



Olympus Vacuum System and Target Update

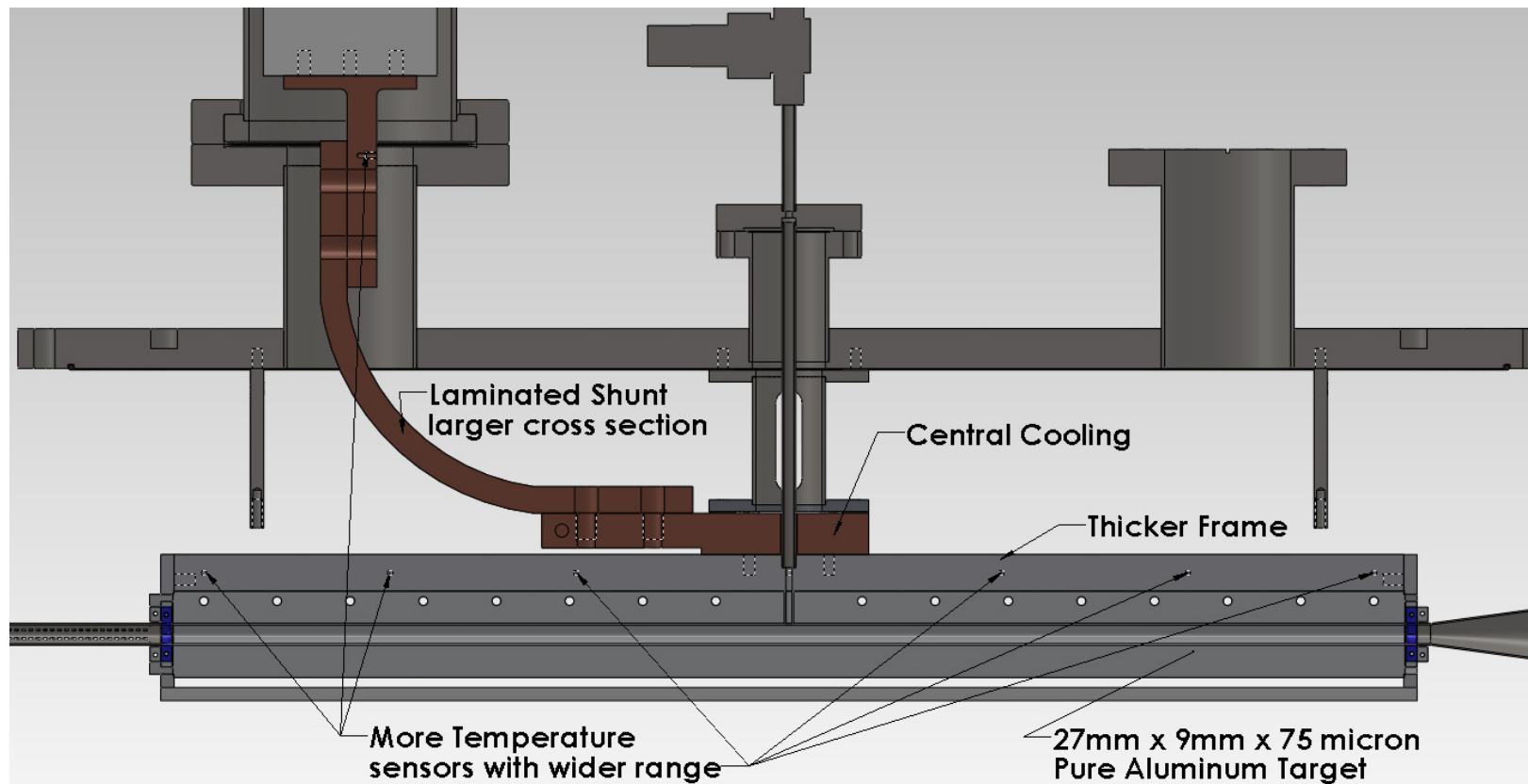
Jim Kelsey



Target and Vacuum System

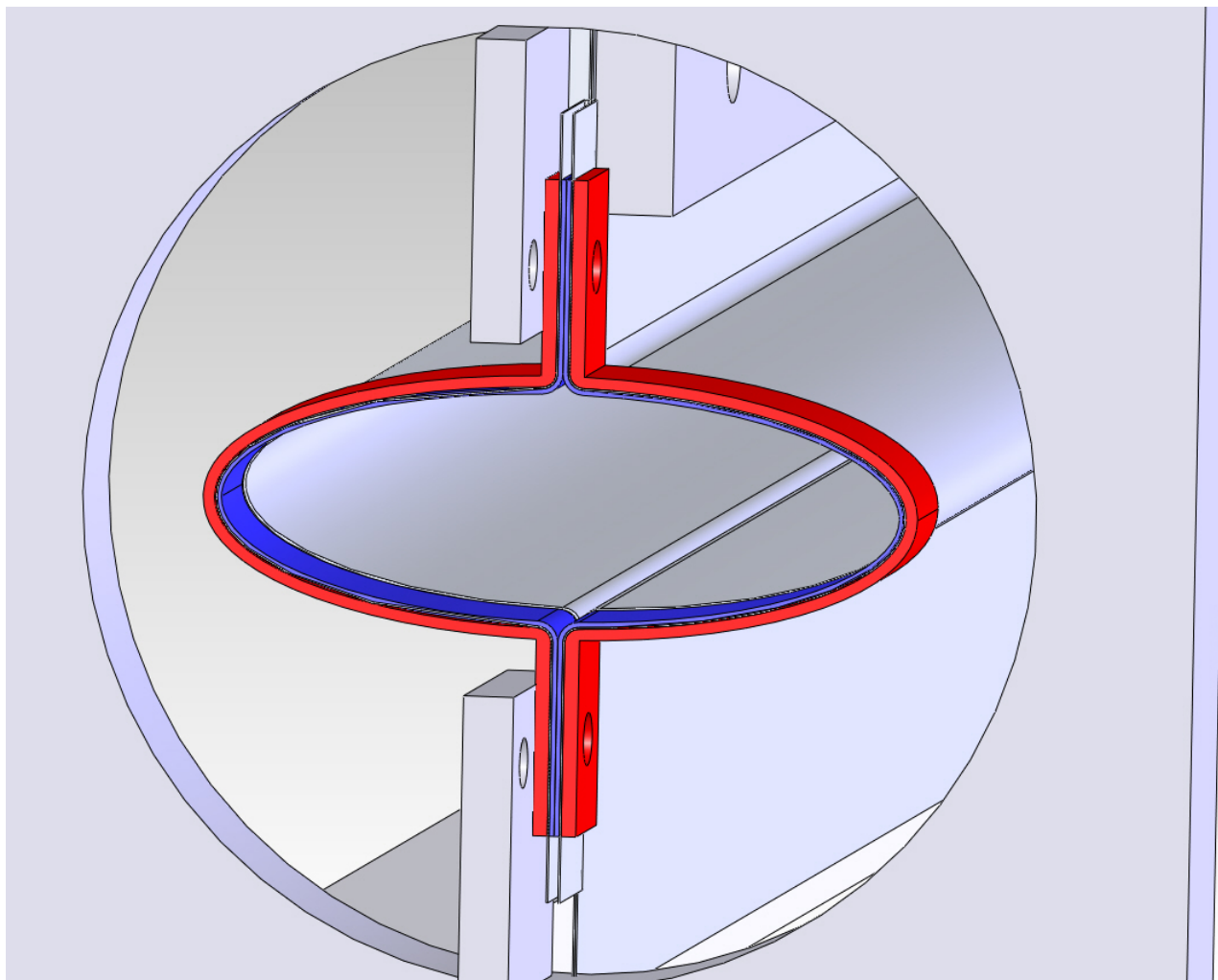
- Spare roughing pump sent to DESY.
- In the process of obtaining cost and delivery for new wakefield suppressors.
- Investigating new thermal sensors that have wider range. Will install more sensors in more places.
- Replace copper braid with copper laminated shunt. Shunt has been delivered to MIT.
- Attach cooling to center of target.
- Increase thickness of target frame and replace bottom target frame with thin support rails.
- Modify target support frame ends to allow attachment of wakefield suppressors.
- Silver coat all of the wakefield suppressors to provide better electrical characteristics.

