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Design of SC230 - the new cyclotron for proton therapy

SC230 a 230 MeV superconducting cyclotron designed in JINR. It is intended to be developed as a joint project with ASIPP. The cyclotron is designed for proton therapy and biomedical research. This presentation focuses on the results of the conceptual design of the accelerator. In the process of physical design, simulations of the magnetic and RF systems were carried out, the main characteristics of the accelerator were established. Magnetic field was isochronized with sufficient precision, as well as yoke mechanical stress simulation was performed. Beam tracking was conducted to determine whether the quality of the extracted beam is in accordance with project requirements.

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