

Abstract Submitted  
for the DPP17 Meeting of  
The American Physical Society

**High peak current acceleration of narrow divergence ions beams with the BELLA-PW laser**<sup>1</sup> SVEN STEINKE, QING JI, Lawrence Berkeley National Laboratory, FRANZISKA TREFFERT, Technical University of Darmstadt, STEPAN BULANOV, JIANHUI BIN, KEI NAKAMURA, ANTHONY GONSALVES, CSABA TOTH, JAEHONG PARK, Lawrence Berkeley National Laboratory, MARKUS ROTH, Technical University of Darmstadt, ERIC ESAREY, THOMAS SCHENKEL, WIM LEEMANS, Lawrence Berkeley National Laboratory — We present a parameter study of ion acceleration driven by the BELLA-PW laser. The laser repetition rate of 1Hz allowed for scanning the laser pulse duration, relative focus location and target thickness for the first time at laser peak powers of above 1 petawatt. Further, the long focal length geometry of the experiment (f\65) and hence, large focus size provided ion beams of reduced divergence and unprecedented charge density.

<sup>1</sup>This work was supported by Office of Science, of the U.S. Department of Energy under Contract No. DE-AC02-05CH11231 and Laboratory Directed Research and Development (LDRD) funding from Lawrence Berkeley National Laboratory.

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Date submitted: 14 Jul 2017

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