

Abstract Submitted
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Cation dynamics of molecular Hydrogen in the presence of a strong laser field, preliminary results¹ A. GATTON, E. CHAMPENOIS, K. LARSEN, N. SHIVARAM, S. BAKHTI, W. ISKANDER, LBNL, T. SIEVERT, KSU, D. REEDY, UN-Reno, M. WELLER, U-Frankfurt, J.B. WILLIAMS, UN-Reno, A. LANDERS, Auburn, TH. WEBER, LBNL — We present preliminary results from a new 2-color laser+synchrotron Cold Target Recoil Ion Momentum Spectrometer (COLTRIMS) experiment in which we overlap a pulsed laser (1030nm, 12ps, $5 * 10^{11} W/cm^2$) with light from beamline 10.0.1 (18.56eV, 80ps, 50meV resolution) at the Advanced Light Source at Lawrence Berkeley National Lab. The data (absent the laser) shows asymmetric proton emission in the fragmenting hydrogen cation due to the retro-action of the photoelectron Coulomb potential, as reported recently by Waitz et. al. (PRL 116, 043001 (2016)). Preliminary analysis hints that this effect exists and may even be enhanced in the laser dressed states of the dissociating cation. Of even more interest, preliminary analysis hints at the signature of light induced conical intersections in the dissociation of the laser dressed hydrogen cations, as recently reported by Natan et. al. (PRL 116, 143004 (2016)).

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