


New big compressor alignment procedure

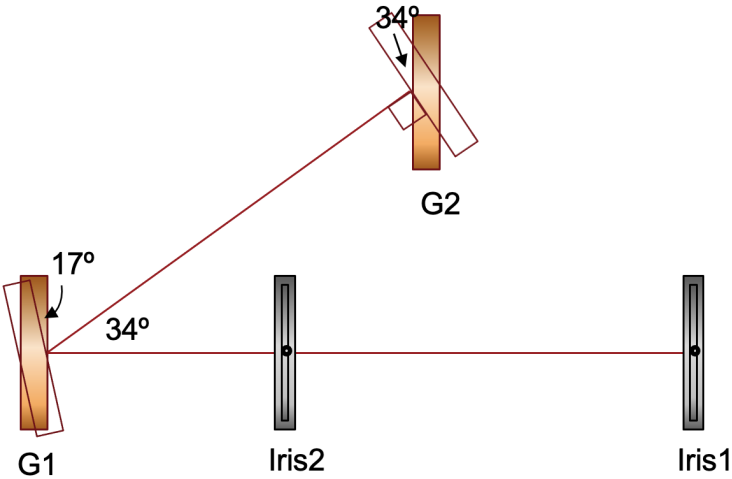
 Alignment procedure originated following 2022 reconfiguration project

This procedure is for full alignment of the SPL big compressor. A camera for viewing the IR beam reflection on the iris is recommend.

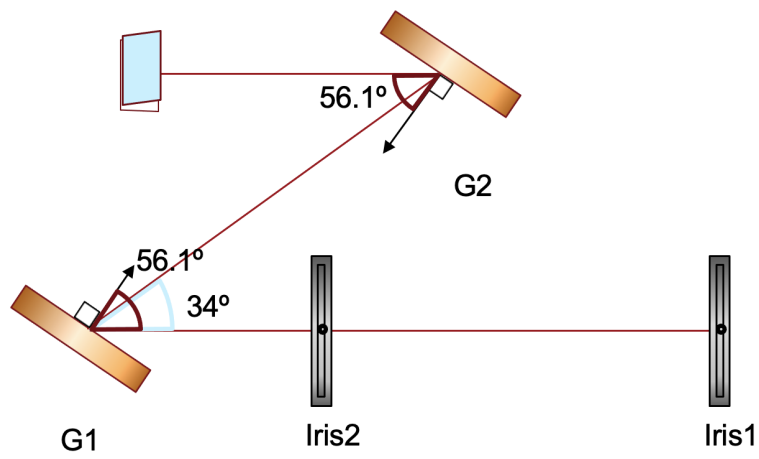
Step-by-step guide

1. send the beam to grating 1 (G1): align incident beam through iris 1 & 2
2. normalize G1: turn G1 to retro beam back to iris1. Record the reading on G1-R (5.5°)
3. send the beam to grating 2 (G2): turn G1 by 17° so that the beam is reflected onto the center of G2. Record the reading on G1-R ($-11.5^\circ = 5.5^\circ - 17^\circ$)
4. normalize grating 2 (G2): turn G2 to retro back to the iris1. Record the reading on G2-R(-33.3°)
5. zero G1 & G2: turn both G1 and G2 to zero angles (5.5° & $-33.3^\circ + 34^\circ$)
6. working angles: turn both G1 and G2 to 1st order angles ($5.5^\circ - 56.1^\circ = -50.6^\circ$ & $0.7^\circ - 56.1^\circ = -55.4^\circ$).
7. rotate the roof mirror so that the "plumb bob" shadows overlap to each other
8. adjust the linear stage (G2 T)to get the shortest pulse on SSA

	G1 rotation (deg)	G2 rotation(deg)
Step 2: Retro G1	5.5	
Step 3: center @ G2	5.5-17	
Step 4: Retro G2	5.5-17	-33.3
Step 5: Zero G1 & G2	5.5	-33.3+34=0.7
Step 6: 1 st order	5.5-56.1=-50.6	0.7-56.1=-55.4



clockwise (+); counterclockwise (-)



Related articles

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