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Mid-Infrared High-order Laser-Plasma Interactions in Solids
NICHOLAS BEIER, TAM NGUYEN, University of California, Irvine, JINPU LIN, Center for Ultrafast Optical Science, University of Michigan, MATTHEW STANFIELD, HUNTER ALLISON, SAHEL HAKIMI, University of California, Irvine, JOHN NEES, KARL KRUSHELNICK, Center for Ultrafast Optical Science, University of Michigan, FRANKLIN DOLLAR, University of California, Irvine — Relativistic laser-solid interactions are capable of driving high energy electron, ion, and x-ray emission. Despite favorable scalings towards longer wavelength, most solid high-order harmonic generation experiments have been with near-infrared lasers. High-energy, longer-wavelength experiments are now capable of driving such interactions enabling enhanced diagnostics. We report an in depth investigation of these interactions at 1.3 and 2.1 micron wavelengths, with supporting Particle-in-Cell simulations.

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