MAGNET DESIGN AND TESTING OF A FFAG BETATRON FOR INDUSTRIAL AND SECURITY APPLICATIONS

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Abstract

The fixed-field alternating-gradient (FFAG) betatron has emerged as a viable alternative to rf linacs as a source of high-energy radiation for industrial and security applications. RadiaBeam Technologies is currently developing an FFAG betatron with a novel induction core made with modern low-loss magnetic materials. The principle challenge in the project has been the design of the magnets. In this paper, we present the current status of the project, including results of the magnet design and testing.

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