



RSXS Center of Rotation Alignment

1. Insert alignment pin.
2. Setup the telescope at 90° viewport. Level the telescope.
3. Move the Theta (th) motor to 0°. Align the crosshair of the telescope with the pin tip.
4. Move the Theta motor to 180°. If the tip of the pin is away from the crosshair, adjust y motor so that the pin is half way between the crosshair and the original pin position. Align the crosshair to the new pin position.
5. Move the Theta motor to 0°. If the tip of the pin is away from the crosshair, adjust y motor so that the pin is half way between the crosshair and the original pin position. Align the crosshair to the new pin position again.
6. Repeat step 4 and 5 until the pin is aligned with crosshair at both Theta angles.
7. Do not touch the telescope. Move the Theta motor to 90°. Move the x motor until the pin is aligned with the crosshair. Now the pin tip is at the center of rotation.
8. Move the DetectorZ (detz) motor to 0 mm. Move the TwoTheta (tth) motor to 0°.
9. **IMPORTANT:** Before opening the shutter, verify the MCP and the Channeltron is not in the direct beam. Direct beam will permanently damage the MCP and the Channeltron detector. Replacing either of them is very expensive.
10. Open the endstation to the beam. The direct beam shall be visible on the YAG crystal on the slit wheel.
11. Adjust z motor or the translation of the diffractometer so that the shadow of the pin tip is in the beam spot. Now the center of rotation is aligned with the beam.

