

High gradient, short filling-time parallel-coupled structure

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This talk presents a novel high gradient parallel-coupled structure. The distributed coupling system of this structure is a special design to make the structure over coupled and to dispatch the input power to each cell very quickly. An X-band, 16-cell structure is designed to have 10 ns input pulse length. Based on the empirical equation of estimating the breakdown rate from accelerating field and the pulse length, the structure with 10 ns pulse has the capability to work at the gradient of 200 MV/m.

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