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Microstability Properties of the Local Minimum $|B|$ Regime in Pegasus¹ DAVID R. SMITH, M.W. BONGARD, R.J. FONCK, J.A. REUSCH, A.T. RHODES, University of Wisconsin-Madison — A local minimum $|B|$ region, or “magnetic well,” was recently observed in the low-aspect-ratio Pegasus device in high- β scenarios with strong edge current peaking [1]. The ∇B reversal within the magnetic well alters particle drifts, orbits, fast ion losses, and instability drives. Here, we report on the microstability properties of the magnetic well region with calculations from the **GENE** gyrokinetic code [2]. In particular, we explore the dependence on magnetic well depth and the role of electromagnetic effects. Preliminary results from local electromagnetic calculations indicate unstable electron modes exist in the magnetic well region. Connections to NSTX-U and MAST-U operational scenarios are also discussed. Finally, probe measurements of electrostatic and magnetic fluctuations in the Pegasus magnetic well region are presented in Ref. 3.

[1] D.J. Schlossberg, Ph.D. thesis (2017), Phys. Rev. Lett. (in press)

[2] F. Jenko and the **GENE** Development Team, URL <http://genecode.org/>

[3] A.T. Rhodes et al, these proceedings

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