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Magnets for Ion Transfer Line from the Booster to the Nuclotron for the NICA project

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The paper presents a description of the magnets for transfer line to transport ions from the Booster to the Nuclotron at the NICA project.

The transfer line has a complex three-dimensional structure because of the Booster and the Nuclotron are located in two levels. To realize complicated geometry of the transfer line necessary to reduce the magnets weight. Due to this they are made pulsed. The magnetic field duration is 10 ms; the uniformity of the magnetic field integral dB/B is less than 10^{-3} and $\Delta G/G$ is less than $2 \cdot 10^{-3}$.

The magnetic field measurements were carried out by combined method: using point search coils and pulsed Hall sensors. The structure of a three-dimensional transfer line, magnetic field calculation and measurement results of the pulsed magnets are presented.

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