

Abstract Submitted
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Characteristics of EGAMs in EAST tokamak under ICRF H-mode AH DI LIU, CHU ZHOU, XIAO HUI ZHANG, JIAN QIANG HU, HONG LI, TAO LAN, JING LIN XIE, CHANG XUAN YU, WAN DONG LIU, University of Science and Technology of China — Doppler reflectometer is common plasma diagnostic used in magnetic confinement devices to measure density fluctuations and poloidal flow velocity. Two set of Doppler reflectometer (Q-band & V-band) were installed on EAST tokamak for the first time. A coherence mode with frequency of 20~50kHz was observed both on Doppler reflectometer and magnetic coils during ICRF H-mode on EAST. It appeared as zero-symmetric peaks in the spectrum of Doppler backscattering phase signal, implying that the density fluctuation has a standing wave structure with frequency not changing with the plasma rotation. The toroidal mode number is zero according to the magnetic coils. This feature was not observed on ECE and soft-X signals and there isn't obvious relationship between the mode appearance and the neutrons and hard-X signals. Unlike the usual Geodesic Acoustic modes (GAM) in the edge plasma under L-mode, it was found that the mode only appeared in the core regime under H-mode through the ray-tracing code. The mode is suspected to be the energetic ion induced GAM.

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