

MERIT Experiment – Status

Build.180: Cryogenics assembly and surface tests

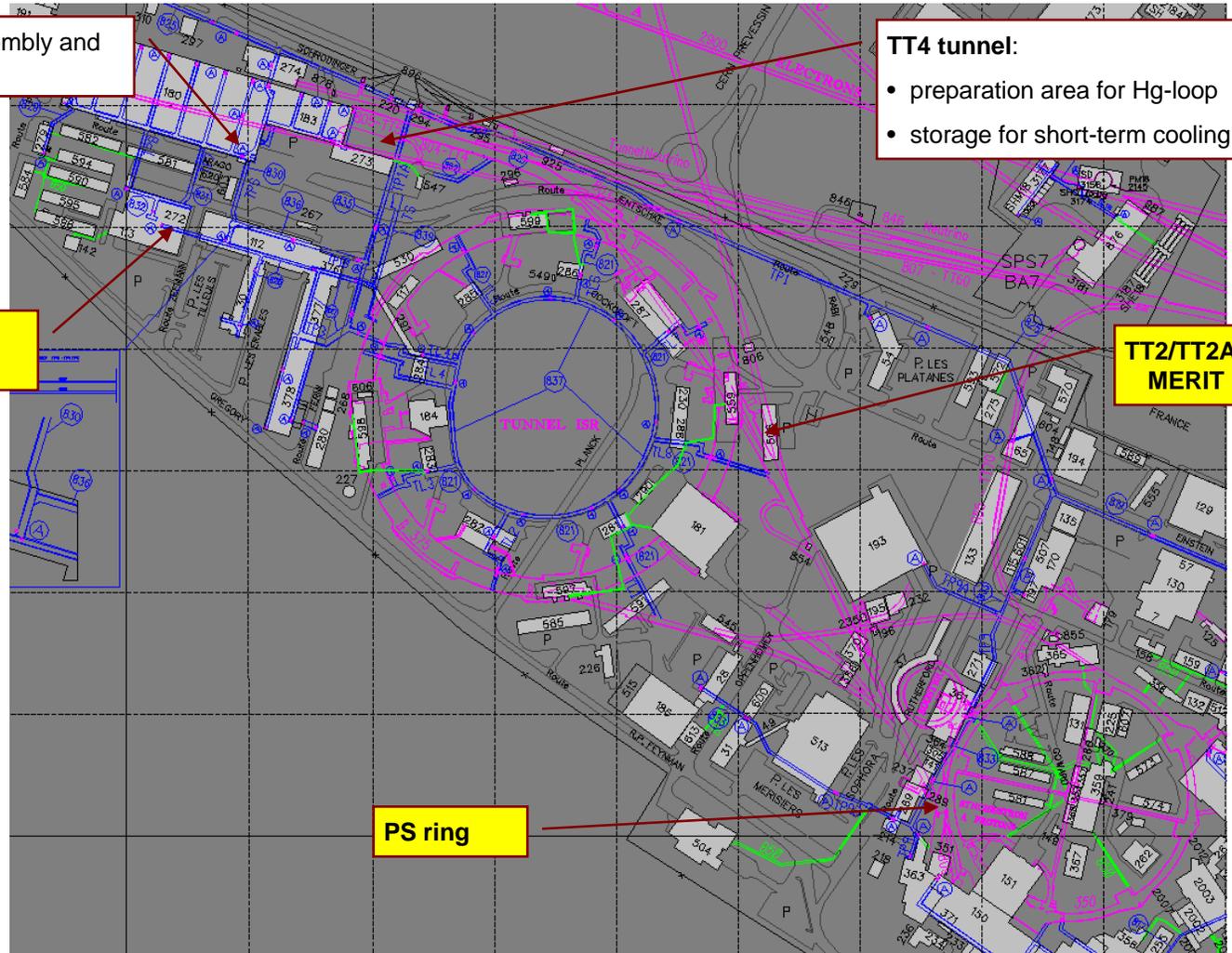
TT4 tunnel:

