Abstract Submitted
for the DPP19 Meeting of
The American Physical Society

Plasma Wakefield Acceleration Experiments at FACET-II CHRISTOPHER DOSS, University of Colorado, Boulder, ERIK ADLI, University of Oslo, ROBERT ARINIELLO, University of Colorado, Boulder, JOHN CARY, University of Colorado, Boulder and Tech-X Corporation, SEBASTIAN CORDE, Ecole Polytechnique, MARK HOGAN, SLAC National Accelerator Laboratory, KEENAN HUNT-STONE, University of Colorado, Boulder, CHAN JOSHI, University of California, Los Angeles, MICHAEL LITOS, University of Colorado, Boulder, KEN MARSH, WARREN MORI, University of California, Los Angeles, NAVID VAFAEI-NAJAFABADI, Stony Brook University, VITALY YAIKIMENKO, SLAC National Accelerator Laboratory, FACET-II E300 COLLABORATION — Commissioning for the FACET-II facility at SLAC National Accelerator Laboratory is scheduled to begin in Fall 2019, and electron beam-driven plasma wakefield acceleration will feature prominently in its experimental program. Early experiments will aim to achieve pump depletion of the drive beam while accelerating the witness beam by 10 GeV and preserving emittance at the 10 mm-mrad level in a Lithium oven plasma source. Later experiments will aim to achieve the same goals while preserving emittance at the 1 mm-mrad level in a laser-ionized gas plasma source. Experimental considerations and plans will be discussed, as well as simulated predictions of results for the first run of FACET-II.

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Date submitted: 03 Jul 2019 Electronic form version 1.4