



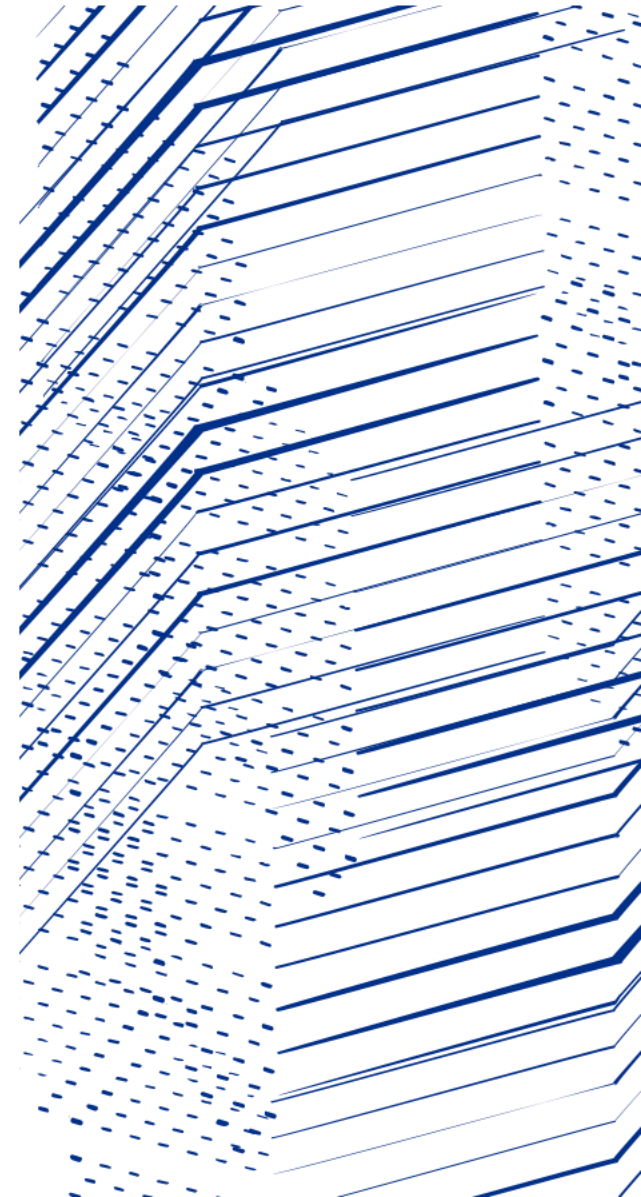
Science and
Technology
Facilities Council

