

Operating Range of the VINCY Cyclotron,
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To determine the operating range of the VINCY Cyclotron the following activities have been carried out. (a) Measurement of magnetization curve of the iron samples. (b) 2D computation of median plane field using POISCR code as a routine solver in order to study various designs of shimming elements. (c) 3D computation by the TOSCA code both to get a cross-check and to correct the 2D models. (d) Measurement on a model magnet (scale 1:10) to check the computing methods. (e) Measurement on the real magnet with simultaneous adjustment of computational methods and shimming of magnetic field. Each of these activities represents actually one iteration in approaching to the final goal - nominal magnetic field achieved only by means of iron and a wide range of other regimes that are enabled by ten pairs of circular trim coils. The most characteristic points of the computation procedure as well as the final operating range of the machine are presented in this paper.