MAR16-2015-004475

Abstract for an Invited Paper
for the MAR16 Meeting of
the American Physical Society

Tabletop Extreme Ultraviolet Spectroscopy of Element-Specific Organometallic Photophysics

JOSH VURA-WEIS, University of Illinois at Urbana-Champaign

High-harmonic extreme ultraviolet (XUV) spectroscopy has the potential to provide the elemental, oxidation-state, and spin-state specificity of core-level spectroscopy with the convenience and ultrafast time resolution of tabletop laser sources. We will show that M-edge spectroscopy of first-row transition metal complexes (3p→3d excitation) is a sensitive probe of the electronic structure of organometallic complexes in solution. Furthermore, this technique can be used to determine the relaxation dynamics of these molecules in the first few femtoseconds to nanoseconds after photoexcitation.