

Abstract Submitted
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Pulse-Shape Effects in Ionization of Atomic Hydrogen by Short-Pulse XUV Intense Laser Radiation¹ KLAUS BARTSCHAT, JOEL VENZKE, Drake University, ALEXEI N. GRUM GRZHIMAILO, Lomonosov Moscow State University — In a recent publication [1], we investigated a displacement effect in strong-field atomic ionization by an XUV pulse. We found that the angular momentum of the ejected electron and, therefore, its angular distribution were strongly affected by the details in the short ramp-on/off characteristics of various pulses, all of which were otherwise identical with a plateau in the envelope function that was significantly longer than the ramp-on/off phase. In the present work, we studied the effect in more detail, especially regarding the role of the plateau, which is unlikely to occur in a realistic experimental setup. As expected [2], great care must be taken in setting up theoretical models to ensure that the pulses are, at least in principle, experimentally realizable.

[1] I.A. Ivanov, A.S. Kheifets, K. Bartschat, J. Emmons, S.M. Bucek, E.V. Gryzlova, and A.N. Grum-Grzhimailo, *Phys. Rev. A* **90** (2014) 043401.

[2] L.B. Madsen, *Phys. Rev. A* **65** (2014) 053407.

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