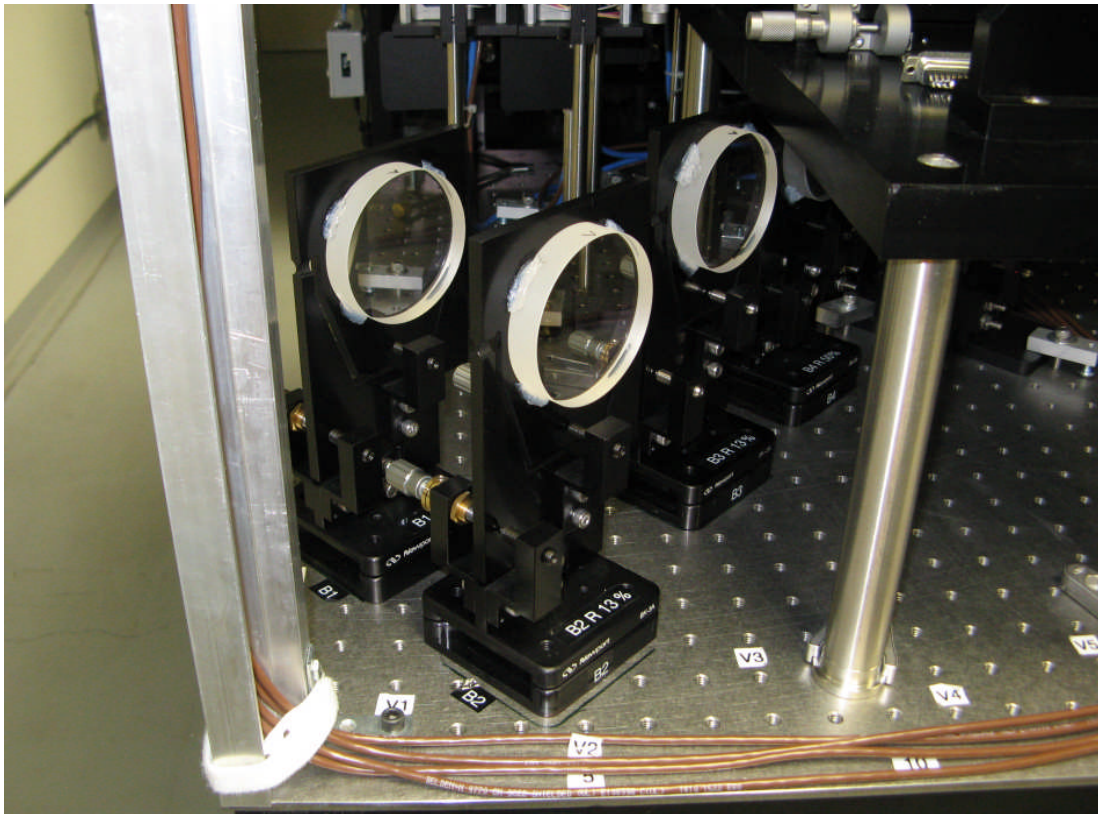# Switching between 50% tip-tilt splitters
and 13% VEGA tip-tilt splitters

- Place the new splitters onto the magnetic bases in the beams as labeled.

- Adjust the beams using the alignment laser, VIS beams, and Pico 3 while looking at the target on the E table.
- Move beam samplers into the appropriate beams and adjust each dichroic splitter using Pico 1.
- Place the small retros into the beams.
- Close all shutters, set the Laser Filter Wheel: use ND=5 with the 50% splitters, or ND=4 with the 13% splitters.
- Turn off fluorescent light in the lab. Remove the tip-tilt cover cup.
- Turn off all lights in the lab.
- Run TipTilt server, and TipTilt gui
- Make new bias
- Move VIS beams to the beam to be adjusted, open Laser shutter, and one visible beam at a time.

- Watch the dots in the appropriate tip-tilt window, one of the six which pop up with the tip-tilt gui, (or try watching the CCD / MOVIE, if no dots were seen).
- Bring up Zaber 2 from the pull down menu: Zaber Controllers / Zaber 2
- Skip to the next step, if there was no power outage recently. If there is a reason to believe that there was recently a power outage, hit the HOME button. Hitting any HOME button generally homes all six mirrors. This process takes a while to complete. You may want to watch the progress under the MAIN tab.
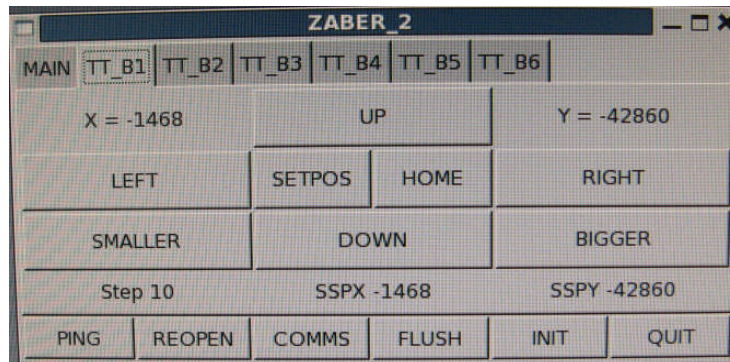
- Select the beam to be adjusted by clicking the tab in the top row.
- Use the UP, DOWN, LEFT, RIGHT buttons to center the dots in the window. Step size can be changed with the SMALLER and BIGGER buttons. X and Y values on either side of the UP button are the current positions; these will change as you do the adjustments. SSPX and SSPY values are the last saved positions. The mirror would move there when you hit SETPOS.
- If you don't see the dots (or any light in the MOVIE) move the appropriate fold mirror to the last known good position using the UP, DOWN, LEFT, RIGHT buttons to advance the mirror position to the values in the chart. The dots should appear in the window. For last good positions with the given splitter set, see the charts below.
- Make additional adjustments if needed, and note the current good position. You can also change the saved position using the engineering gui, or you may skip the next optional steps.

-------------- OPTIONAL
- To change saved set positions use the tip-tilt Zaber engineering gui: Bring up a terminal and type **zabergtk –E ZABER_2 &**
- Here you'll see a button to SAVE SET POSITIONS. Hitting this button will change SSPX and SSPY values to the current values displayed near the top of the gui.

- When each beam is done, exit Zaber gui.
- Put the TIPTILT COVER BACK ON before changing the Laser Filter Wheel to a lighter filter, or turning the fluorescent light on in the lab!!

Last good positions (September 2012)

Tip-tilt Zaber_2 with 50% splitters

Beam	x	y
1	-1304	-43011
2	-24873	-32602
3	+11956	-58220
4	-209	-37631
5	-2890	-15028
6	-3772	-37447

Tip-tilt Zaber_2 with VEGA 13% splitters

Beam	x	y
1	-1524	-42971
2	-24931	-32632
3	+11668	-58220
4	-229	-37561
5	always 50% splitter	
6	always 50% splitter	

Updated: September 26, 2012; Judit