ITRF Project

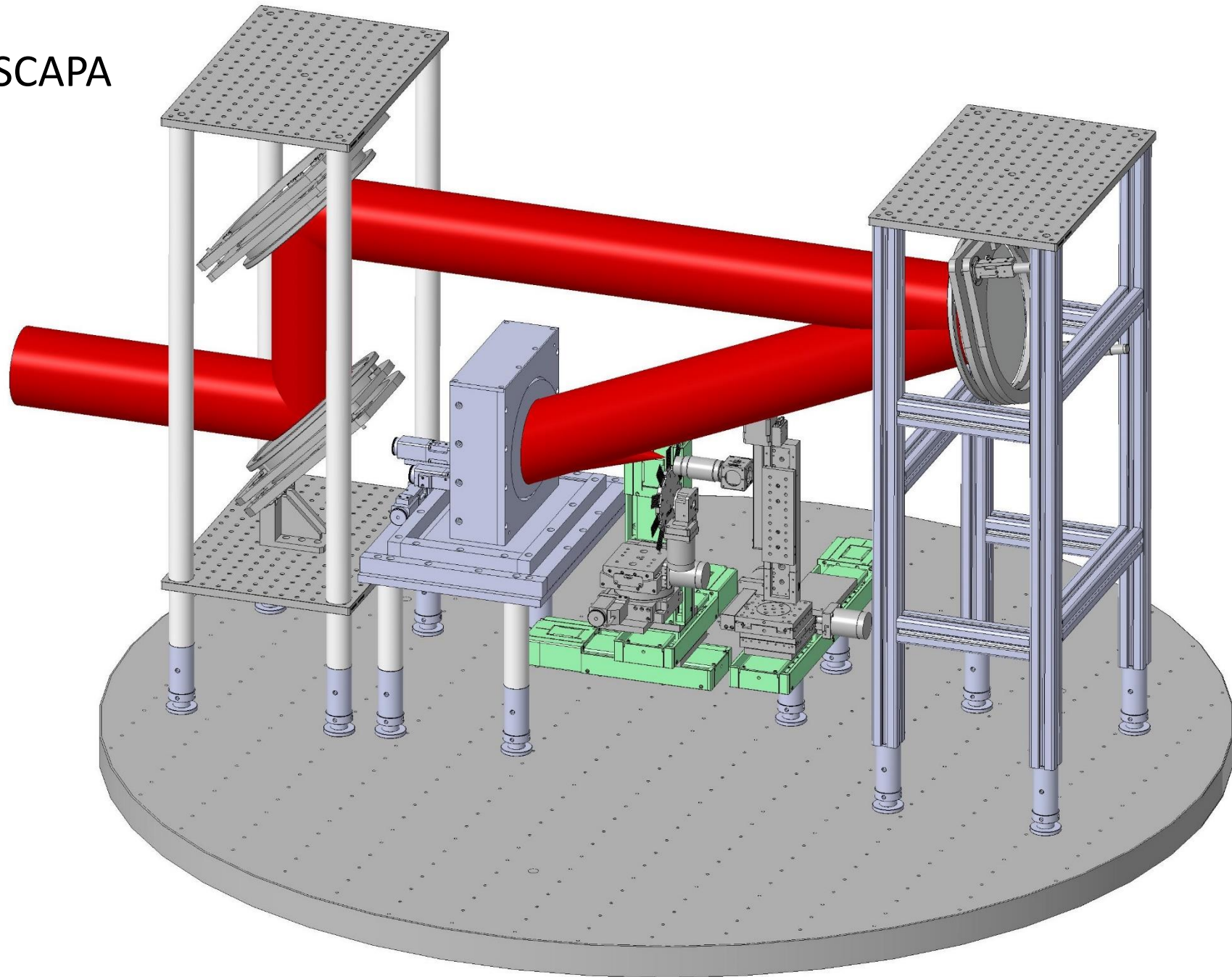
Mechanical Engineering Design

ITRF Target Chamber Discussion

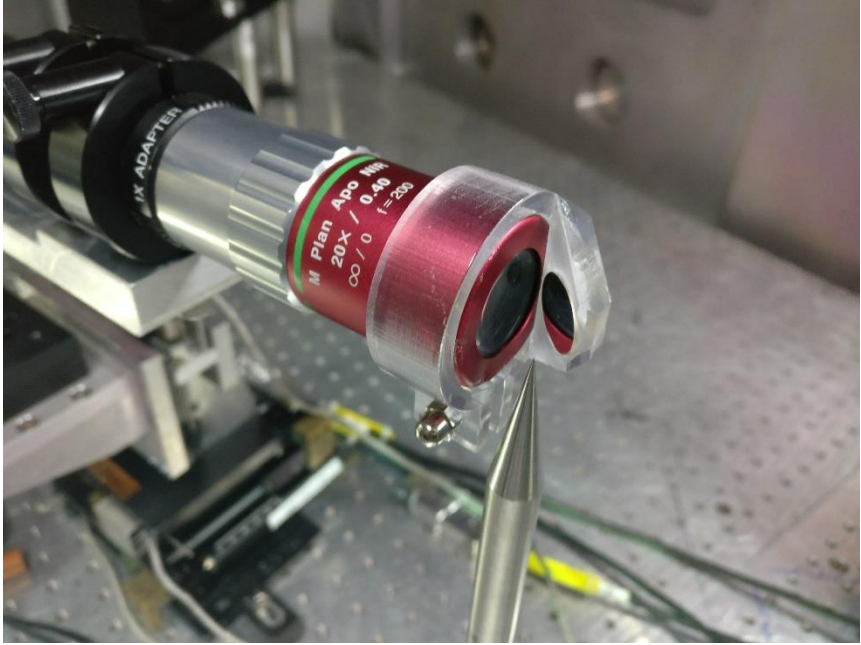
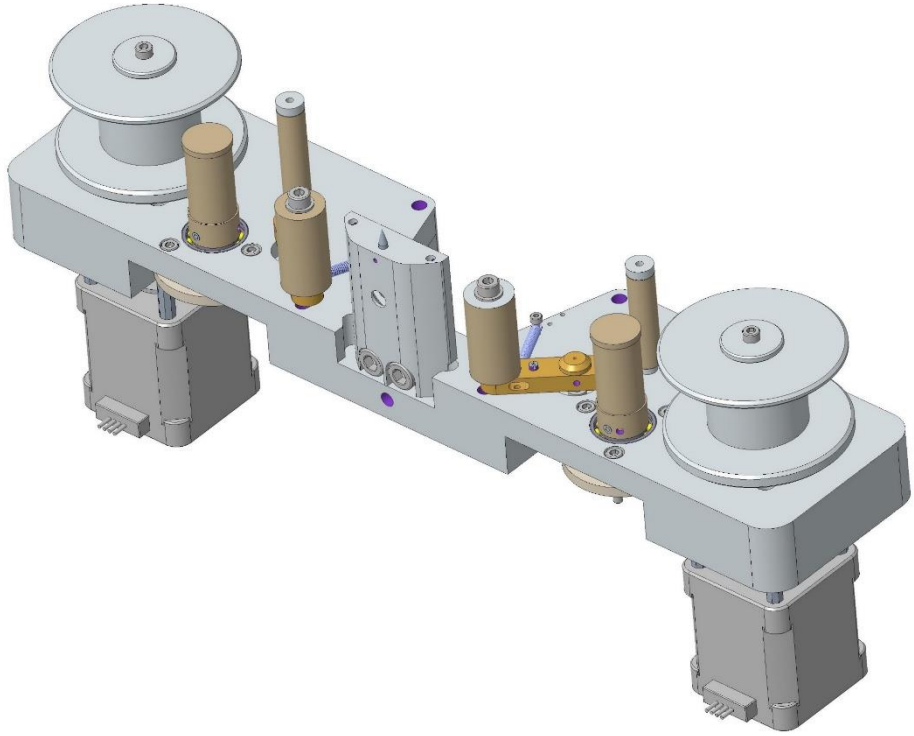
Clive Hill
23/05/23



