

Abstract Submitted
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Extreme Ultraviolet Polarimetry with Laser-Generated High-Order Harmonics¹ NICOLE BRIMHALL, NATHAN HEILMANN, NICHOLAS HERRICK, DAVID ALLRED, R. STEVEN TURLEY, MICHAEL WARE, JUSTIN PEATROSS, Brigham Young University — We describe an extreme-ultraviolet (EUV) polarimeter that employs laser-generated high-order harmonics as the light source. The polarimeter is designed to characterize materials and thin films for use with EUV light. Laser high harmonics are highly directional with easily rotatable linear polarization, not typically available with other EUV sources. The harmonics have good wavelength coverage, potentially spanning the entire EUV from a few to a hundred nanometers. We have found that the polarimeter reflectance data agrees well with data obtained at the Advanced Light Source Synchrotron (Beamline 6.3.2) and with calculated data. We also describe a new measurement technique in which the ratio of p- to s-polarized reflectance is used to extract optical properties of samples, rather than the absolute reflectance.

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