

PROGRESS IN HIGH GRADIENT ACCELERATOR STRUCTURE RESEARCH FOR FUTURE LINEAR COLLIDERS

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Abstract

This talk will summarize progress towards high-gradient accelerator structures for a future multi-TeV linear collider. The research summarized will include the US high gradient research collaboration and the CLIC research program, and will include recent experimental results of testing a variety of accelerator structures with different frequencies, geometries and materials, and features that allow for wake field damping. The talk also presents the results of specialized material studies geared towards the understanding of surface fatigue limits due to high magnetic fields, and progress on the theory of rf breakdown in high vacuum structures and multipactoring in dielectric loaded structures.

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