

Abstract Submitted
for the DPP17 Meeting of
The American Physical Society

High-intensity research infrastructure at ELI Beamlines¹ ONDREJ KLIMO², ELI Beamlines, Institute of Physics of the ASCR — The L4 laser (10 PW, 150 fs) at ELI Beamlines is expected to provide focused intensities approaching 10^{23} W/cm² and thus herald a new era of research in ultra-high intensity laser matter interaction. This talk will describe the progress in enabling the associated technological infrastructure - including the laser system, beam transport, diagnostics and the experimental chamber [1]. Synergistic experimental and theoretical programs are also developing tools for such research. The talk will also briefly describe these research areas like development of dedicated diagnostic equipment, efforts toward obtaining ultra-high intensities using tight-focusing and theoretical modeling toward future experiments where radiation reaction in the classical and quantum regime and pair production start to play an important role.

P3S. Weber *et al.* Matter and Radiation at Extremes, 1-28 (2017), in press, <http://dx.doi.org/10.1016/j.mre.2017.03.003>.

¹Supported from European Regional Development Funds - projects High Field Initiative (CZ.02.1.01/0.0/0.0/15_003/0000449) and ELI - phase 2 (CZ.02.1.01/0.0/0.0/15_008/0000162).

²on behalf of the R5 and R6 teams of ELI Beamlines

Ondrej Klimo
ELI Beamlines, Institute of Physics of the ASCR

Date submitted: 21 Jul 2017

Electronic form version 1.4