

<b>Title</b>	<b>Few-cycle femtosecond field synthesizer</b>
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<b>Abstract</b>	<p>We report on an optical field synthesizer consisting of a CEO-phase stabilized octave-spanning Ti:sapphire laser oscillator, a double-LCD prism-based pulse shaper, and a SPIDER pulse characterization apparatus. This field synthesizer allows for generating pulses with durations as short as 3.6 fs and enables to control the electric field on a sub-cycle scale. Within the limits of the ultrabroad spectrum arbitrary spectral and temporal pulse shapes and pulse sequences can be realized. Together with the ability to stabilize the pulses with respect to their CEO-phase, this system forms a versatile tool for coherent control experiments of field sensitive processes and precision spectroscopy</p>
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