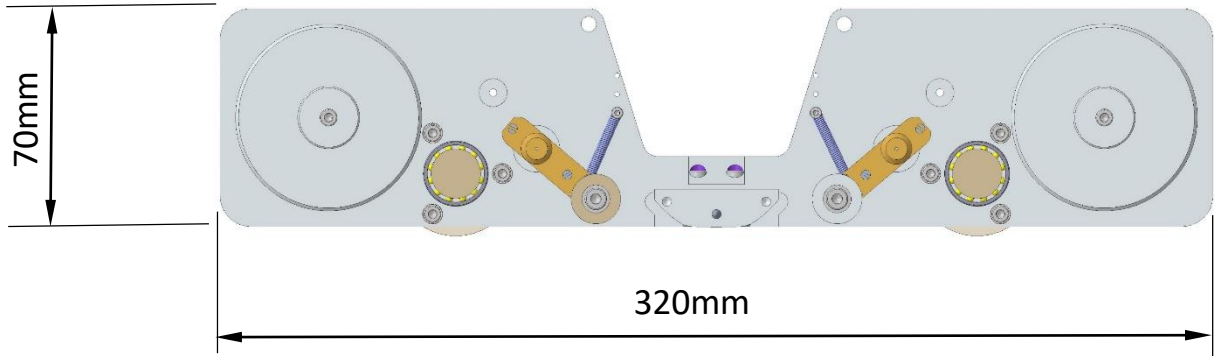
For Reference
Target Set Up SCAPA



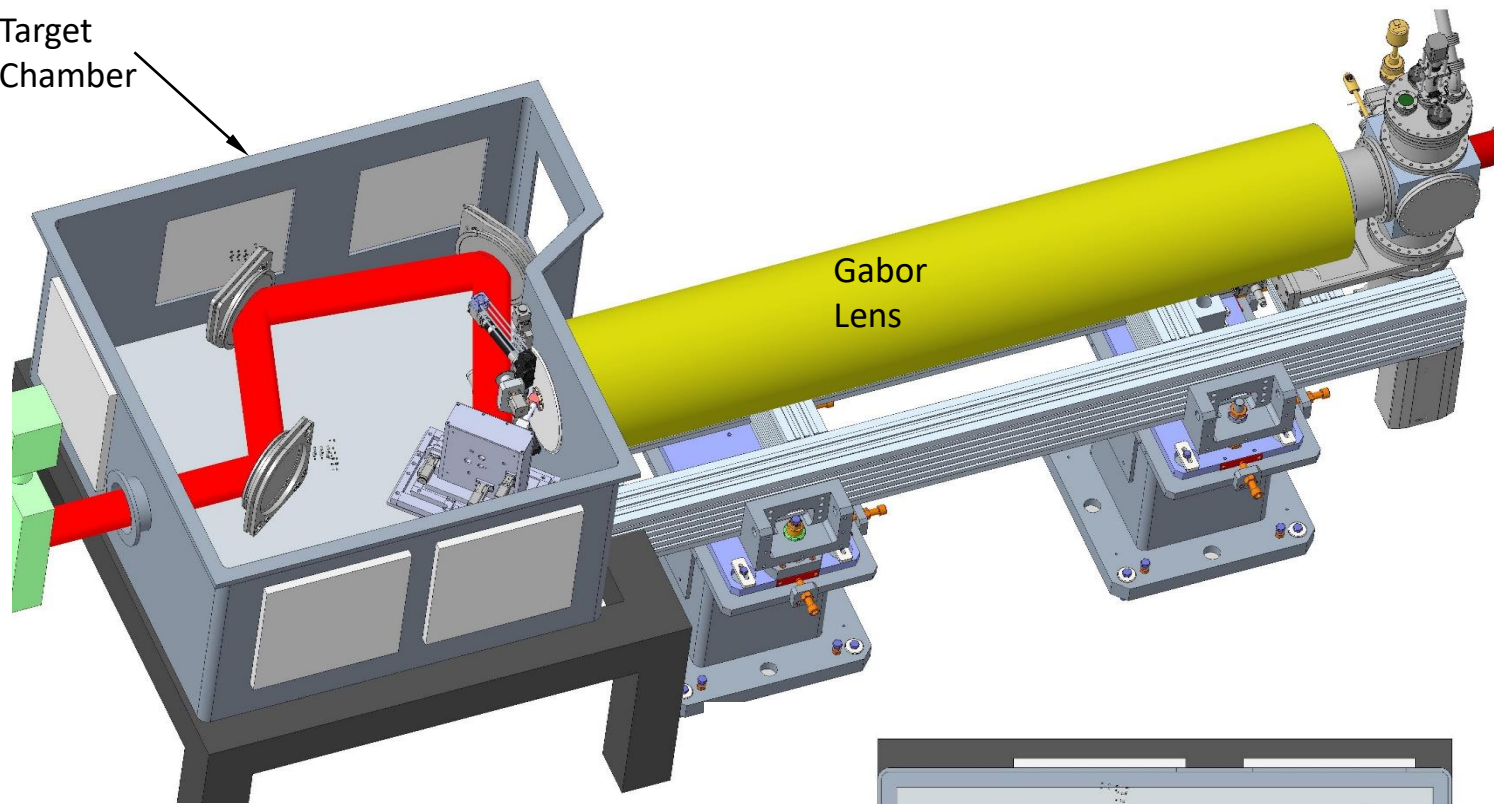
Tape Drive



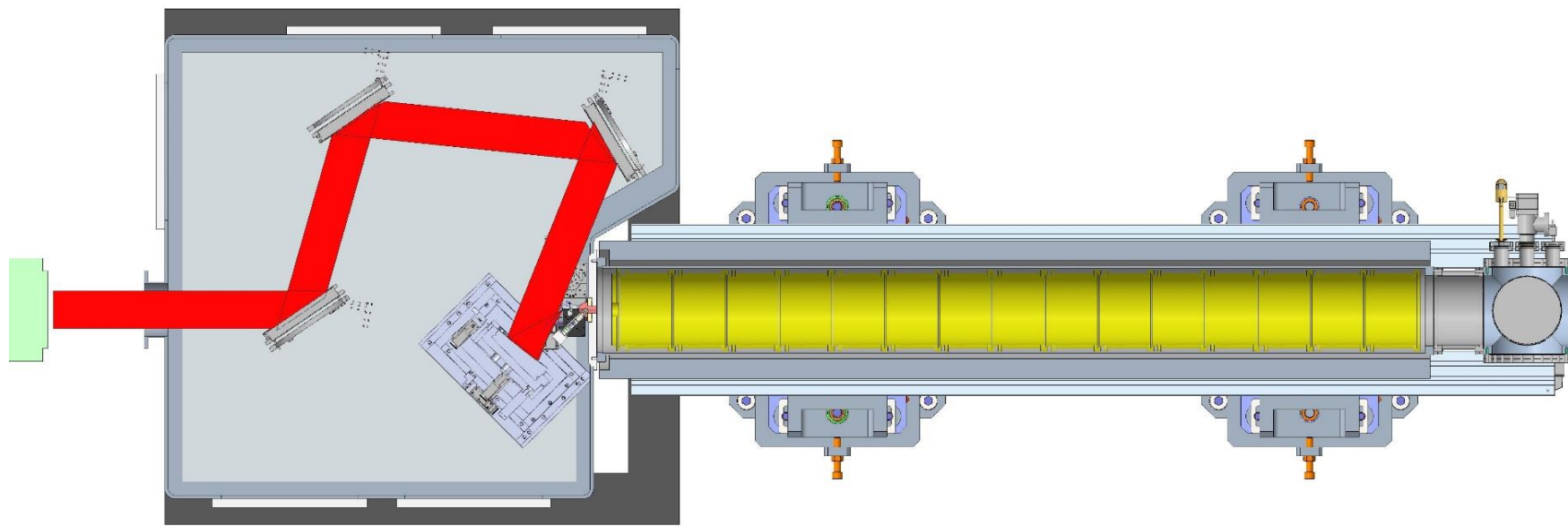
Camera and mirror



