Contribution ID: **30** Type: **Contributed Oral**

Cryogenic Dielectric Accelerating Structures

Monday, 7 November 2022 16:30 (30 minutes)

Shunt impedance is one of the most important parameters characterizing particle acceleration efficiency. It is known that RF losses are reduced at cryogenic temperatures. For example, a record high shunt impedance of 350 MΩ/m was demonstrated recently for all metal X-band accelerating structure, which is more than 2 times higher than that at room temperature. Here we present a novel hybrid dielectric structure which can achieve even higher shunt impedance due to the fact that losses in dielectric materials reduced much more than in pure copper.

Acknowledgments

Primary author: JING, Chunguang

Presenter: JING, Chunguang

Session Classification: WG3: Laser and High-Gradient Structure-Based Acceleration

Track Classification: Working Group Parallel Sessions: WG3 Oral: Laser and High-Gradient Structure-Based Acceleration