- preparation area for Hg-loop
- storage for short-term cooling

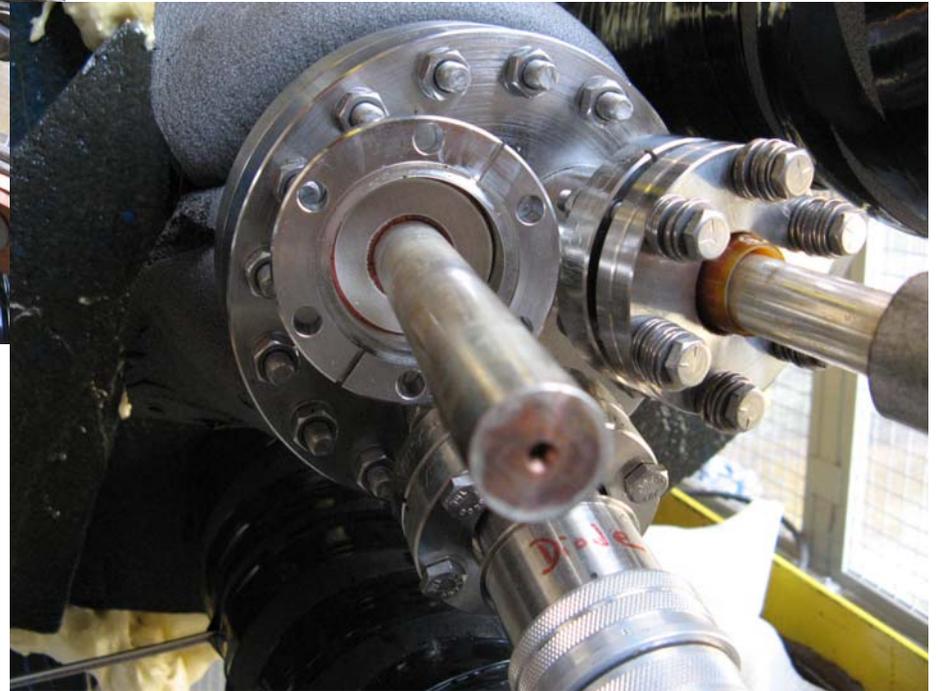
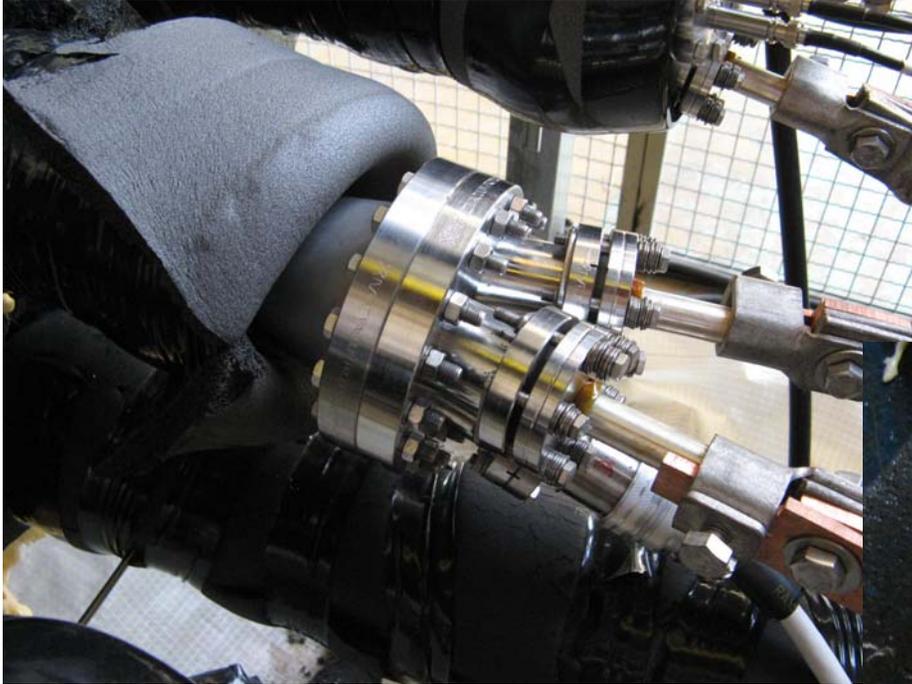
Build.272: Offices & Control Room

TT2/TT2A: MERIT

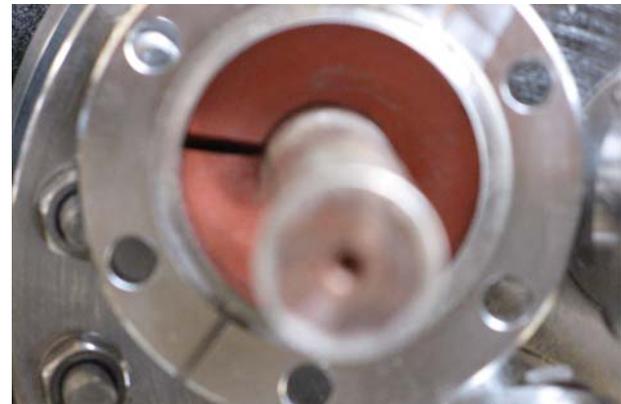
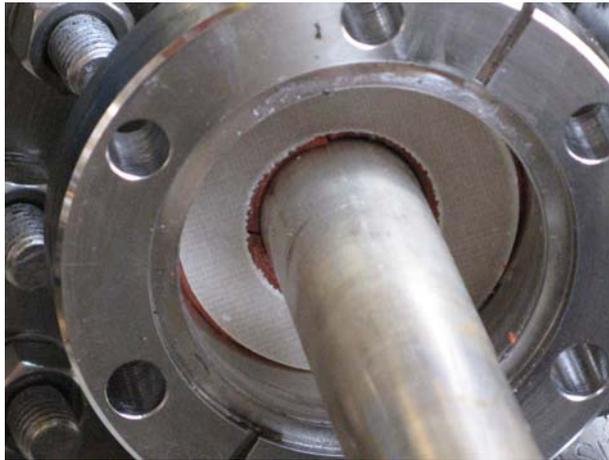
PS ring



