# First results of a new system of magnetic coils at the Golem tokamak

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Systems of magnetic diagnostics belong to the backbones of magnetic fusion devices. The Golem tokamak has as a part of the control system a traditional set of four Mirnov coils for the plasma position measurements inside the vacuum chamber, a Rogowski coil for the plasma current measurement, and a small coil for the toroidal field measurement, both outside the vacuum chamber. For diagnostics, Golem is equipped with a poloidal ring of 16 Mirnov coils inside the chamber for detecting of MHD activity. [ref1]

A new system of magnetic coils was recently developed in the Golem tokamak. The poloidal ring with Mirnov coils was furnished by (i) an inner Rogowski coil, (ii) two inner toroidal field coils placed on the HFS and the LFS, and (iii) a diamagnetic coil. The inner Rogowski coil measures the plasma current being undisturbed by the current in the liner. Such the inner toroidal coils measure the toroidal field without the effect of the field penetrating through the liner. The most important contribution is promised by the diamagnetic coil which is aimed to establish the energy confinement time derived from the thermal energy [ref2]. First results from testing this system will be presented in this contribution.

[ref2] J. Brotankova, K. Jakubka, L. Kryska, J. Stockel, F. Zacek, Measurement of energy confinement in CASTOR tokamak regimes with edge plasma polarization, Czech. J. Phys. Suppl. S3, 50, 75-80, 2000.