

Simulations of the magnet for compact superconducting cyclotron SC200 commissioning.

Modern packages for design and simulation of cyclotron magnet system, such as Tosca, CST Studio, Comsol, etc., combined with recent hardware of a high performance allow us to simulate magnet corrections called 'shimming'. That means a significant part of commissioning stage could be performed in 'virtual reality'. This can substantially decrease duration of shimming procedure and material wasted on shimming of the real magnet, additionally it provides a field of high-precision.

Summary

- Comparing the fields of the designed magnet model and the model put into production.
- Assessing the influence on the magnetic field caused by a small part, e.g. a screw with a plug.
- Digitizing of the manufactured magnet and its virtual shimming.

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Track Classification: Mathematical Modeling and Computational Physics