

Abstract Submitted
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Advances in ELM control towards long-pulse H-mode plasmas on EAST¹ GUOSHENG XU, Institute of Plasma Physics, Chinese Academy of Sciences, EAST TEAM — Several ELM control techniques have been developed on EAST recently. ELM pacing by short pulses of LHCD has been demonstrated. The delay time between the triggered ELM and the pulse rising edge is 1-5 ms which decreases with increasing power. ELM mitigation with n=1 Resonant Magnetic Perturbations has been observed. The ELM frequency increases by a factor of 5 and the amplitude is reduced by the same factor. Footprint splitting is observed in both static and rotating field cases and agrees well with vacuum modeling. Small-ELM regime with enhanced D α emission and strong edge coherent mode (ECM) has been achieved with different combination of heating schemes. Its parameter space was extended to lower q₉₅=4 in the last campaign. Long-pulse stationary ELM-free H-mode plasmas have been achieved by using continuous real-time lithium-aerosol injection which appears to enhance the ECM. Without lithium-aerosol injection, stationary ELM-free plasmas were achieved only with 4.6GHz LHCD alone. In addition, ELM pacing by lithium granule injection up to 180Hz has been demonstrated on EAST.

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