

# SOP-E018

## Laser Alignment – Upgraded MoFlo XDP Cell Sorter

**Objective:** To align the lasers on the XDP for optimal performance and measurements.

**Procedure:** (perform in the following order: 488, FS, violet, red, UV, yellow)

1. Check the stream alignment first:
  - a. On the access control panel, press the *Coarse Alignment* button (located on the top left of the screen).
  - b. Press the *Pinhole Illumination* button to see the image of the pinholes (the small light bulb at the lower left of the camera field of view).
  - c. Using the top micrometer, turn slightly in a clockwise direction to bring the nozzle tip into view. Inspect it for dried saline. If needed, take a piece of lens paper and wrap it around a cotton applicator stick. Moisten with water and wipe the tip.
  - d. While observing the stream, turn the micrometer in a counter clockwise direction until you feel it give (approximately 62 turns).
  - e. You are looking for the center stream borders to be the same thickness all the way from the nozzle down.
  - f. If not you need to tweek it
2. Start laser alignment with the 488 laser. You may have to go back to the stream again, then back to the 488 laser.
3. Align the FS.
4. For the remaining lasers, turn on the top one first and align, then bring the second laser in.
5. For (405)violet/red(640):
  - a. Align violet first, keeping the red laser shuttered.
  - b. Open the red laser shutter, it should be right there, if not you will have to adjust the alignment screws of the laser itself.
6. For UV/yellow(561):
  - a. Align UV first, keeping the yellow laser shuttered.
  - b. Open up the yellow laser, if not right on, then use the alignment screws on the yellow laser to adjust it in.

Pinhole 1 = 488  
 Pinhole 2 = 405/640  
 Pinhole 3 = UV/561

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