

Abstract Submitted
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Overview of long pulse H-mode operation on EAST¹ X. GONG, ASIPP, A.M. GAROFALO, GA, B. WAN, J. LI, J. QIAN, E. LI, F. LIU, Y. ZHAO, M. WANG, H. XU, ASIPP, EAST TEAM — The EAST research program aims to demonstrate steady-state long-pulse high-performance H-mode operations with ITER-like poloidal configuration and RF-dominated heating schemes. In the recent experimental campaign, a long pulse fully non-inductive H-mode discharge lasting over 100 seconds using the upper ITER-like tungsten divertor has been achieved in EAST. This scenario used only RF heating and current drive, but also benefitted from an integrated control of the wall conditioning, plasma configuration, divertor heat flux, particle exhaust, impurity management and superconducting coils safety. Maintaining effective coupling of multiple RF heating and current drive sources on EAST is a critical ingredient. This long pulse discharge had good energy confinement, $H_{98,y2} \sim 1.1-1.2$, and all of the plasma parameters reach a true steady-state. Power balance indicates that the confinement improvement is due partly to a significantly reduced core electron transport inside minor radius $\rho < 0.4$.

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