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Status of the FLARE (Facility for Laboratory Reconnection Experiments) Construction Project and Plans as a User Facility H. JI, A. BHATTACHARJEE, S. PRAGER, Princeton U., W. DAUGHTON, LANL, Y. CHEN, R. CUTLER, W. FOX, F. HOFFMANN, M. KALISH, J. JARA-ALMONTE, C. MYERS, Y. REN, M. YAMADA, J. YOO, PPPL, S.D. BALE, UC-Berkeley, T. CARTER, S. DORFMAN, UCLA, J. DRAKE, U. Maryland, J. EGEDAL, J. SARFF, J. WALLACE, U. Wisconsin — The FLARE device (flare.pppl.gov) is a new intermediate-scale plasma experiment under construction at Princeton for the studies of magnetic reconnection in the multiple X-line regimes directly relevant to space, solar, astrophysical, and fusion plasmas, as guided by a reconnection phase diagram [Ji & Daughton, (2011)]. Most of major components either have been already fabricated or are near their completion, including the two most crucial magnets called flux cores. The hardware assembly and installation begin in this summer, followed by commissioning in 2017. Initial comprehensive set of research diagnostics will be constructed and installed also in 2017. The main diagnostics is an extensive set of magnetic probe arrays, covering multiple scales from local electron scales, to intermediate ion scales, and global MHD scales. The planned procedures and example topics as a user facility will be discussed.

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