Solenoid Electrical Feedthrough

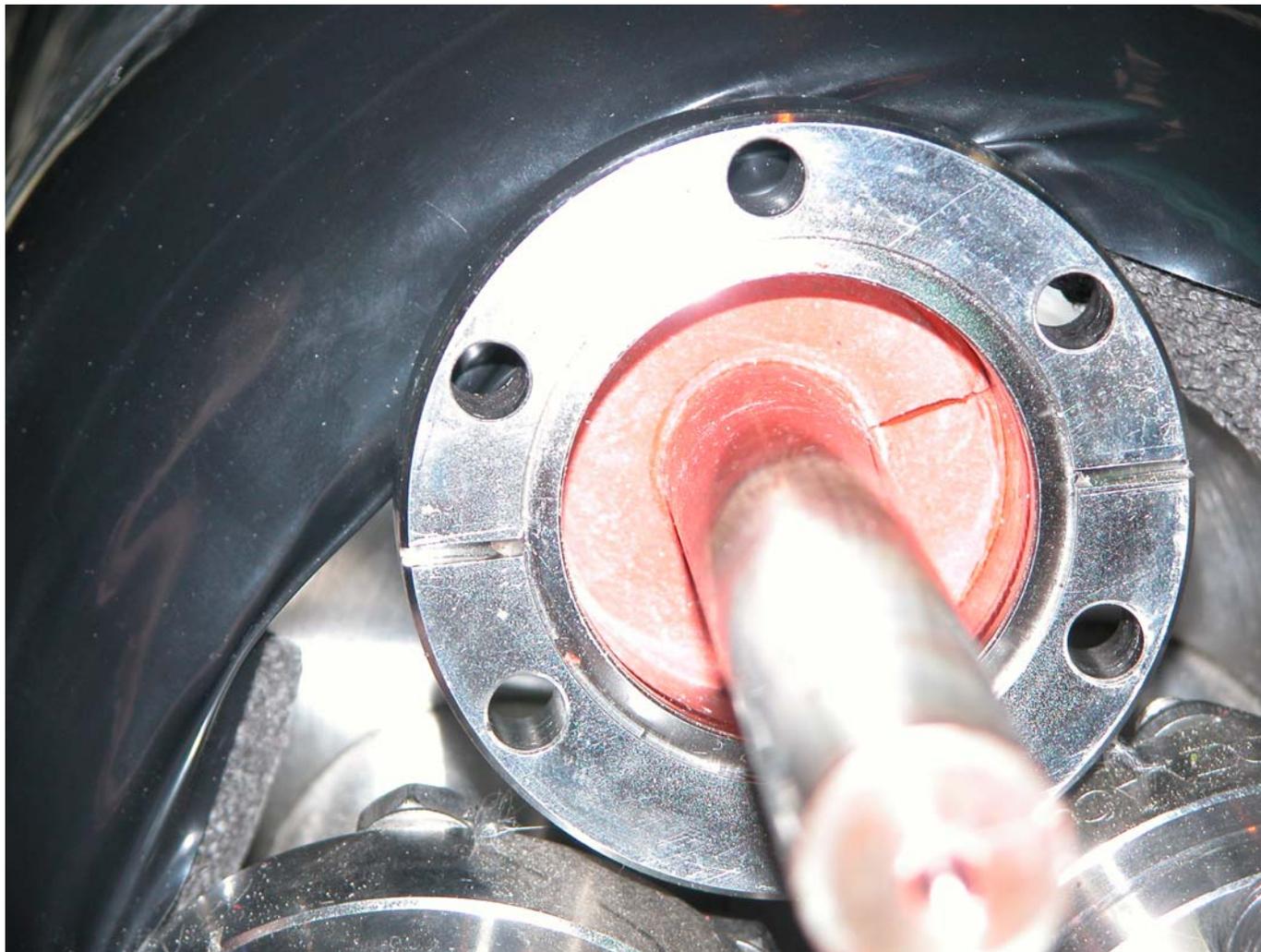


Middle Feedthrough Disassembly