Target improvements.



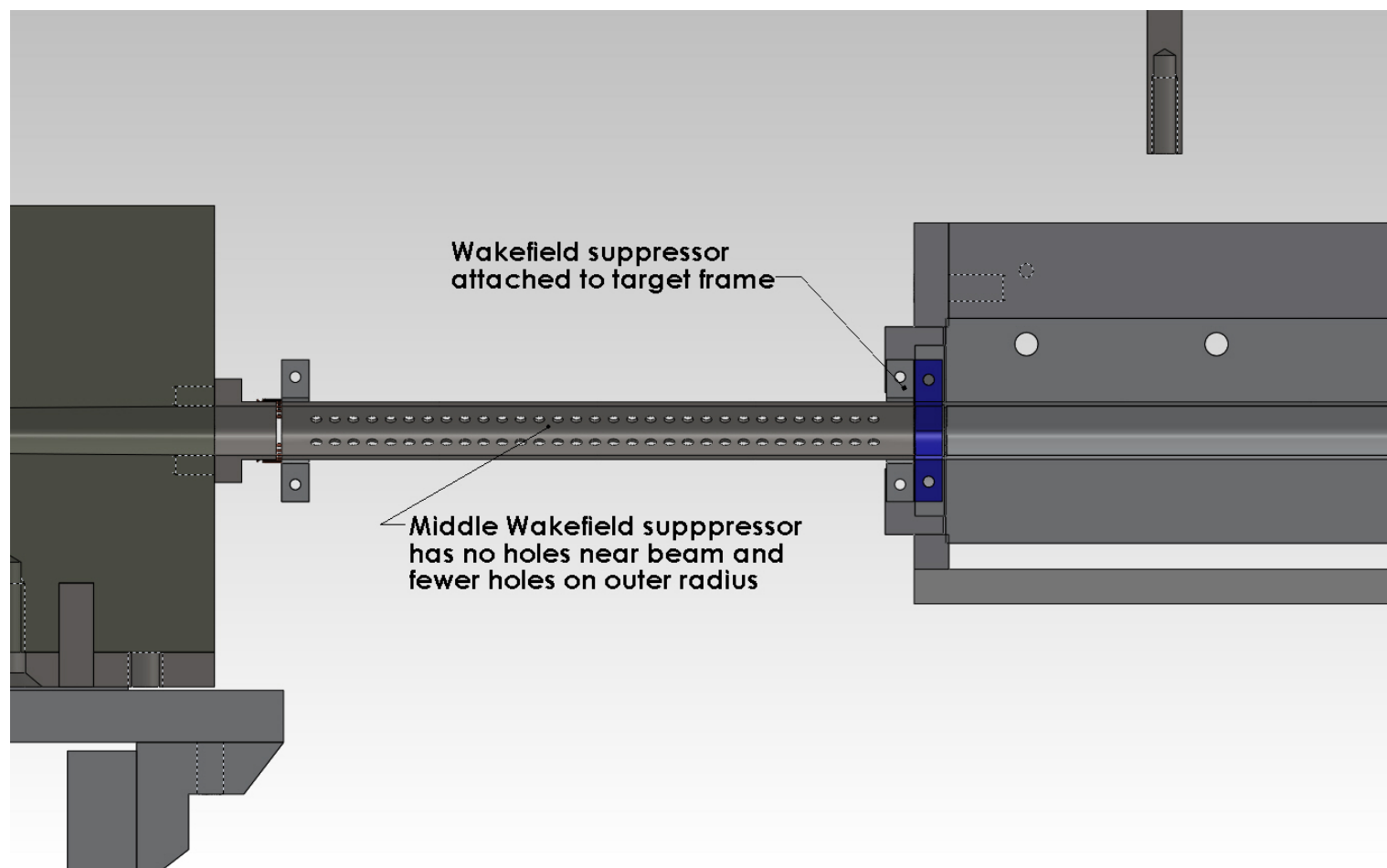


Modify shapes at ends of target to get better contact.



