

P4.1037 Core magnetic fluctuation and current profile dynamics during improved H mode plasma discharge with flat central q profile on EAST

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See full abstract here

<http://ocs.ciemat.es/EPS2019ABS/pdf/P4.1037.pdf>

Improved H mode operation has been achieved on EAST with high using NBI and LHW. Better confinement was obtained with flat central safety factor q profile in the core area, and the minimum q is slight above unity contributing to sawteeth free plasma. Core magnetic fluctuation and current profile dynamics are provided by the 11 chords polarimeter-interferometer measurement. Current profile evolution shows that anomalous current transport exists during transition to improved H mode phase. The characteristics of internal MHD modes evolution are analyzed spatially and temporally. It is inferred that nonlinear coupling among different MHD modes may play an important role for sustained flat q profile operation by correlation analysis. Results from other internal diagnostic systems, such as ECE and SXR, also show consistent phenomena.

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