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Title:Generation of a 660-2100 nm laser frequency comb based on an erbium fiber laser

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Abstract:We present a multibranch laser frequency comb based upon a 250 MHz mode-locked erbium-doped fiber laser that spans more than 300 THz of bandwidth, from 660 nm to 2100 nm. Light from a mode-locked Er:fiber laser is amplified and then broadened in highly-nonlinear fiber to produce substantial power at ~1050 nm. This light is subsequently amplified in Yb:fiber to produce 1.2 nJ, 73 fs pulses at 1040 nm. Extension of the frequency comb into the visible is achieved by supercontinuum generation from the 1040 nm light. Comb coherence is verified with cascaded f -2f interferometry and comparison to a frequency stabilized laser. © 2012 Optical Society of America.

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