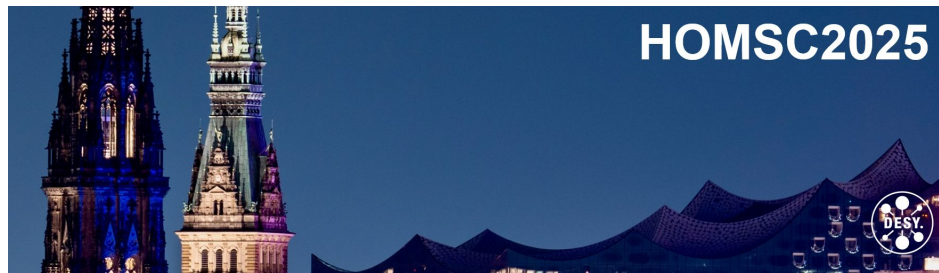


International Workshop on Higher Order Modes in Superconducting Cavities (HOMSC2025)



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RF absorber development at IJCLab

Tuesday 7 October 2025 10:00 (30 minutes)

The Beam Line Absorbers (BLA) are the crucial component of high-current particle accelerators. In particular, Energy Recovery Linac (ERL) has stringent requirements on Higher-Order-Modes (HOMs) damping. In IJCLab, we are starting to develop warm BLA for FCCee and cryogenic BLA for the PERLE project. Thanks to the international collaborators and the literature, we are identifying the list of promising dielectric materials to work on. Being a laboratory for general fundamental physics, IJCLab is also working on other experiments with radiofrequency, such dark matter axion project MADMAX and Cosmic Microwave Background (CMB) satellite LiteBird. Surprisingly, cryogenic RF absorbers play a crucial role in these projects with totally different scientific goals. We are exploring the new academic research field of dielectric materials for absorbing RF in cryogenic environment. In this contribution, we show our preliminary efforts to study cryogenic RF absorbers for general purpose and perspective on building common test-stand in Université Paris-Saclay.

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