

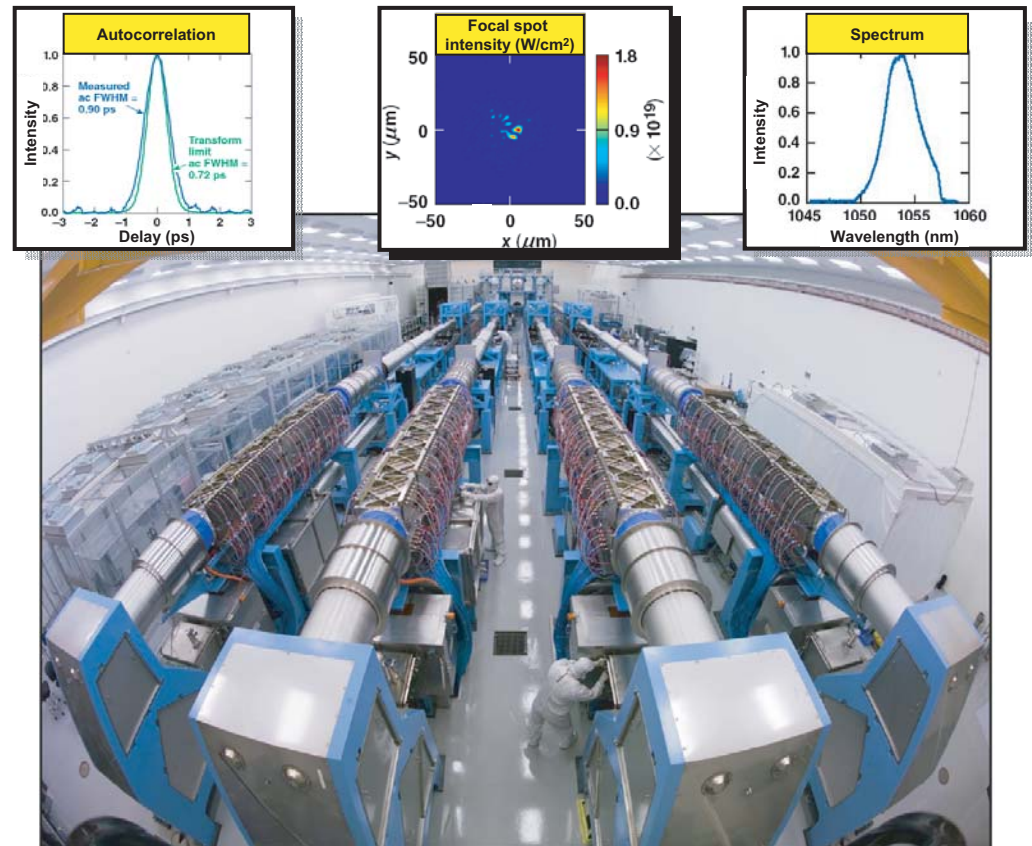
OMEGA EP and Technologies used to Focus and Characterize High-Energy Petawatt Pulses



Dr. Jake Bromage
Scientist, LLE
University of Rochester

BS, Physics, St Andrews, Scotland
PhD, Optics, U. of Rochester, 1999
Bell Labs, OFS (1999-2004)
LLE (2004-)

This talk will describe the technologies used to focus the laser to intensities exceeding 10^{20} W/cm², and the diagnostics used for spatial and temporal characterization of focused pulses.



3:00 pm, Monday, December 1, 2008

Sloan Auditorium, Goergen Building

Refreshments provided

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Jake Bromage

Laboratory for Laser Energetics, University of Rochester

ABSTRACT:

OMEGA EP (Extended Performance) is a large-scale petawatt-class addition to the 30-kJ, 60 beam OMEGA laser facility. Capable of producing 5 kJ of total on-target energy in picosecond-scale pulses, it will advance research on inertial confinement fusion by providing high-brightness sources of x-rays for backlighting and enabling advanced-ignition experiments. This talk will describe the technologies used to focus the laser to intensities exceeding 10^{20} W/cm², and the diagnostics used for spatial and temporal characterization of focused pulses.

BIOGRAPHY:

Jake Bromage received a B.Sc. degree (1st class honors) in physics from the University of St. Andrews, Scotland, in 1991, and the Ph.D. degree in Optics from the University of Rochester, NY, in 1999. His thesis "Creating Rydberg electron wave packets using terahertz pulses," included research into ultrafast lasers and quantum optics. After graduation, he was a Member of Technical Staff with Bell Labs (1999 - 2002) and OFS Labs (2002 - 2004), where his work in optical telecommunications included various aspects of Raman amplified system design and characterization. Currently, he is a Scientist in the Laser Technology Development group, LLE, University of Rochester. His research now includes advanced diagnostic techniques for ultrafast lasers, high-power fiber laser systems, and nonlinear optical techniques for ultra-wideband amplification. He has authored and coauthored more than 50 papers, including a textbook chapter and two tutorials, and holds four patents.