

Abstract Submitted
for the DPP17 Meeting of
The American Physical Society

Study of quasi-coherent fluctuations in low-density ECH and NBI L-mode plasmas on KSTAR¹ W. LEE, S. H. KO, National Fusion Research Institute, J. LEEM, G. S. YUN, Pohang University of Science and Technology, H. K. PARK, Ulsan National Institute of Science and Technology, K. W. KIM, Kyungpook National University, N. C. LUHMANN, JR., University of California at Davis, KSTAR TEAM — Quasi-coherent fluctuations with $\Delta f \sim f_{\text{peak}}$ in the electron density were measured in stationary low-density ECH and NBI L-mode plasmas on KSTAR. Dominant poloidal wavenumbers of the fluctuations were estimated from measured peak frequencies and poloidal rotation velocities of the fluctuations, and compared to the poloidal wavenumbers with maximum growth rate obtained from linear gyro-kinetic simulations. The poloidal wavenumbers from the measurements and linear simulations are comparable with each other, and this seems to be due to low collisionality of the plasmas where the quasi-coherent fluctuations were measured. Group velocities of the fluctuations in the plasma frame are all in the ion diamagnetic drift direction for the NBI L-mode plasmas, and this agrees well with the linear simulation results. For ECH L-mode plasmas, however, the group velocities from the measurements are not clearly recognized.

¹Work supported by Ministry of Science, ICT and Future Planning under the KSTAR project and the NRF of Korea under contract No. NRF-2014M1A7A1A03029865.

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Date submitted: 14 Jul 2017

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