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Addressing peripheral damping obstacles for RF stabilization of tearing modes¹ SUYING JIN, Princeton University, ALLAN REIMAN, NATHANIEL FISCH, Princeton Plasma Physics Laboratory — A recent nonlinear treatment of RF stabilization of tearing modes [1] has identified a current condensation effect which has the potential to increase stabilization efficiency and loosen power localization requirements. Such benefits stem from the cooperative feedback between the RF deposition and resulting island temperature perturbation. However the same nonlinear enhancement effect can lead to complications when considering an RF wave that starts depositing its energy prior to reaching the center. [2] For such a case, the nonlinear enhancement can pull the deposition further into the periphery, counteracting stabilization efforts. Anticipating this difficulty, we address here potential methods of overcoming it. [1] A. H. Reiman and N. J. Fisch, Phys. Rev. Lett. 121, 225001 (2018) [2] E. Rodriguez et al., this conference

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