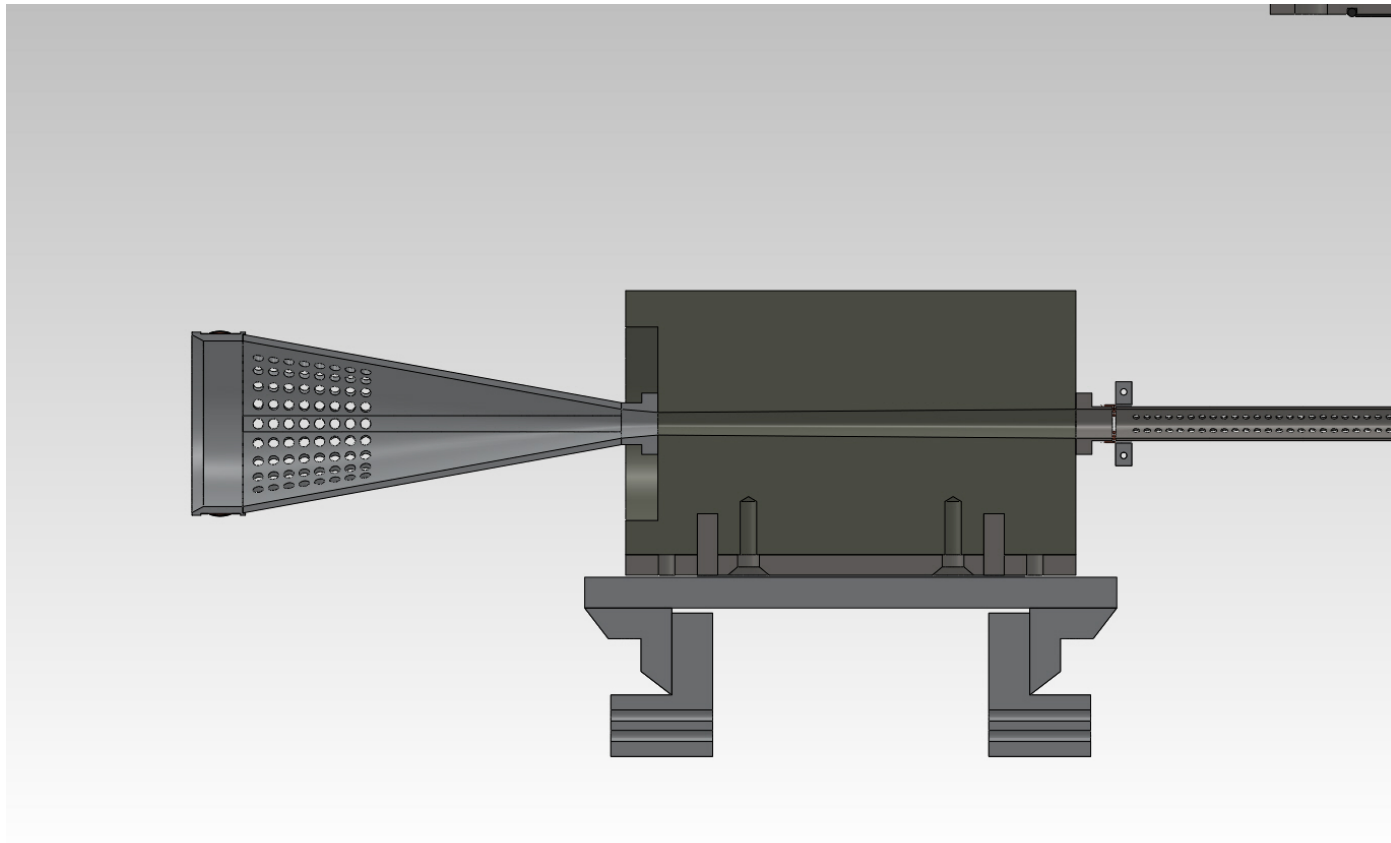


For Mid wakefield suppressor attach directly to target frame and reduce placement and number of holes.



