

Influence of error fields on MHD modes excited by DED coils

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7) Physics of stochastic edge plasmas with respect to error fields, locked modes, and resistive wall modes

Preliminary results on the excitation of MHD modes in the TEXTOR tokamak plasma by using the dynamic ergodic diverter (DED) coils as an external antenna are presented. Notable features of the experiments using DED coils are; exciting different modes around $m/n=12/4$, $6/2$, $3/1$ by changing the coil configuration, studying the effects of magnetic islands and edge magnetic fields ergodization on MHD modes when the rf current is superimposed on DC or AC DED ones. The rf current of $\leq 4A$ is applied on the one of the DED coils by scanning the frequency 100kHz-1MHz. The coil impedance versus frequency is measured for the Ohmic plasma ($I_p = 400$ kA, $B_t = 2.25$ T, $n_e \sim 2 \times 10^{19} \text{ m}^{-3}$) and compared with the theoretical calculation. The excited waves are detected by the Mirnov coils installed around the torus. Influence of the error fields introduced by DC DED current on MHD mode spectrum is observed.