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Physics Issues at the Initial Phase of Robust RWM Feedback¹ M. OKABAYASHI, PPPL, Y. IN, J.S. KIM, FARTECH, Inc., G.L. JACKSON, A.M. GAROFALO, R.J. LA HAYE, E.J. STRAIT, General Atomics, T. BOLZONELLA, L. MARRELLI, P. MARTIN, Consorzio RFX, M.J. LANCTOT, H. REIMERDES, Columbia U. — The magnetic feedback process has robustly suppressed low beta $q_{95} \sim 4$ current-driven resistive wall mode (RWM) by direct feedback beyond application of effective error field correction only. Without feedback, the current-driven RWM usually evolved into a resistive wall tearing mode even when the RWM amplitude is less than a few Gauss. There remain several issues in RWM feedback process, such as how it functions near the onset of magnetic island growth and the impact of uncorrected error fields. Another issue is the operational compatibility of fast direct feedback with slow error field correction at the initial phase of feedback. These issues will be discussed to clarify the requirements for robust RWM feedback control in ITER.

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