

Octave-Spanning Ti:sapphire Lasers and Carrier-Envelope Phase Control

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We discuss the progress made towards octave-spanning Ti:sapphire lasers generating carrier-envelope phase controlled sub-two cycle pulses directly from the laser. The physical origin of the carrier-envelope phase dynamics of these lasers as well as its limits on the carrier-envelope phase noise ultimately achievable will be discussed both by numerical modeling as well as experimental results.