













PC settings. Surprisingly, SHG relative efficiency for double-scale pulses was found to be slightly higher than that for conventional laser pulses of the same duration and energy, despite different level of intensity and phase fluctuations in these lasing regimes. In modeling, this result is related to higher peak powers and wider spectrum of double-scale pulses compared to that of conventional ones. In experiment, non-linear conversion efficiency of double-scale pulses also turned out to be higher, notwithstanding the fact that only 20% of spectrum of both types of pulses was converted into the second harmonic. The results of this work encourage further exploration of double-scale pulse applications since generation of such pulses is usually more environmentally stable and allows higher pulse energies.

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