

Alignment of the Fabry-Perot Interferometer
(SLT)

modified

(See ^V diagram)

0. Use high pressure Hg lamp to start with, its nice and bright
1. Set grating to zeroth order and then position source to maximize light through the grating monochromator (viewed with card at exit slit)
2. Tune in the Hg green line: 546 on grating dial
Tweak to maximize green light through grating monochromator.
3. Place L2 at f_2 from slit by auto-collimation using hand-held mirror
4. Locate image of grating downstream from L2. May need to place a piece of scotch tape on the monochromator input slit to fill the full rectangular grating with light.
5. Place L3 a distance f_3 downstream from grating image. Do this by autocollimation using the upstream Fabry-Perot mirror. The trick is to hold an index card at the grating image position covering only the bottom half of the image. Light from the top half of the grating image proceeds through L3, reflects off the FP and comes back to index card.

6. Place Fabry-Perot at slit image position.
7. Place L4 somewhere near F-P and f_4 upstream from the iris. Do this by auto collimation, sending white light in backwards through iris at exit. (using downstream F-P mirror). Once a good focus is achieved for the return spot, tilt ~~positioning~~ F-P so that the return spot is aligned with the iris. This assumes that the ring-pattern will be centered on the iris.
8. Switch to low pressure Hg diffuse light source. Open up iris at exit fully, and view ring pattern through a lens (used as simple magnifier.) You'll need to put your eye in just the right place to see it. Make sure rings are concentric with iris. Scan the pressure and watch them move.
9. Close down iris at exit all the way and attach PMT.