

Calculation of the Channel for Transportation of the Ion Beam to the TWAC Target,

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Russia - The channel for transportation of the ion beam after fast extraction from the storage ring to the target TWAC is proposed. Existing ITEP 10 GeV proton synchrotron is proposed to be used as a storage ring. The channel is placed in now existing premises and as a whole is based on usage of available magnet optic elements. For final beam focusing it is supposed to use two super-conductive quadrupole lenses in common casing. TRANSPORT and REVMOC codes was used for preliminary calculation of channel properties. It is shown that the size of focused beam is strongly dependent on the chromatic aberration. It is difficult to lessen this dependence right in the channel because of the large phase volume of ion beam. It was shown that at a calculated current of 500 A space charge does not have significant effect on channel properties. The efficiency of spatial target warmed by ion beam has been investigated and its optimal shape has been chosen.