

Progress of the Recent Experimental Research on the J-TEXT Tokamak (OV/P-6)

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- ◆ The investigations of RMPs on the J-TEXT operation region show that moderate amplitude of applied RMPs can increase the density limit from less than $0.7n_G$ to $0.85n_G$. Here n_G is the Greenwald density.
- ◆ Experimental results in the high-density disruption plasmas confirm that local current shrinkage during a multifaceted asymmetric radiation from the edge (MARFE) can directly terminate the discharge.
- ◆ Measurements by multi-channel Doppler reflectometer show that the quasi-coherent modes in the electron diamagnetic direction (QC-TEM) occur in the J-TEXT ohmic confinement regime in a large plasma region ($r/a \sim 0.3 - 0.8$) with frequency of 30 – 140 kHz.
- ◆ Investigations of the RMPs on the behavior of runaway electrons/current show that application of the RMPs with $m/n=2/1$ dominant component during disruptions can reduce runaway production and furthermore, its application before the disruption can reduce both the amplitude and the length of runaway current.