Target Chamber



LhARA Target Chamber and Gabor Lens

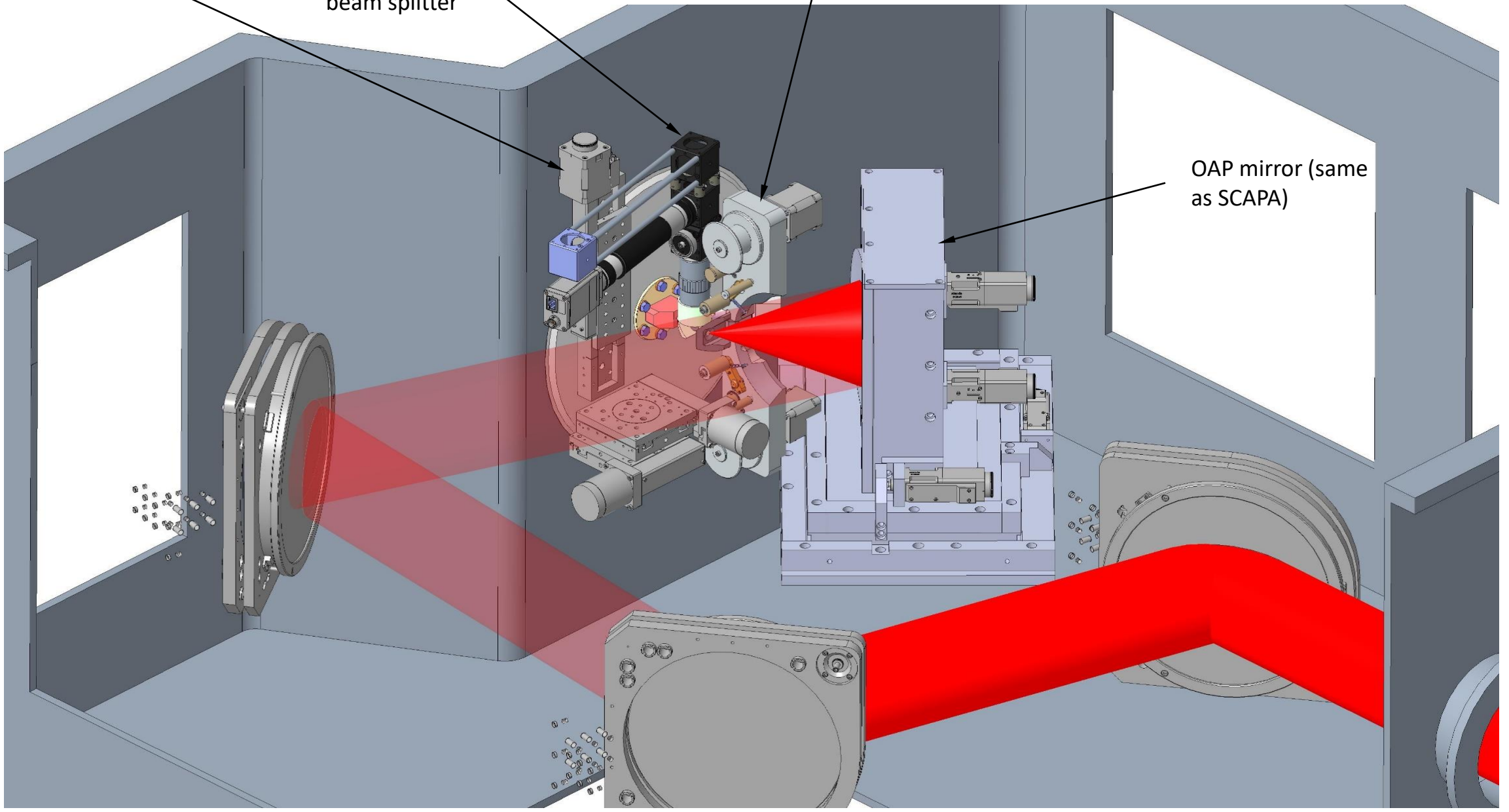


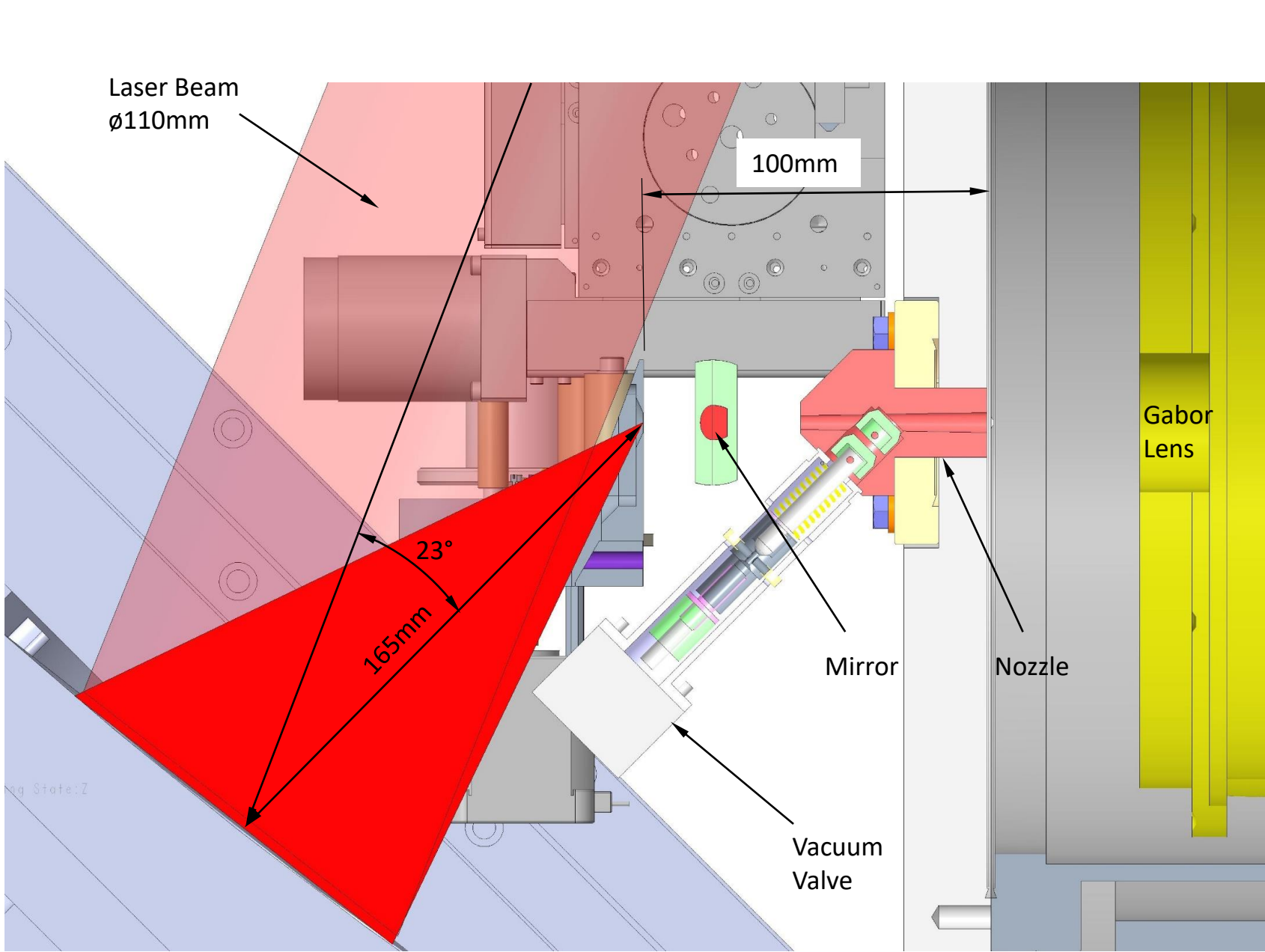
Translation stages

Mirror, camera and
beam splitter

Tape
