

Abstract Submitted
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Measuring Multiphoton Ionization Yields with Mid-IR Laser Avalanche Breakdown¹ ELA ROCKAFELLOW, DANIEL WOODBURY, ROBERT SCHWARTZ, HOWARD MILCHBERG, University of Maryland, College Park — Mid-infrared lasers have opened up a new regime in strong field physics, impacting research on high harmonics, interactions with near-critical plasma, laser wakefield acceleration, and more. Recently, we demonstrated that avalanche ionization driven by a 50 picosecond 4 micron laser is a sensitive way to measure low electron densities. We have used this method to measure extremely low yields in multiphoton ionization at low laser intensities for several pump wavelengths. This poster will discuss the experiment's data extraction and analysis, as well as the design and testing of a lead sulfide autocorrelator to measure mid-infrared pulse lengths.

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