cat device. nearest plans [[1]](#footnote-1)\*)

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The CAT device (Compact Axisymmetric Toroid) in BINP SB RAS is prepared for the experiments on confinement of a plasma with large relative pressure β in an axially symmetric mirror cell of small volume. The hot plasma in the mirror cell will be produced by powerful neutral beam injection into a plasma stream generated by a gas-discharge source located beyond a magnetic mirror. The fast ions captured in the plasma would form a compact toroidal configuration with large azimuthal current. The experiment is aimed at achievement of diamagnetic confinement of the plasma and finally at the magnetic field reversal by this ion current in the plasma. The success of the experiment depends on the parameters of the initial plasma in the central mirror cell. It is expected, that the initial plasma in the central cell will be MHD stable and will have the density about 1013 cm−3, the ion energy up to 200 eV and the electron temperature about 50 eV.

1. \*) [abstracts of this report in Russian](http://www.fpl.gpi.ru/Zvenigorod/XLVIII/Mu/ru/AN-Ahmetov.docx) [↑](#footnote-ref-1)