

Abstract Submitted
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Generation of microjoule tunable infrared pulses through DFG with BBO crystal BAOZHEN ZHAO, KUN ZHAO, SABIH KHAN, CHENG YAN, Department of Physics, Kansas State University, ZENGHU CHANG¹, Department of Physics, Kansas State University; Department of Physics and CREOL, University of Central Florida — A broadband tunable infrared pulse was generated through different frequency mixing, by a ultrashort 800nm pulse with 8fs, 1kHz, 400uJ out of a Ne hollow-core fiber and chirped mirror compressors, with 3mm BBO type II phase matching. The energy of infrared pulse is about 3uJ, spectral bandwidth is around 300nm, with tunable central wavelength range from 1800nm to 2300nm. The corresponding transform-limited pulse is ~ 26 fs. It can be compressed with CaF₂ prism pair. The streaking effect in an attosecond streak camera for characterizing isolated attosecond XUV pulses is stronger, if the streaking laser has a longer wavelength. Therefore, the generated short laser pulse with a central wavelength near 2um is an excellent candidate of the streaking laser in an attosecond streak camera.

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