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## Evaluation of the Diamagnetic Energy in the JFT-2M Tokamak –Compensation of the Poloidal Field Effects on the Diamagnetic Loop –

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### ABSTRACT

Owing to the perpendicular motion of electrons and ions the plasma excludes a small amount  $\delta\phi$  of the toroidal flux  $\phi$ . Measuring  $\delta\phi$  allows determination of the diamagnetic beta poloidal  $\beta_{p\perp}$ , defines as the ratio of transverse plasma pressure to magnetic field pressure at the plasma surface.  $\beta_{p\perp}$  is measured by a loop mounted inside of the vacuum vessel. As in tokamaks one has  $\delta\phi/\phi \approx 10^{-4}$ , even very slight magnetic stray fields, coil displacements and eddy currents in the structure during the discharge pulse can influence the diamagnetic signal. We show the separate interference of poloidal field coils on the diamagnetic loop in the JFT-2M tokamak and describe the method for compensating these effects.