Drive

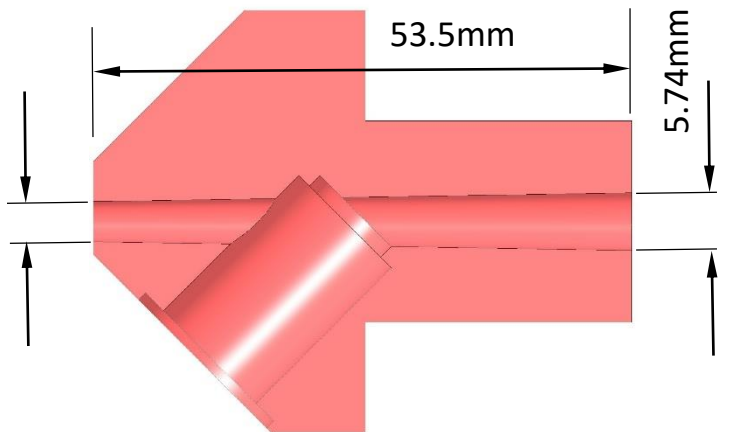
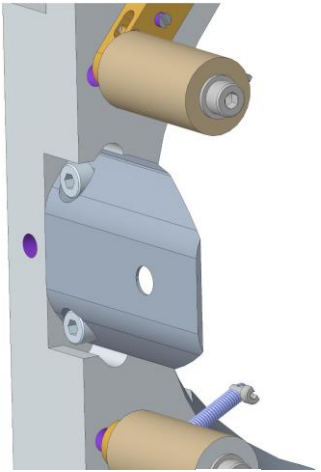
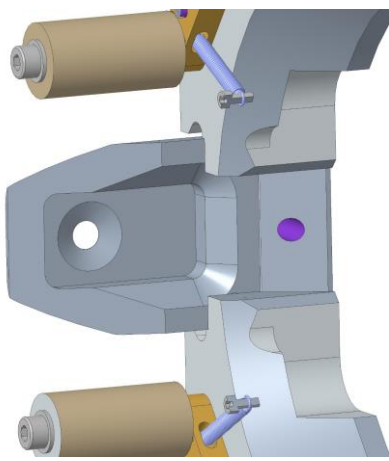
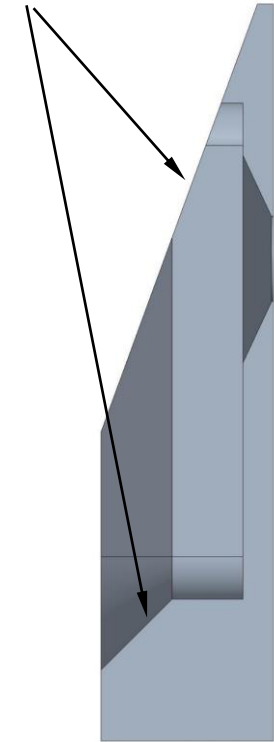
OAP mirror (same
as SCAPA)

