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KSTAR contributions to ITER long-pulse operations[1] JINSEOK KO, National Fusion Research Institute, Daejeon, Korea, THE KSTAR TEAM — The achievements made by the Korea Superconducting Tokamak Advanced Research (KSTAR) for the last couple of years are noticeable with respect to the ITER-relevant studies. Some include the long-pulse H-mode (15 sec), ELM suppression by RMP (with either n = 1 or n = 2), high normalized beta (2.9) with low li (0.7) exceeding the n = 1 no-wall limit, and the advanced scenarios with early diverted, sawtooth-free internal transport barriers. Along the path of exploring ITER urgent issues, progresses in longer-pulse (more than 20 sec) H-mode operations, disruption detection and mitigation techniques, utilization of the non-axisymmetric magnetic perturbation for the rotation control as well as physics understanding of ELM responses are underway. KSTAR also embraces several ITER prototype techniques such as 170 GHz ECH, Thomson laser, and plasma control by density feedback.

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