

Abstract Submitted
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Development and construction of a comprehensive set of research diagnostics for the FLARE user facility¹ JONGSOO YOO, J. JARA-ALMONTE, Princeton Plasma Physics Laboratory, S. MAJESKI, Rensselaer Polytechnic Institute, S. FRANK, University of Michigan, H. JI, M. YAMADA, Princeton Plasma Physics Laboratory — FLARE (Facility for Laboratory Reconnection Experiments) will be operated as a flexible user facility, and so a complete set of research diagnostics is under development, including magnetic probe arrays, Langmuir probes, Mach probes, spectroscopic probes, and a laser interferometer. In order to accommodate the various requirements of users, large-scale (1 m), variable resolution (0.54 cm) magnetic probes have been designed, and are currently being prototyped. Moreover, a fully fiber-coupled laser interferometer has been designed to measure the line-integrated electron density. This fiber-coupled interferometer system will reduce the complexity of alignment processes and minimize maintenance of the system. Finally, improvements to the electrostatic probes and spectroscopic probes currently used in the Magnetic Reconnection Experiment (MRX) are discussed. The specifications of other subsystems, such as integrators and digitizers, are also presented.

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