Abstract Submitted
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Carrier-envelope phase effects in molecular dissociation: practical considerations[1] V. ROUDNEV, B. D. ESRY, Kansas State University — We have performed three-dimensional calculations of the HD^+ dissociation in alinearly polarized laser field with the restriction that the nuclei are aligned with the field. Although dissociation from a single initial vibrational state can show substantial carrier-envelope phase (CEP) dependence, the CEP dependence of a mixed initial state is not as strong. A strong CEP effect can be recovered, though, by analyzing the kinetic energy of the fragments. In order to approach realistic experimental conditions, we perform focus volume averaging of the results and identify the kinetic energy ranges demonstrating the strongest CEP dependence.

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