Overview of the Basic Plasma Science Facility

TROY CARTER, WALTER GEKELMAN, GEORGE MORALES, STEPHEN VINCENA, SHREE-KRISHNA TRIPATHI, BART VAN COMPERNOLLE, PAT PRIBYL, University of California, Los Angeles — The Basic Plasma Science Facility (BaPSF) at UCLA is a US national user facility for studies of fundamental processes in magnetized plasmas. The centerpiece of the facility is the Large Plasma Device (LAPD), a 20m long, magnetized linear plasma device\textsuperscript{2}. This LAPD has been utilized to study a number of fundamental processes, including: collisionless shocks\textsuperscript{3}, dispersion and damping of kinetic and inertial Alfvén waves\textsuperscript{4}, turbulence and transport\textsuperscript{5} interactions of energetic ions and electrons with plasma waves\textsuperscript{6} and RF sheaths produced by an ICRF antenna\textsuperscript{7}. An overview of the facility and recent upgrades and recent research using the facility will be provided. In addition to a discussion of how prospective users can apply for experimental time.

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\textsuperscript{2}W. Gekelman, et al., Rev. of Sci. Inst. \textbf{87}, 025105 (2016)