

Abstract Submitted  
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**Measurements and simulations of quasi-coherent fluctuations during the inter-ELM phase in EAST** N. YAN, ASIPP, X.Q. XU, LLNL, J. LI, G.S. XU, T.Y. XIA, H. LAN, H. ZHANG, ASIPP — Quasi-coherent fluctuations have been commonly observed preceding type-I ELMs in EAST. They typically show up in two frequency domains. The lower frequency band (30-50 kHz) propagates in ion diamagnetic direction. It predominantly peaks on low field side, but not evidently contribute to local transport. The higher frequency band (180–220 kHz) is detected to propagate in the electron diamagnetic direction. Its amplitude exhibits an in-out symmetry. However, it drives strong particle transport into far SOL region on high field side. Study of these inter-ELM fluctuations are important for our understanding of pedestal physics, SOL width and ELM process itself. For this purpose, BOUT++ simulations for inter-ELM fluctuations are conducted based on EAST experiments. The preliminary simulation results suggest that peeling-ballooning and drift-alfven instabilities could be respectively responsible for the lower frequency band and higher frequency band fluctuations observed during the inter-ELM phase in experiments. Comparison of nonlinear simulations with experimental measurements will be presented.

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