

Abstract Submitted  
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**Generation of even below-threshold harmonics by stretched  $\text{H}_2^+$  molecules in intense elliptically polarized laser fields**<sup>1</sup> K. NASIRI AVANAKI, University of Kansas, DMITRY A. TELNOV, St. Petersburg State University, Russia, SHIH-I. CHU, University of Kansas — We study the high-order harmonic generation(HHG) of  $\text{H}_2^+$  molecular ions in intense near-infrared elliptically polarized laser fields solving the time-dependent Schrödinger equation by means of the time-dependent generalized pseudo spectral method in prolate spheroidal coordinates. While the yield of above-threshold harmonics for nonzero ellipticity is generally reduced as compared with linearly polarized fields, below-threshold harmonics still appear quite strong except when the polarization plane is perpendicular to the molecular axis. Weak even harmonics are detected in the HHG spectra of stretched molecules, with the internuclear separations 7 to 9 a.u. This effect can be explained by the broken inversion symmetry due to dynamic localization of the electron density near one of the nuclei. Influence of the multiphoton resonances and two-center interference on the HHG spectra is also analyzed.

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