

Abstract Submitted  
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**Medium propagation effects on high harmonic generation of Ar in a two-color laser field**<sup>1</sup> GUOLI WANG, CHENG JIN, C.D. LIN, Physics Department, Kansas State University — We calculated the macroscopic HHG spectra of Ar in a two-color laser field where the single-atom response was evaluated using the quantitative rescattering (QRS) theory. The effect of macroscopic propagation in the medium on the dispersion and the Kerr nonlinearity of the fundamental laser field, and on the dispersion and absorption of the harmonics, has been analyzed. Despite that the HHG spectra exhibit different features with the change of experimental conditions, the Cooper minimum of Ar at photon energy of around 50 eV always appears. According to the QRS theory, we can extract “macroscopic wave packet” from the calculated HHG spectra, which only depends on the laser properties. The result also provides a basis for extracting the target structure from measured HHG spectra using a two-color laser field.

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