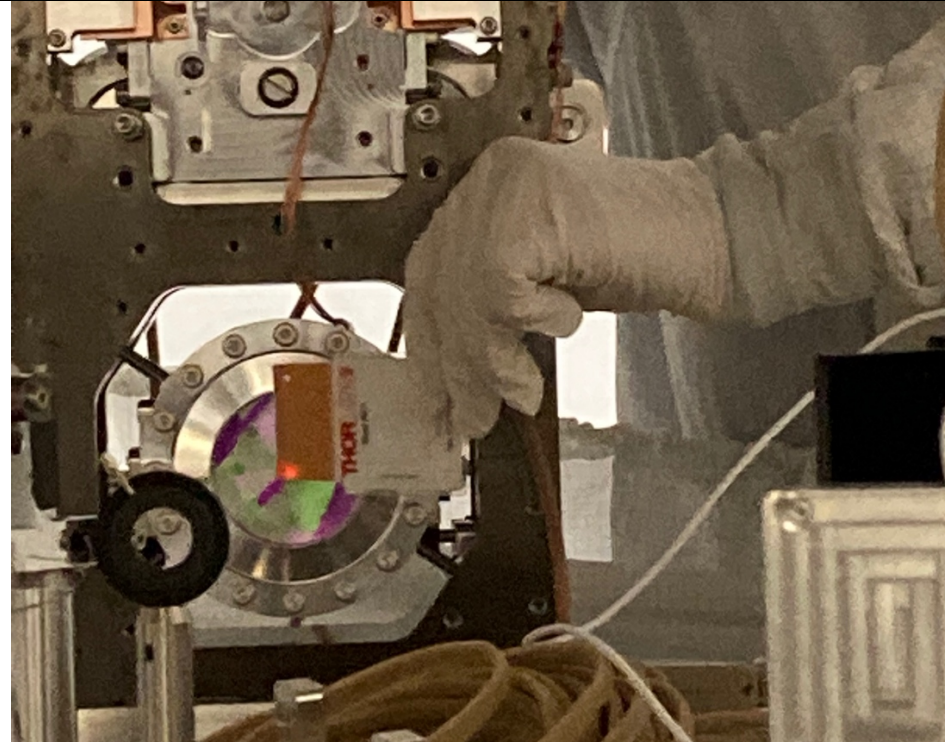
3:25pm:	Pitch	Yaw
ITMY	-54	103
SRM	1748	-3306
SR2	751.7	256.1
SR3	437.0	-150.6
ZM4	0	0
ZM5	12.9	700
ZM6	0	0
SQZ OFI steering pico (#5)	X=7600	Y=5100

Tests: ZM5 moved 4700 counts for 2cm motion at ZM6 baffle. [yaw]

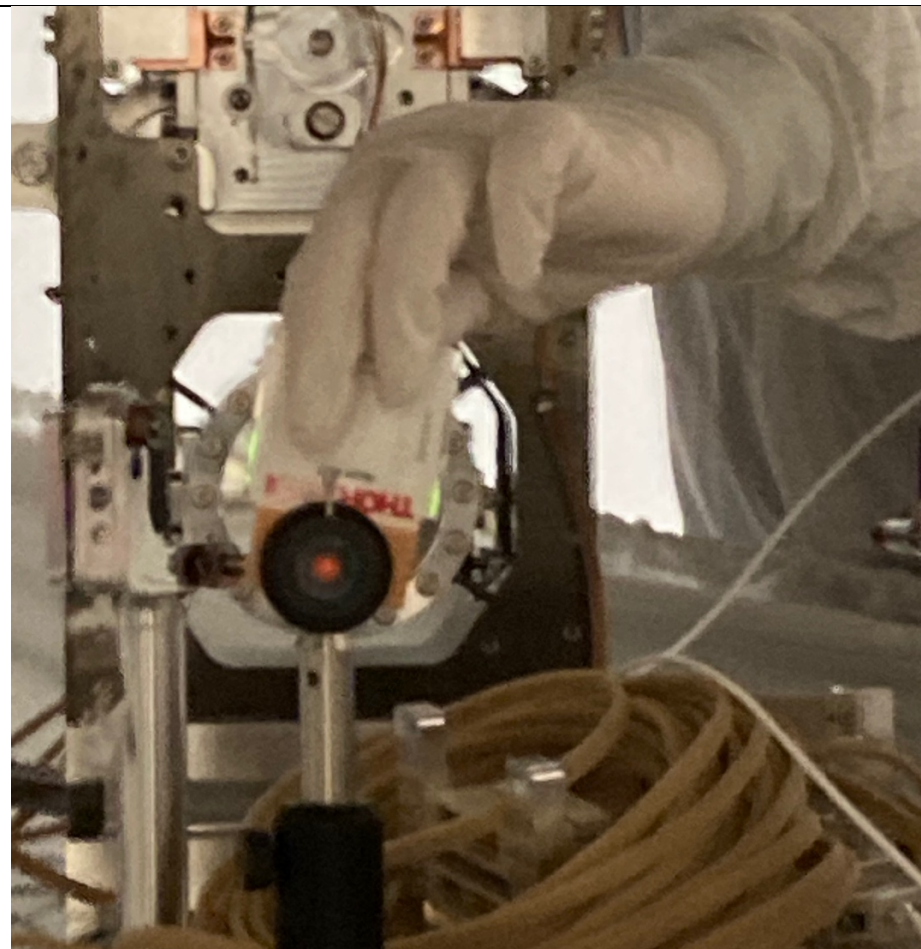
Things to do:

- ZM6 check alignment; - alignment to baffle good enough
- Center ZM4 osems; - Rahul?
- Check SR2 alignment; - done

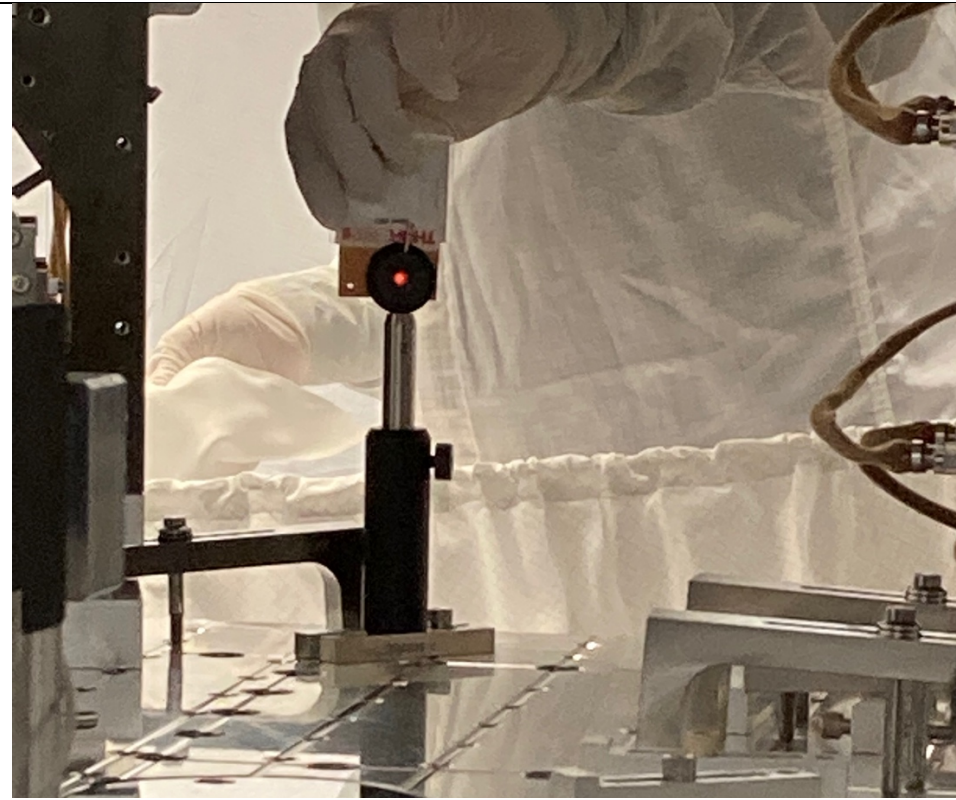
Final positions:



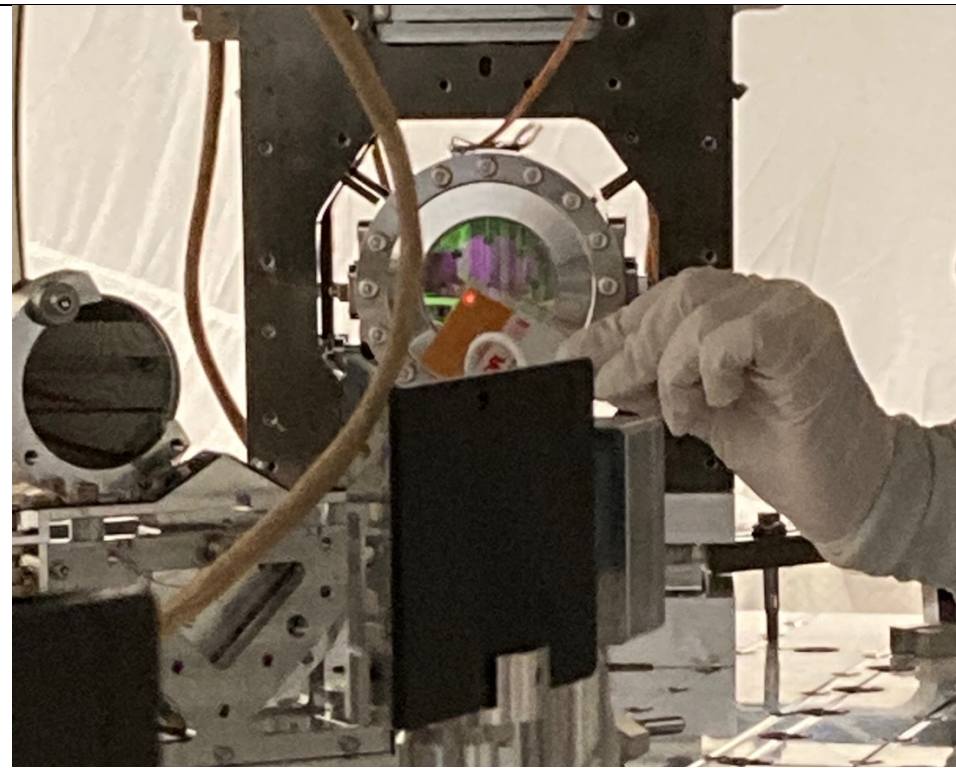
ZM5



1st iris



2nd iris



ZM4



Through 2nd

iris, 1st iris, onto ZM5