

Beam Injection System for the PRAgue MEDical Synchrotron,

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A.I. SIDOROV, JINR - This paper presents an injection system of the proton synchrotron PRAMES for hadron therapy. The 12 MeV protons are injected into the closed beam orbit of the synchrotron for single-turn injection. The injection system uses a fast magnet (kicker) and a septum magnet. The septum magnet diminishes an angle of the injected beam for 350 mrad. The required kick of the 0.025 T.m fast magnet is provided by an unit with the following parameters: 0.3 m long; $180 \times 80 \text{ mm}^2$ aperture; operated current 7.2 kA; maximum flat-top ripple $\pm 0.5\%$. The fast and the septum magnets are constructed as the "C" cross section magnets. In this paper layout, requirements, main circuits of the pulse generators, design of the magnets and some test results are presented.