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HRMT-60 - RaDIATE Material Studies

HRMT-60 experiment was performed at the CERN-HiRadMat facility in October 2022 to understand thermal shock response of conventional materials and novel materials to support the design and operation of future multi-MW accelerator beam windows and secondary particle-production targets. This experiment, organized within the framework of the RaDIATE collaboration, builds on the previous HRMT-43 (BeGrid2) experiment, where a variety of materials in both non-irradiated and previously proton-irradiated conditions were tested. The primary goal was to understand the failure mechanisms, limits and flow behavior of the various material specimens, as well as compare and contrast the thermal shock response of previously irradiated materials to their non-irradiated counterparts. A total of 120 samples were tested at different beam conditions. This poster will present the preliminary results of several materials tested during this experiments.

Work-package

WP3 - RIs for Accelerator R&D

Facility identifier

HiRadMat

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