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Characterisation of Improved H-mode at ASDEX Upgrade and Extrapolation to ITER YONG-SU NA, Korea Basic Science Institute, 52 Yeoeun-Dong, Yusung-Gu, Daejeon, 305-333, Korea, O. GRUBER, C.F. MAGGI, A.C.C. SIPS, A. STAEBLER, J. STOBER, Max-Planck-Institut fuer Plasmaphysik, Boltzmannstrasse 2, D-85748, Garching, Germany, ASDEX UPGRADE TEAM — High confinement and stability is obtained simultaneously in a stationary regime so-called, Improved H-mode at ASDEX Upgrade. This regime is established by various tokamak devices under the common name, ITER Hybrid Scenario. This scenario can provide higher fraction of bootstrap current compared to standard H-modes, therefore allow a long pulse operation in ITER. In this article improved H-modes are characterised systematically by comparing with standard H-modes in similar experimental conditions. Improved H-modes are extrapolated to ITER with ASTRA code calculations, in order to investigate the potential for achieving significant fusion power and fusion gain with increased plasma duration. Interpretive simulations are performed for ITER employing kinetic profiles, H98(y,2) and normalized beta from a typical improved H-mode at ASDEX Upgrade. Predictive modelling for ITER is performed using boundary conditions for improved H-modes at ASDEX Upgrade.

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