Contribution ID: **540** Contribution code: **THPB010** Type: **Poster Presentation**

Investigation of outgassing properties of CuZr and CuCrZr vacuum pipe

Thursday 5 June 2025 15:30 (2 hours)

The Hefei Advanced Light Facility (HALF) is the fourth-generation synchrotron radiation light source based on Diffraction-limited Storage Ring (DLSR) with low beam emittance, high brightness and coherent photon flux. According to the physical design requirements of the HALF, the vacuum chamber structural materials should have low outgassing rate, good electrical and thermal conductivity, high strength, and non-magnetic. CuZr and CuCrZr were selected as structural materials for the HALF storage ring vacuum chamber structural materials, taking into account material properties and manufacturing process. In this paper, thermal outgassing performance of CuZr and CuCrZr alloy pipes under temperature rise was investigated for the design and calculation of HALF vacuum systems.

Footnotes

Paper preparation format

Word

Region represented

Asia

Funding Agency

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Session Classification: Thursday Poster Session

Track Classification: MC7: Accelerator Technology and Sustainability: MC7.T14 Vacuum Technology