

Quiescent H-mode Plasmas with Strong Edge Rotation in the Co-current Direction

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Abstract. For the first time in any tokamak, quiescent H-mode (QH-mode) plasmas have been created with strong edge rotation in the direction of the plasma current. This confirms the theoretical prediction that QH-mode should exist with either sign of the edge rotation provided the magnitude of the shear in the edge rotation is sufficiently large and demonstrates that counter injection and counter edge rotation are not essential for QH-mode. Accordingly, the present work demonstrates a substantial broadening of the QH-mode operating space and represents a significant confirmation of the theory.