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Study of ITER Steady-State High q_{min} Scenarios Using FASTRAN/IPS Integrated Transport Modeling[1] S.J. DIEM, M. MURAKAMI, J.M. PARK, A.C. SONTAG, Oak Ridge National Laboratory — A high q_{min} ($q_{min} > 2$) operational scenario has been identified as a possible candidate to achieve ITER baseline goals. This scenario requires a broad current profile with high bootstrap fraction, which in turn requires a relatively large pedestal height. The goal of this study is to identify an operational space for ITER high-q_{min} steady-state scenarios via self-consistent integrated modeling using the IPS/FASTRAN framework with EPED providing the edge pedestal height. FASTRAN is an iterative numerical procedure that integrates a variety of models (transport, heating, CD, equilibrium and stability) and has been shown to reproduce most features of DIII-D high beta discharges with a stationary current profile. The FASTRAN solver has been implemented in the Integrated Plasma Simulator (IPS) framework. The sensitivity of this operating space to uncertainties in the transport and pedestal predictions will be studied.

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Stephanie Diem
Oak Ridge National Laboratory

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