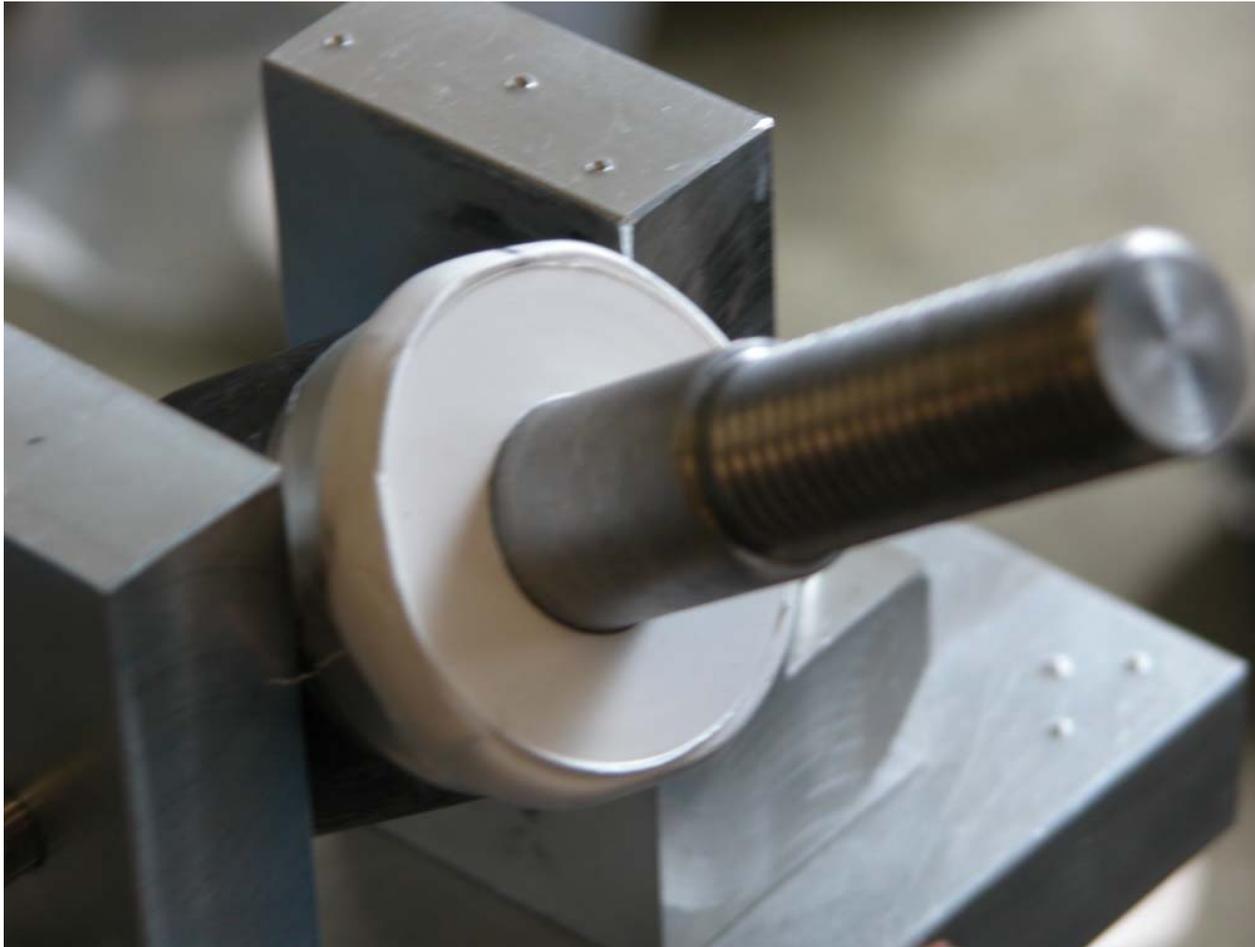
Taking out the G10 and looking at the first (left) and second (right) rubber ring

