Abstract Submitted
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Femtosecond transparency in the extreme ultraviolet[1] MICHAL TARANA, CHRIS H. GREENE, Department of Physics and JILA, University of Colorado, Boulder, Colorado 80309-0440, USA — Electromagnetically induced transparency-like behavior in the extreme ultraviolet (XUV) is studied theoretically, including the effect of intense 800 nm laser dressing of He 2s2p($^1P^o$) and 2p^2($^2S^e$) autoionizing states. We present an *ab initio* solution of the time-dependent Schrödinger equation in an *LS*-coupling configuration interaction basis set. The method enables a rigorous treatment of optical field ionization of these coupled autoionizing states into the $N = 2$ continuum in addition to $N = 1$. Our calculated transient absorption spectra show the formation of the Autler-Townes doublet in the presence of the dressing laser field. The presented results are in encouraging agreement with experiment [1].

[1] Z.H. Loh, C.H. Greene, and S. R. Leone, Chem. Phys. 350, 7 (2008)

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