Abstract Submitted
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Study of Plasma Energization during Magnetic Reconnection in the FLARE (Facility for Laboratory Reconnection Experiments)[1] H. JI, A. BHATTACHARJEE, S. PRAGER, Princeton U., W. DAUGHTON, LANL, S. BALE, UC-Berkeley, T. CARTER, N. CROCKER, UCLA, J. DRAKE, U. Maryland, J. EGEDAL, J. SARFF, J. WALLACE, U. Wisconsin, Y. CHEN, R. CUTLER, W. FOX, P. HEITZENROEDER, M. KALISH, J. JARA-ALMONTE, C. MYERS, Y. REN, M. YAMADA, J. YOO, PPPL — Various regimes or "phases" are identified in a magnetic reconnection "phase diagram" which classifies different coupling mechanisms from the global system scales to the local dissipation scales [H. Ji & W. Daughton, Phys. Plasmas **18**, 111207 (2011)]. The FLARE device (http://flare.pppl.gov) is a new intermediate-scale plasma experiment under construction at Princeton to provide access to all of these phases directly relevant to space, solar, astrophysical, and fusion plasmas. Study of plasma energization during magnetic reconnection is one of major topics for the FLARE facility, which is planned to be a user facility. The motivating major physics questions regarding plasma energization and the planned collaborative research on these topics will be presented and discussed.

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