Left Electrical Lead



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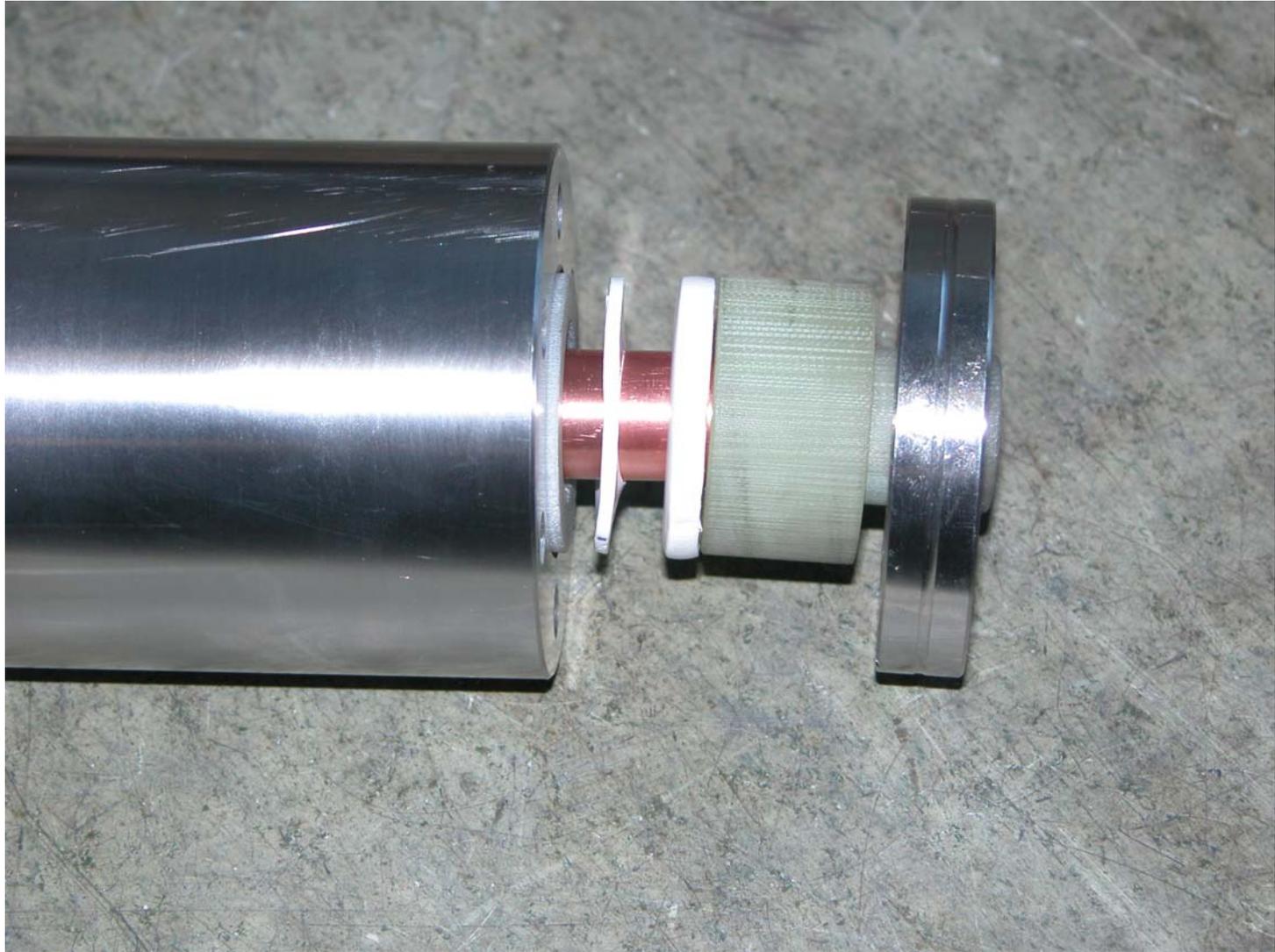
Gore-Tex Compression Test