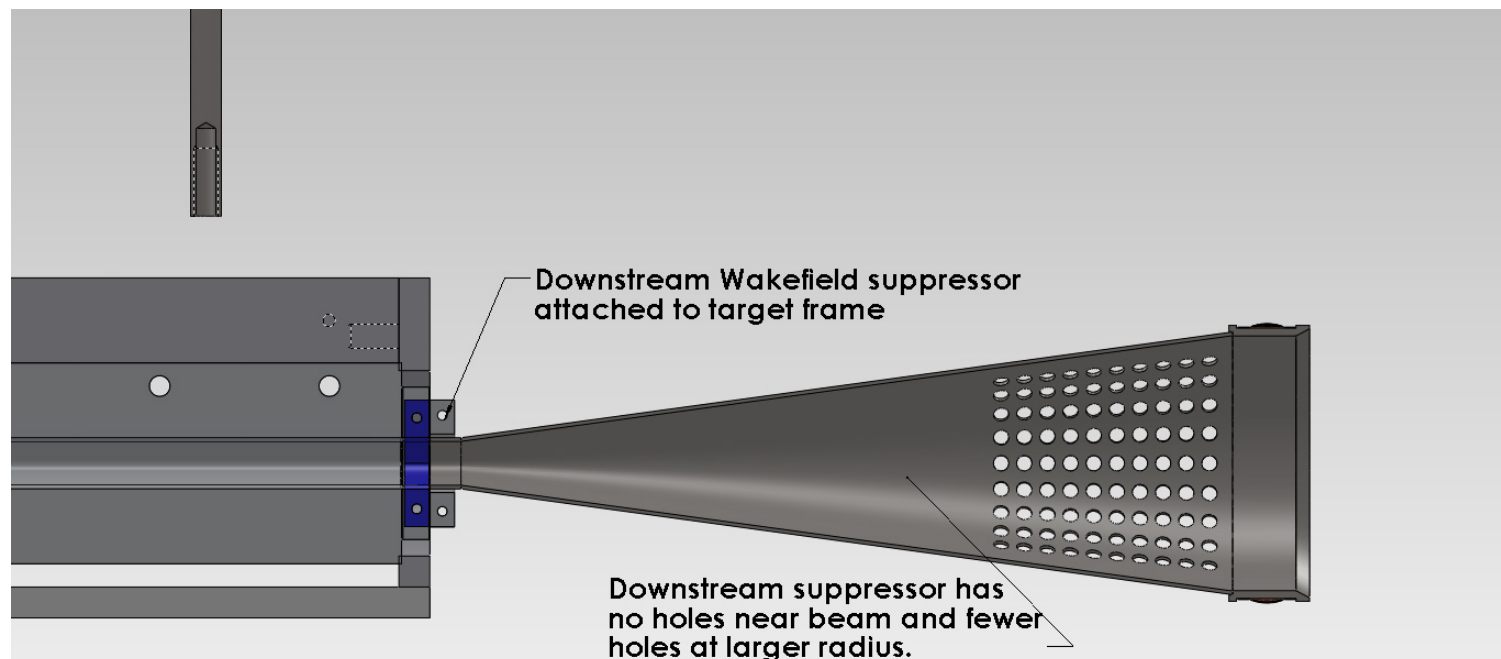


For Upstream wakefield suppressor increased thickness for better thermal conductivity. Attach directly to collimator. Decrease placement and number of holes.



