

Abstract Submitted
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**Attosecond pulse formation via harmonic generation driven by
filamentation-compressed laser pulses**

few-cycle

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It has recently been demonstrated that the self-compression during laser-driven filamentation can be an efficient and alternative source of intense few-cycle laser pulses. We explore the use of such pulses for attosecond pulse formation via high harmonic generation. We present a theoretical study of harmonic generation in argon driven by single or few cycle pulses with peak intensities of a few times 10^{14} W/cm². These pulses are the result of filamentation-driven self-compression of an 800 nm, 30 fs laser pulse in neon. Our results indicate that it is possible to generate isolated XUV pulses with durations of a few hundred attoseconds in this way. We explore the dependence of the attosecond pulse generation on the time-dependent phase of the driving pulse.

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