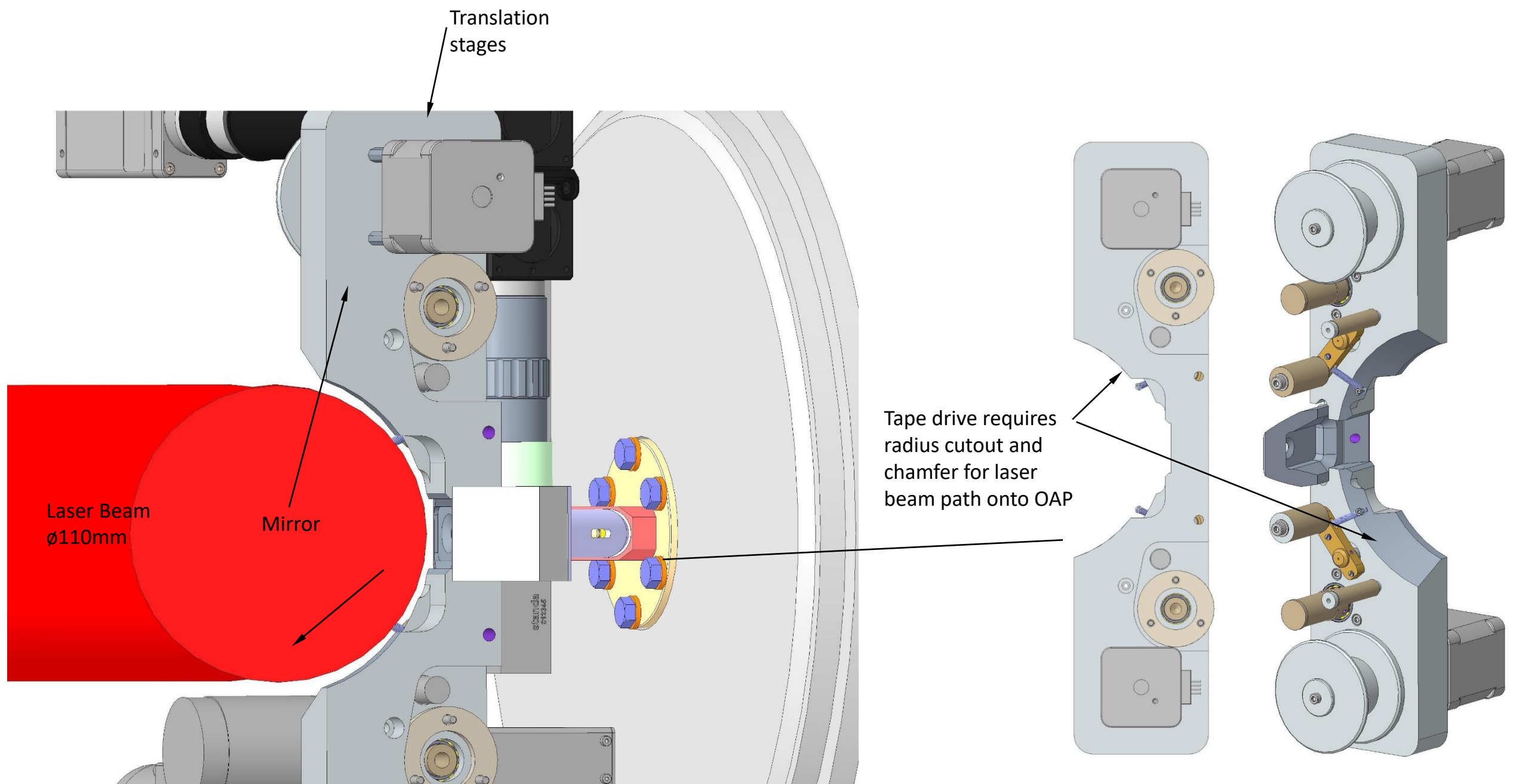


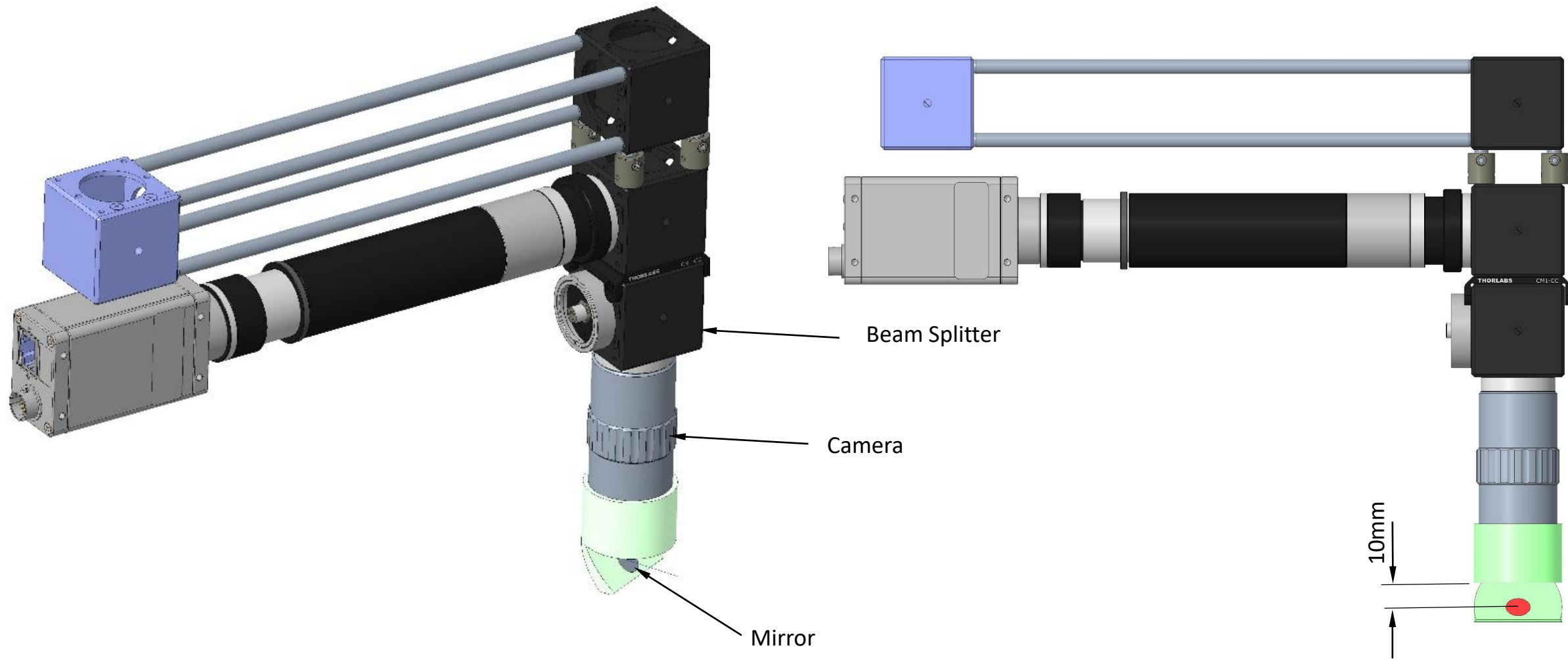


Section View at Beam Height

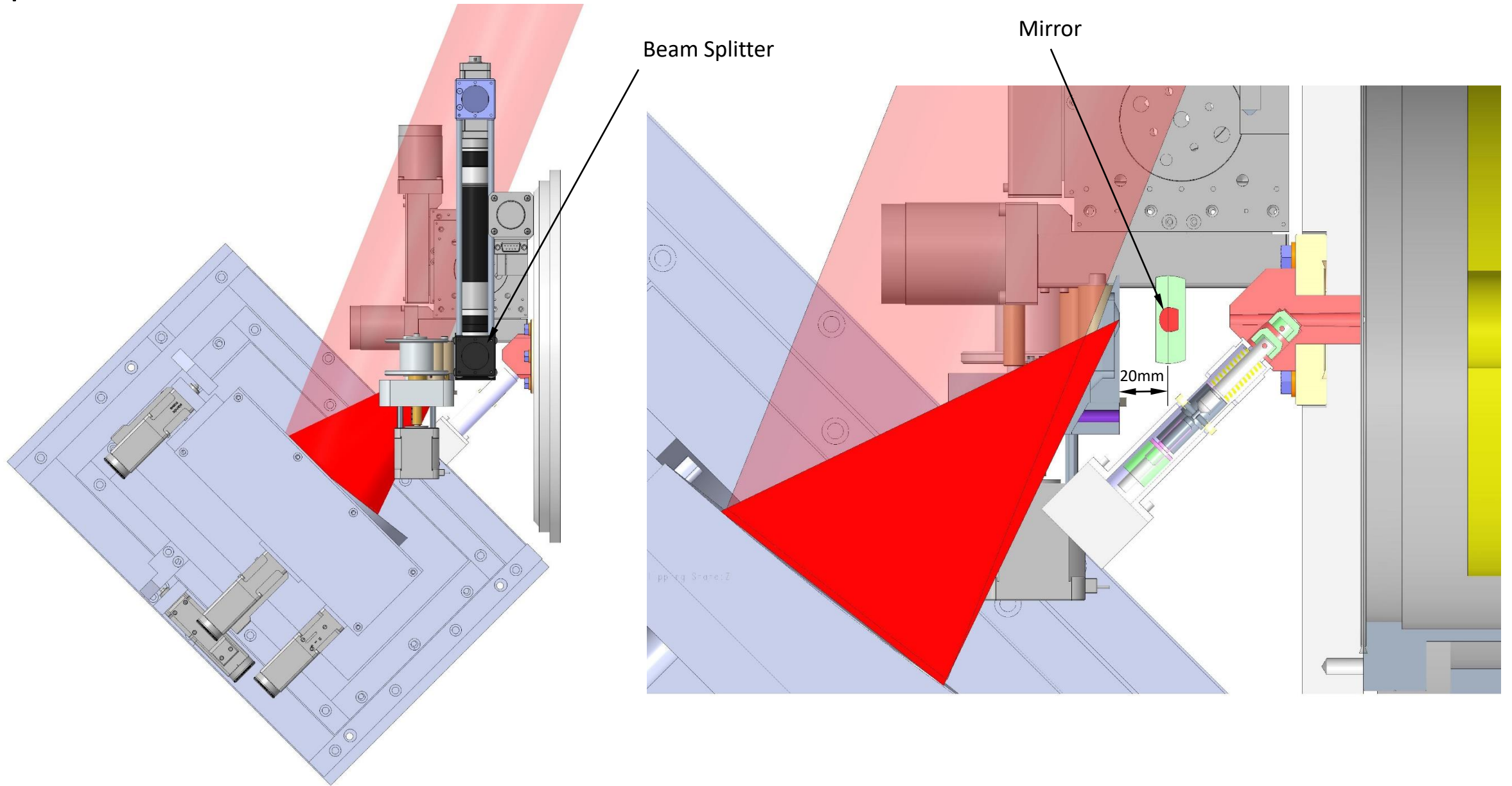
Component with chamfer features required for laser beam clearance



