

Abstract Submitted
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The Role of Mass in the Carrier-Envelope Phase Effect for H_2^+ Dissociation¹ JIANJUN HUA, BRETT ESRY, J.R.Macdonald Laboratory, Department of Physics, Kansas State University — The field-aligned model in the Born-Oppenheimer representation is adopted to study carrier-envelope phase (CEP) effects in the dissociation of H_2^+ and its isotope D_2^+ in an intense laser field. We find that D_2^+ shows larger CEP effects under the same laser conditions. Specifically, the CEP effects appear as differences in each dissociation channel $p + \text{H}$ and $\text{H} + p$, i.e. p going up or down, respectively, relative to the laser polarization direction. We will present results for a range of laser intensities, and we will also present an interpretation based on the recently developed theory in Ref. [1]. [1] V.Roudnev and B.D.Esry, Phys. Rev. Lett. 99, 220406 (2007)

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