The “rope” after compression

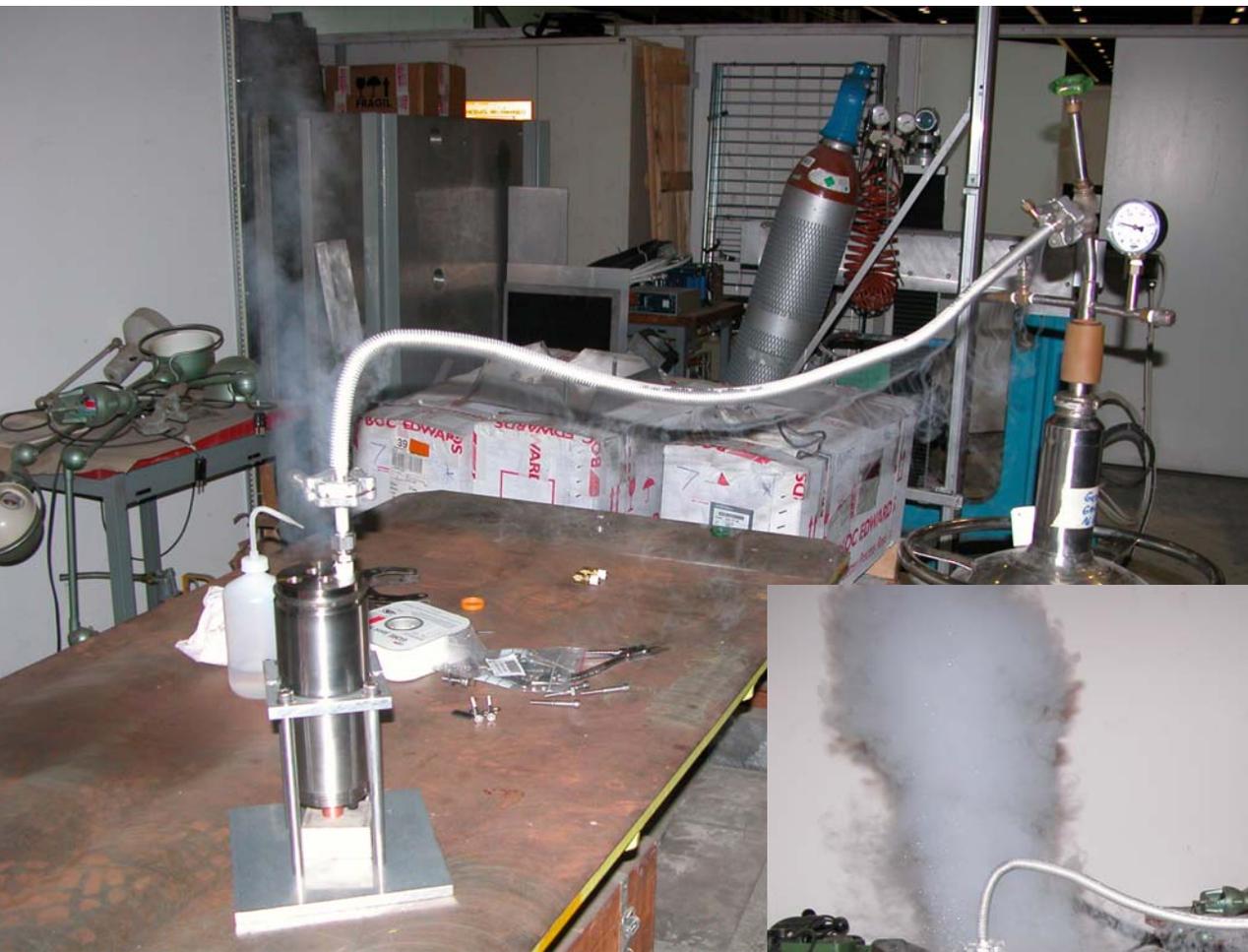


Test Fixture with Washers

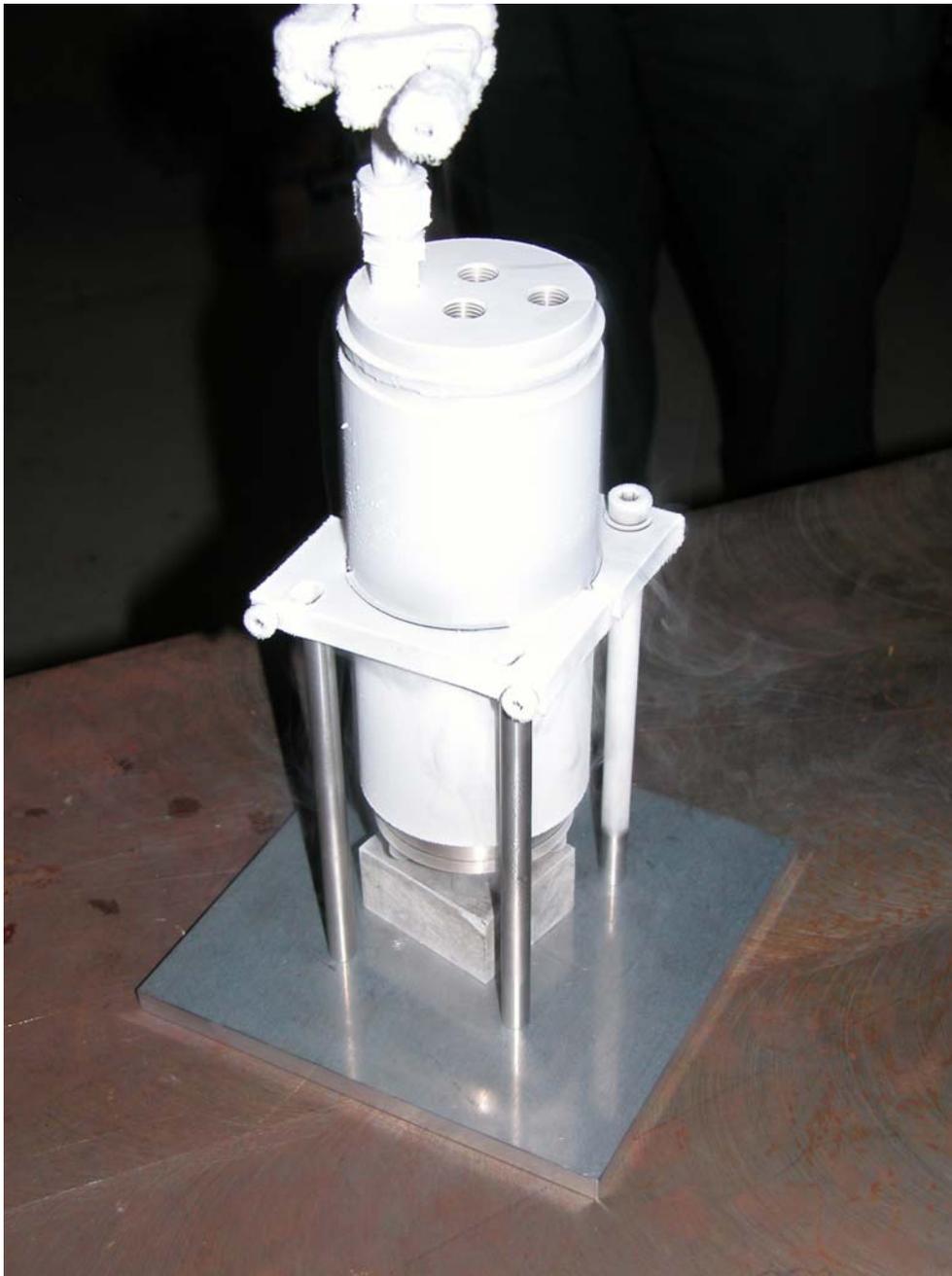


Installing the Gore “Rope”





