

Abstract Submitted
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An Experimental Undergraduate Laboratory Plasma Station

JERRY ROSS, ANDREW ZWICKER, Princeton Plasma Physics Laboratory — Plasma physics is an intimidating field to study and can be even a more daunting exercise to teach. At the Princeton Plasma Physics Laboratory we have created an all-inclusive undergraduate lab setup that encompasses three of the major experiments commonly seen in introductory graduate level plasma labs to improve upon the existing teaching tools available in the community and to expose undergraduates to the field. These experiments include Langmuir probe studies (single and double), spectroscopy, and Paschen curve analysis. The apparatus used to conduct the experiments is built upon a mobile station of a minimal footprint and maintenance requirements. The goal of the project was to create an easy to implement design that can be replicated by fledging undergraduate programs, community colleges, small liberal arts school or even established programs looking to streamline or build upon current curriculum.

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