

Polymer Laboratory Weekly Meeting Summary – 18.04.2024

➤ **General information:**

- Javier's presentation "Fibers desizing updates", presentation attached to today's Indico meeting.
- Evacuation of the freezer and fume hood that were no longer used.
- For people using a cartridge mask, be sure to change the cartridges every three months.

➤ **Operation & Services:**

- Nonconformity on one of the HL-LHC MBRD magnet: Kapton tape ripped next to the flair end. There is a need to find a solution to insulate the wires to avoid electrical shorts between turns. Work in progress.
- First BORIS tube cured and clean, ready to be delivered. A tomography will be performed to observe how the resin filled the gap between the tubes. Two other tubes will be manufacture in the following weeks.
- PROTODUNE Box: manufacture a sub-scale box in PETG and ULTEM 9085 and 1:1 scale in PETG. Vacuum leak tests perform on the sub-scale boxes. The one in PETG is airtight but the one in ULTEM 9085 has a leak. Thermal shocks in liquid N₂ perform on both sub-scale boxes and no changes observe. Pressure tests to be done.
- Pieces TREFLE: tuning of printer settings to have the same parts as produced in the design office.
- 12T: impregnation test, the goal in to impregnate a cable while insulated from the resin the area where the cable will be spliced.
- POLAB layout: new drawings (attached to today's Indico meeting).

➤ **Projects (R&D):**

- DMA analysis of irradiated 3D Printed Polymers.
- Resistance tests on Niobium-Tin superconducting cable conductor exposed to oxidizing atmosphere.
- Preparation of epoxy resin samples for mechanical tests.
- DC Breakdown testing of 3D Printed Polymers.
- Resistivity tests on samples of CTD101K reinforced with desized fibres.
- Beginning of chemical ageing tests on thermoplastic polyimide-insulated wires.