

Choke-mode damped accelerating structures for the CLIC main linac

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Host: Ali Nassiri

Abstract:

The CLIC-study is aiming at X-band accelerating structures that operate at an accelerating gradient of 100MV/m with low breakdown rate. Now the baseline structure is a tapered traveling structure with relatively low group velocity and with strong waveguide damping. A series of prototype structures have been high power tested and analyzed to study the breakdown behavior, and great progress is being made. As an alternative to the baseline design, choke-mode damped structures are being studied. The choke-mode structures hold the potential to have lower pulsed surface heating and lower manufacturing cost. A new choke structure that has a comparable damping to the waveguide damped structure has been designed. This presentation will give an introduction to the high gradient X-band accelerating structure study for CLIC, and the study of the choke-mode damped structure.

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