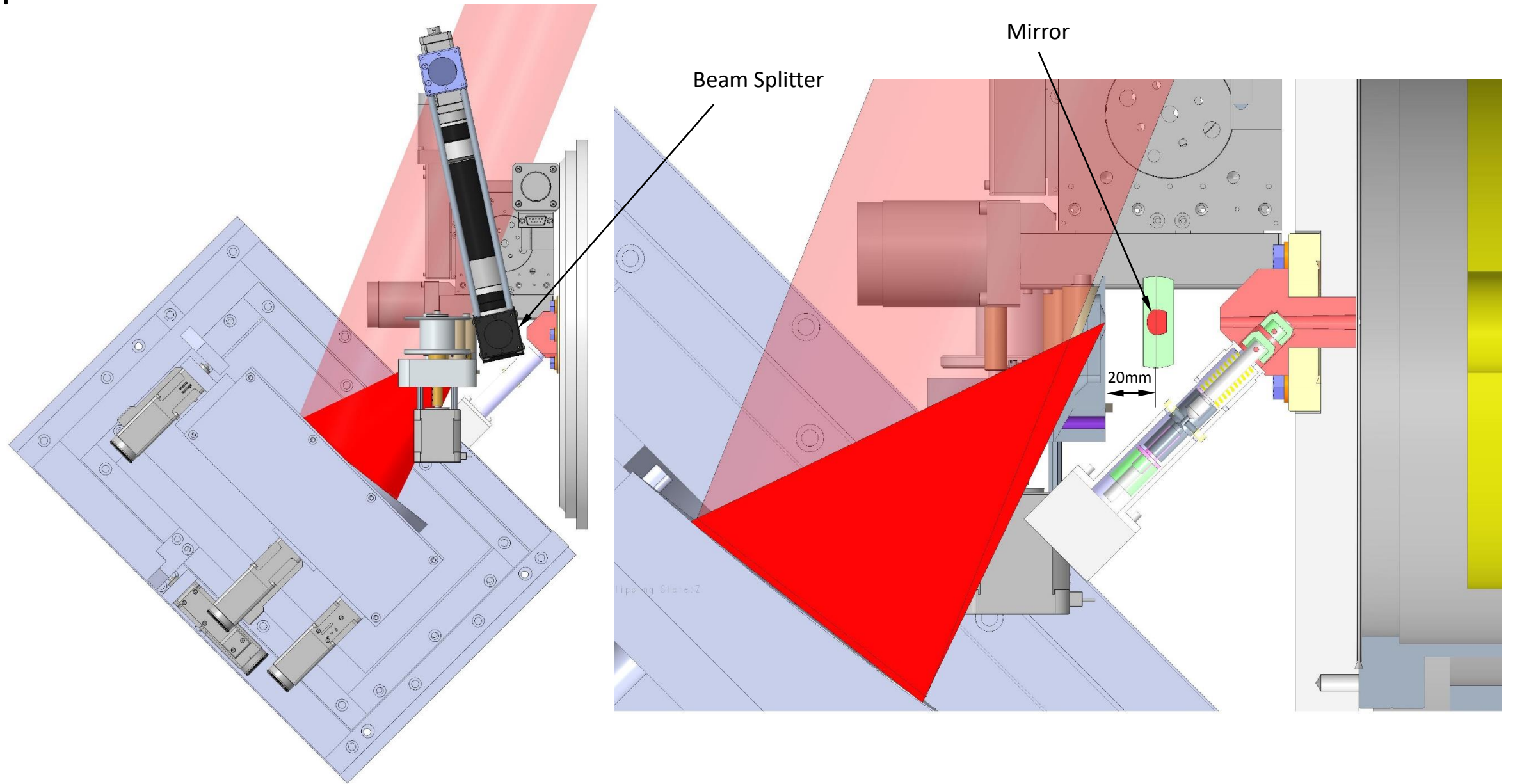




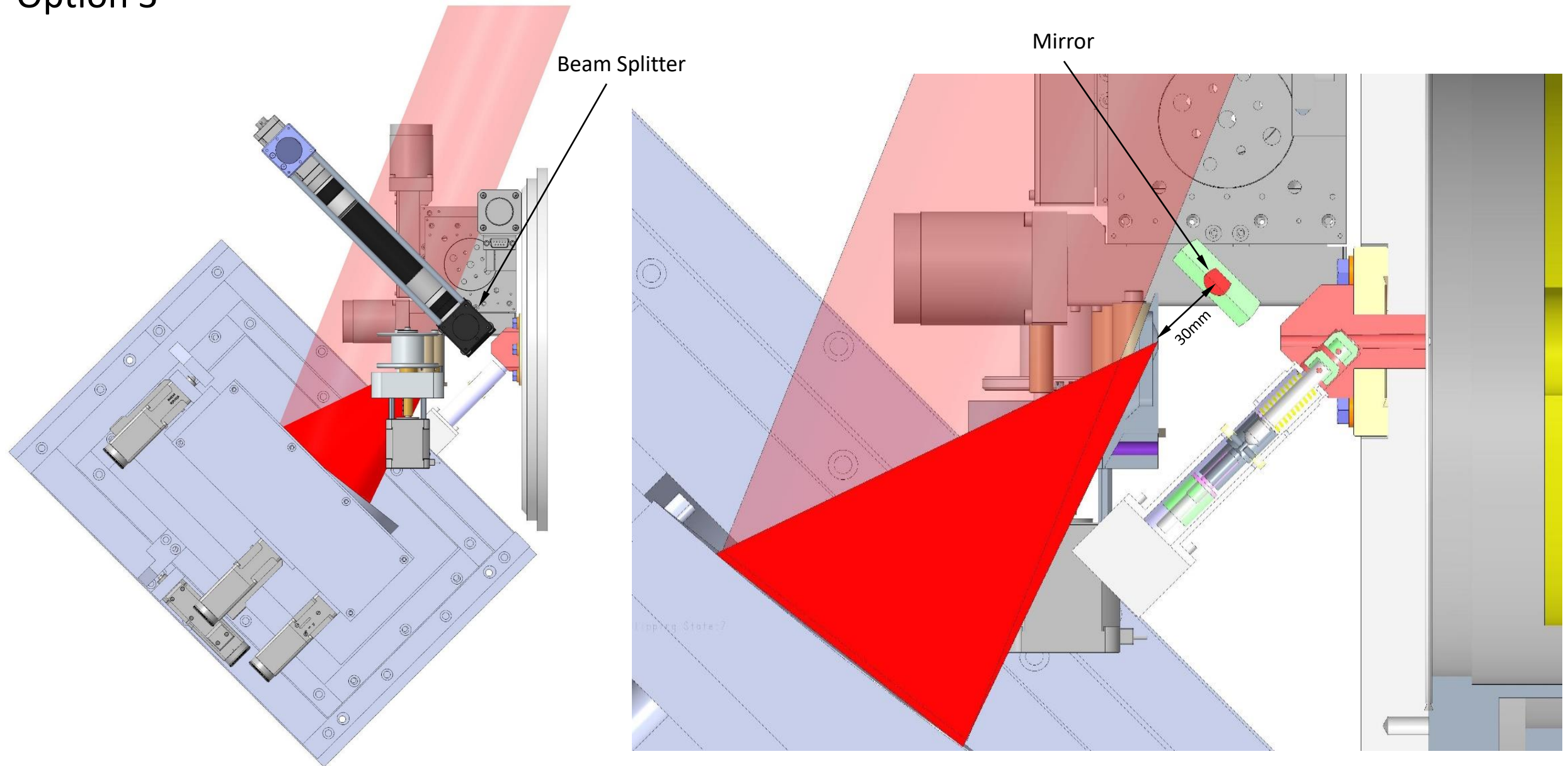
Option 1



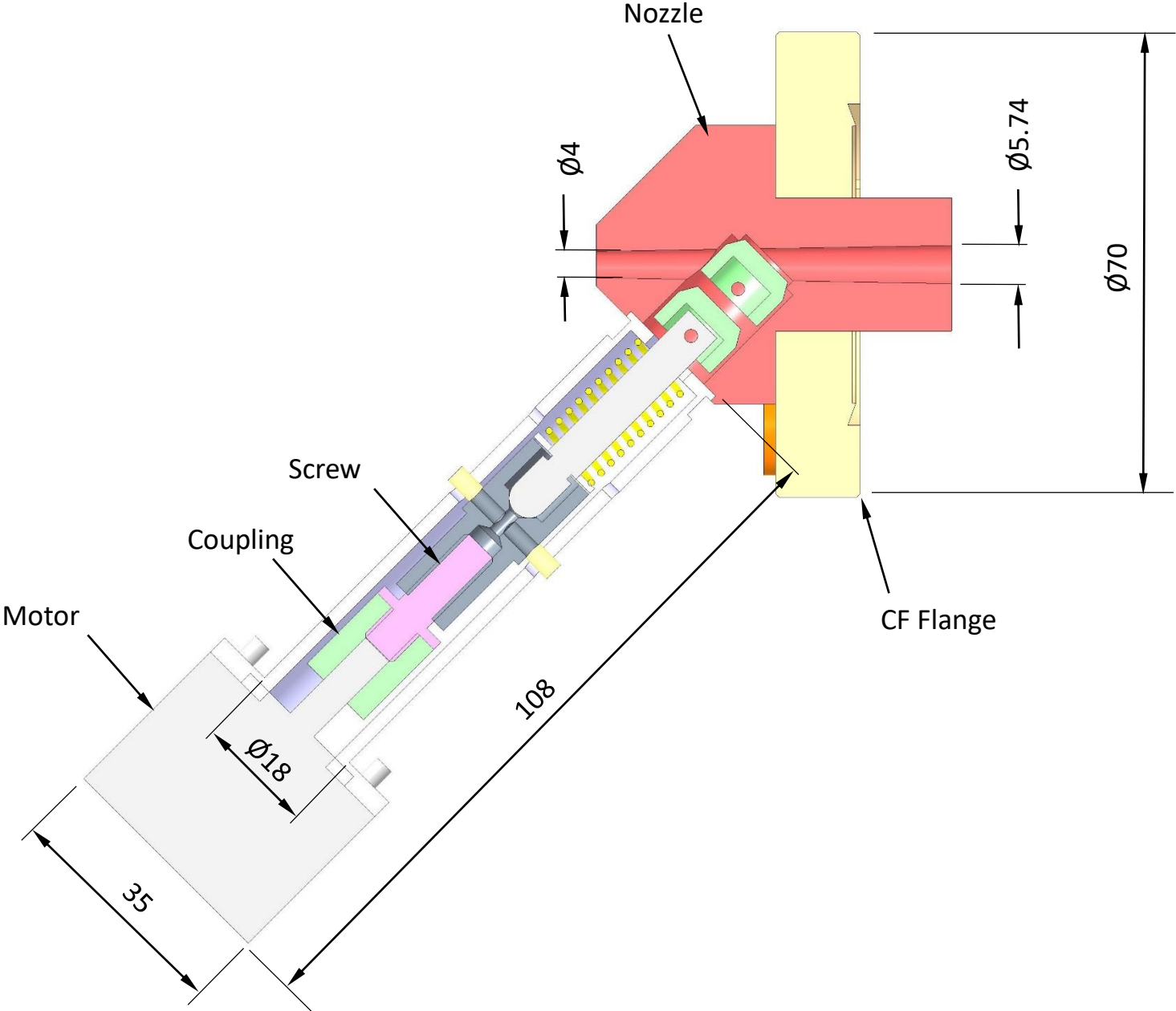
Option 2



Option 3



Vacuum Valve and Nozzle



Questions

1. Acceptable minimum clearance between laser beam and components
2. Mirror and beam splitter, preferred position and orientation
3. Range and accuracy of required translation stages
4. Alignment pin on tape drive – alternative design for setting up