

Abstract Submitted
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ZEUS: A National Science Foundation Mid-Scale User Facility for Laser-Driven Science in the QED Regime.¹ ANATOLY MAKSIMCHUK, JOHN NEES, GALINA KALINCHENKO, BIXUE HOU, YONG MA, ANDREW MCKELVEY, TAN SHI, IGOR JOVANOVIĆ, CAROLYN KURANZ, ALEXANDER THOMAS, LOUISE WILLINGALE, KARL KRUSHELNICK, Univ of Michigan - Ann Arbor — The Zettawatt-Equivalent Ultrashort pulse laser System (ZEUS) is being developed at the University of Michigan as the National Science Foundation mid-scale user facility. The ZEUS facility will include a repetitive dual-beamline 3 PW laser system, a 100 J programmable shape multi-ns pulse driver, three radiation shielded experimental areas and will provide unique new capabilities to explore nonlinear quantum electrodynamics, relativistic plasmas, particles acceleration, extreme laboratory astrophysics, basic plasma physics and nuclear photonics. Once completed, the ZEUS laser system will be the highest-power laser system in the US and will become a user facility for the US scientists and wider international research community.

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