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Design of beam transport lines for hadron therapy

The science and technology of hadron therapy is under development at JINR(Dub na, Russia). a compact 70 MeV/u cyclotronused as an injector to the main 400MeV/u accelerator, which is a six-fold separated sector machine. The facility is intended for generation of protons and carbon beams. The H+2 and 12C6+ ions from the corresponding ECR ion sources are transported with 3 solenoids and 1 buncher into the injector cyclotron up to and are accelerated to the output energy of 70 MeV/u. Transport line after compact cyclotron is consists of three parts: first is carbon line to main cyclotron, the second is carbon line to first treatment room, and the third is proton line to second treatment room. transport line is calculated with SNOP and TRACE3D programs.

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