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IBA S2C2 Quench Study: Induced Forces on Dees and Liner

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The S2C2 is the new compact protontherapy accelerator for the IBA ProteusOne range of products. It is the first synchrocyclotron as well as the first superconducting cyclotron ever produced at IBA. In this communication, a study is presented of the forces that are acting on the accelerating structure (dees and liner) due to the eddy currents that would be induced in these copper structures by the decaying magnetic field after a quench of the main coils. For this purpose a simplified semi-analytical approach is developed. It is found that these forces are not small (about 400 N) but can be handled by the mechanical design of the accelerating structure.

Please indicate preferred presentation (poster or talk?)

poster

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