15th Workshop on Breakdown Science and High Gradient Technology (HG2023)



Contribution ID: 54 Type: Oral

Simulations design of high-gradient structures for HAIF

Friday, 20 October 2023 10:20 (20 minutes)

Hefei Advanced Light Facility (HALF) is a fourth-generation low-energy synchrotron radiation light source which will be started from September 2023 to August 2028. It consists of a 2.2 GeV full energy linac and a storage ring. This contribution presents optimizations on the C-band accelerating structures and pulse compressors for HALF linac. A new design method for matching couplers to an accelerating structure in a more efficient way is also presented. It combines the Kroll's method with Kyhl's method, thereby simplifying the tuning and simulation process of a coupler cavity.

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Session Classification: Morning session