Abstract Submitted
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FLARE: a collaborative research facility to study magnetic reconnection and related phenomena[1] H. JI, J. YOO, J. JARA-ALMONTE, A. GOODMAN, Y. REN, M. YAMADA, A. BHATTACHARJEE, W. FOX, PPPL, W. DAUGHTON, A. STANIER, LANL, THE FLARE CONSTRUCTION TEAM TEAM — The FLARE device (Facility for LAboratory Reconnection Experiments; flare.pppl.gov) is a new experimental device constructed at Princeton University for the study of magnetic reconnection in the multiple X-line regimes, directly relevant to space, solar, astrophysical, and fusion plasmas. The first plasma operation was successfully conducted to validate the engineering design and to demonstrate access to parameter space beyond its predecessor, MRX. The device has been relocated to PPPL while the power supplies are being upgraded to access new multiple X-line regimes in the reconnection phase diagram. The construction activity has been affected by the COVID-19 pandemic and currently is being re-started. A progress update including available diagnostics and the operation plan as a DoE collaborative research facility will be presented. Numerical predictions using the state-of-the-art particle-in-cell code, VPIC, will be discussed to guide the first physics operation of FLARE.

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