Introducing LN2



Filled with LN2
No leaks observed

10bar Water Test
No Leaks observed

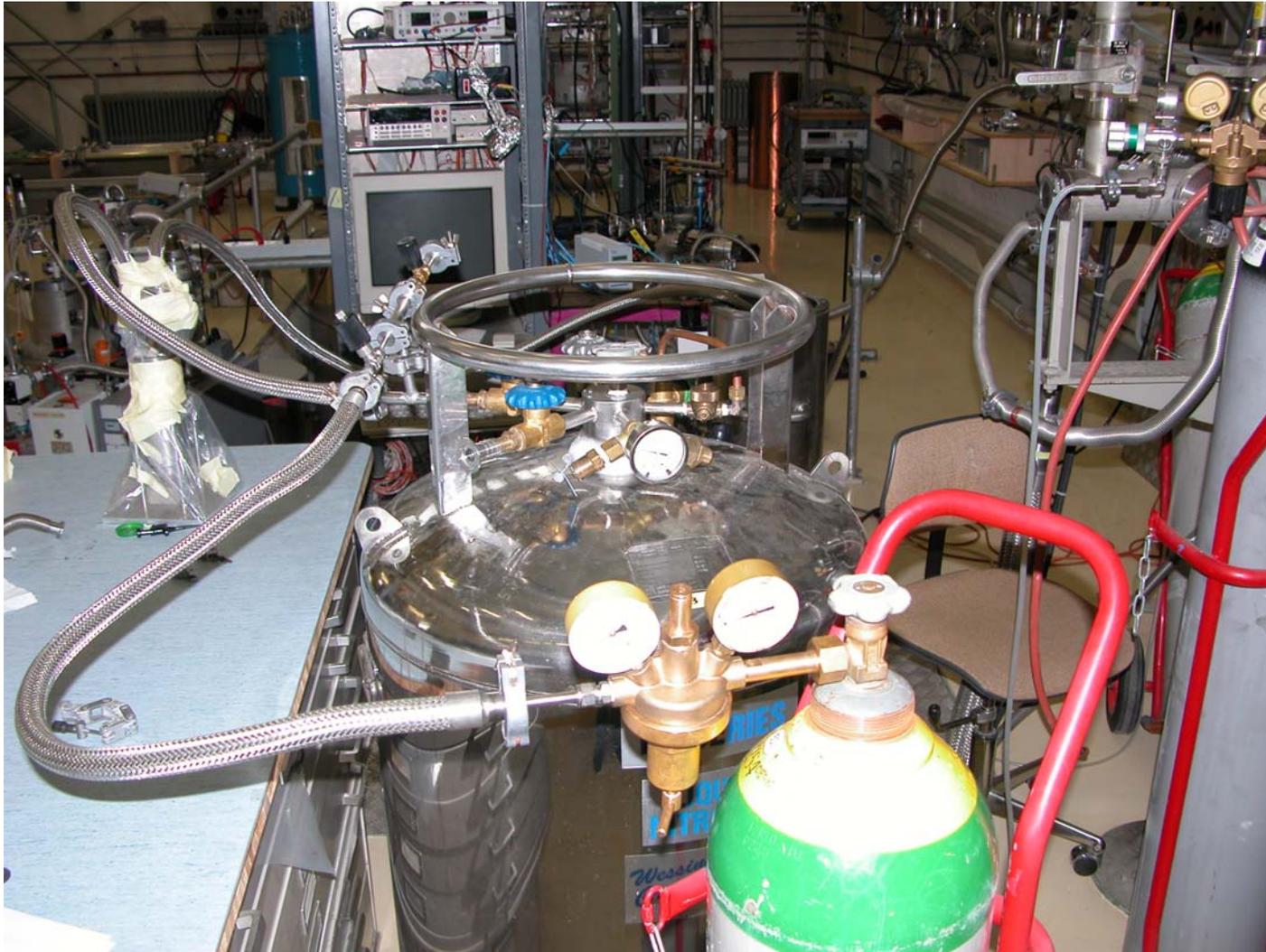


Test with 10bar He

No Leaks observed at room temperature



10bar He at 77°K



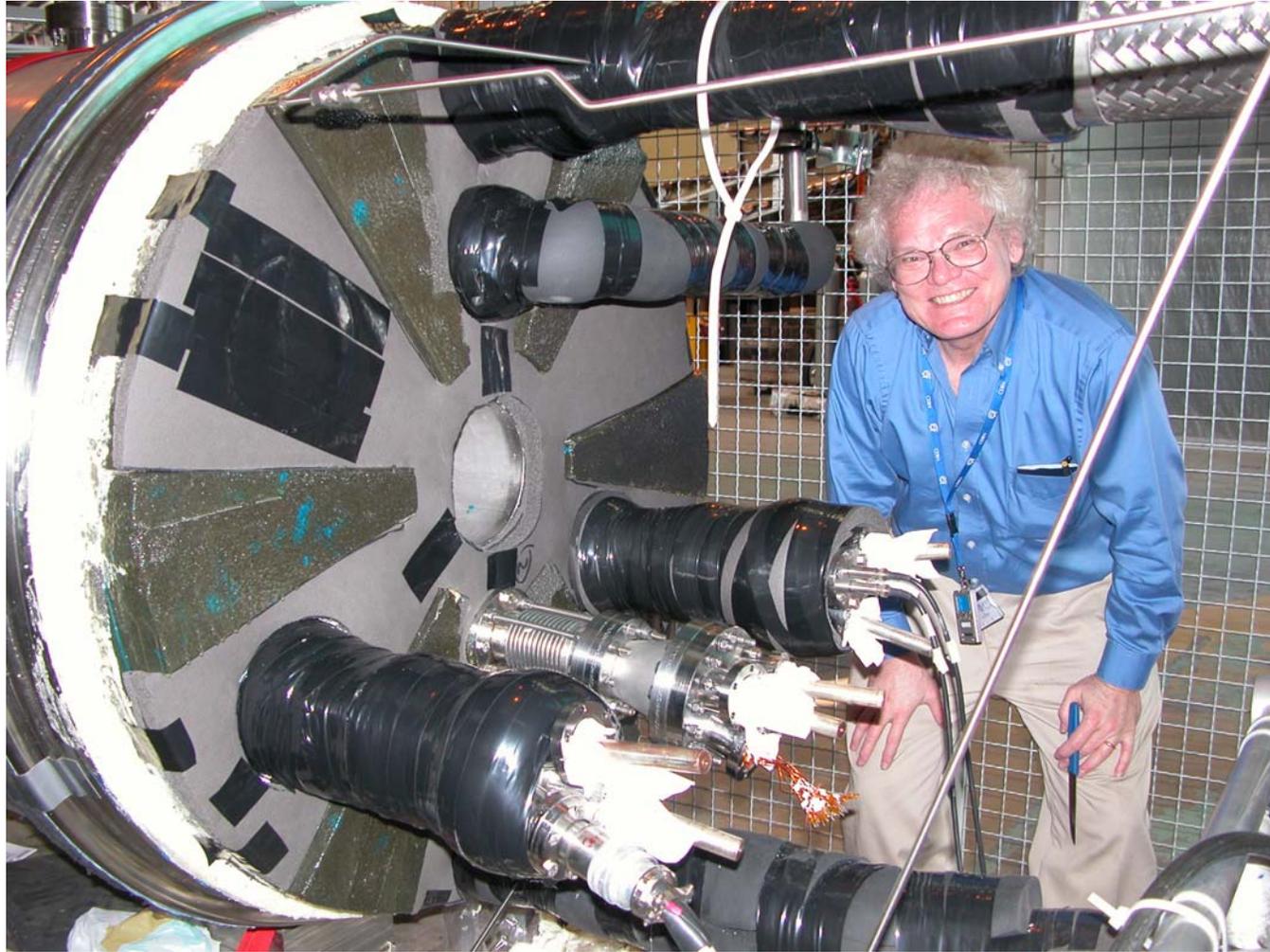
Cryo Testing Results

- 2.5×10^{-5} mbar l /s Ambient Background
- No observed leak at 10bar Room Temp
- Initial cooldown, flush: substantial leak
- Further tighten by closing gap 1.3mm
- 1.3×10^{-3} mbar l /s leak rate
- Shock cooled in LN₂ bath
- 3rd cycle cooldown
- 0.8×10^{-3} mbar l /s leak rate → 12 mg/day

Adding Supplemental Insulation



Extra Layers of Armaflex



May 18, 2007

Insertion of the Hg Loop



May 4, 2007

A Tight Fit!



HPU in TT2



Hg Loop in TT2a



Control Room Hg Loop and Cryogenics



Optical Diagnostics



Optical Dignostics Test Station



Summary

- The Hg Injection system is installed in TT2
- The optical diagnostics is assembled but not yet installed
- The Pulsed Solenoid is being prepared for a cooldown test (next week is the plan)
- Installation of Solenoid/Cryogenics is planned during 5 days of tunnel access (31 May to 14 June)
- Beam engineering run being negotiated