

Abstract Submitted
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Femtosecond Pulse Length Diagnostics for the BELLA Hundred-Terawatt Thomson Laser¹ WILLIAM WALLACE, University of California, Berkeley, HAI-EN TSAI, TOBIAS M. OSTERMAYR , KAITLIN DEERING, JEROEN VAN TILBORG , ANTHONY J GONSALVES , Lawrence Berkeley National Laboratory, ROBERT ETTTELBRICK , Bay Optics, CAMERON GEDDES , Lawrence Berkeley National Laboratory — This year, the Hundred-Terawatt Thomson (HTT) group at the BELLA Center has commissioned a 100TW, 3.8J laser system delivering 38fs pulses. This laser system is used to drive a laser-plasma accelerator (LPA), which is designed to interact with a separate scatter laser pulse to create quasimonoenergetic MeV gamma beams with energies adjustable from 1 to 9 MeV. This poster presents motivations, efforts, and the results of creating real-time laser pulse diagnostics by an internally-constructed single-shot autocorrelator, as well as some of the systematic and methodological approaches to the resolution of fluctuating pulse duration issues.

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