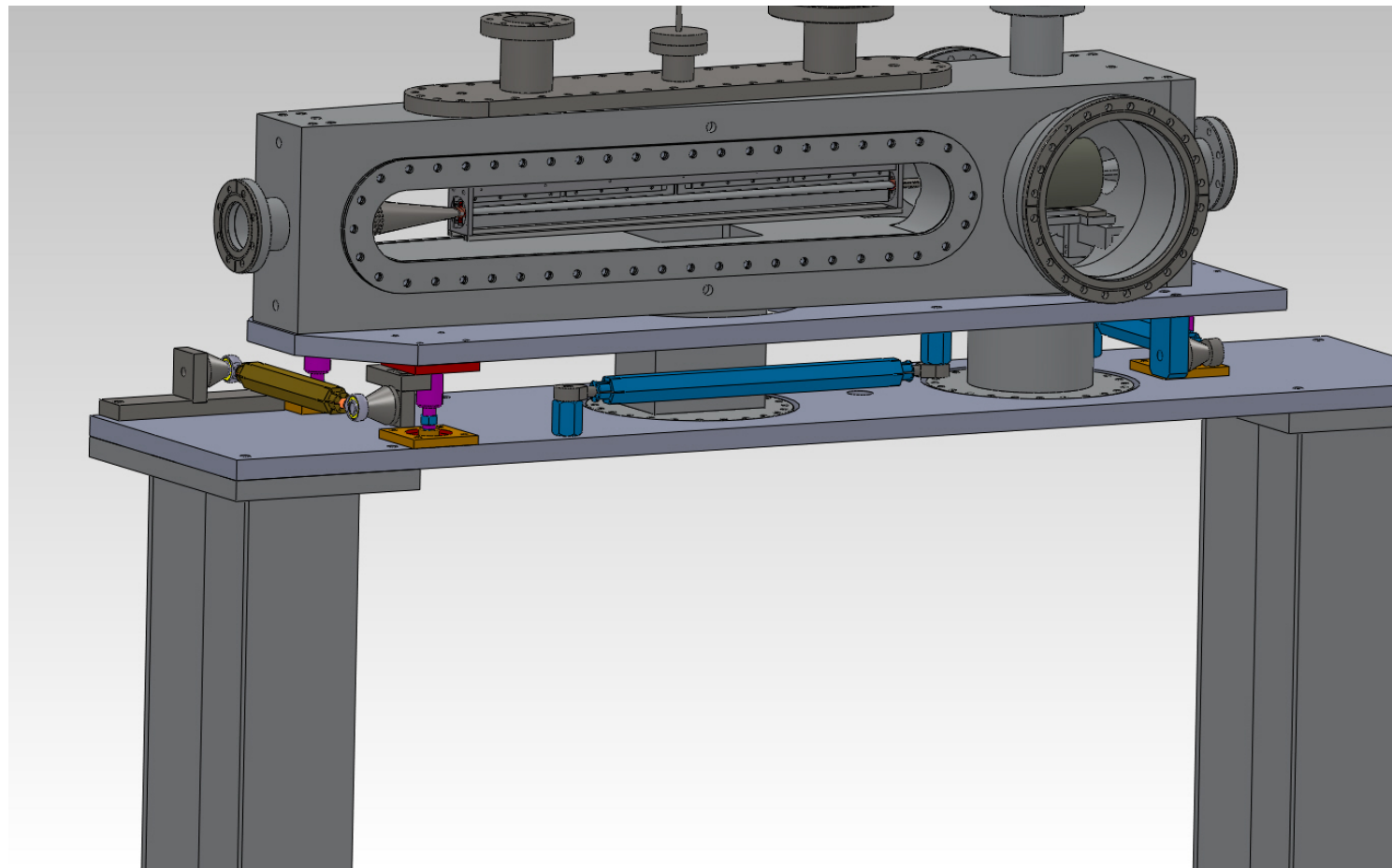


For Downstream wakefield suppressor
attach directly to target frame. Decrease
placement and number of holes.





Replace 2nd Z support with a 2nd X support
as requested by DESY alignment staff.





In Conclusion

We are trying to address the heating issues encountered in the test run.

To the best of our knowledge the heating is coming from wakefield heating resulting from gaps between the wakefield suppressors and target and due to the pumping holes being close to the beam.

We are also trying to improve the conductivity of the cold head to the target.

With our re-design we are attempting to provide better contact of the wakefield suppressors to the target and collimator. We have also reduced or eliminated holes in the wakefield suppressors close to the beam.

We are also providing better temperature monitoring in order to troubleshoot any more issues.

The new design for the target support shapes should also ensure better contact of the target to the frame and wakefield suppressors.

We are pursuing an aggressive schedule in an attempt to be ready to install at the end of May.