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Title:Stable and Widely Tunable Single-Longitudinal-Mode Dual-Wavelength Erbium-Doped

Fiber Laser for Optical Beat Frequency Generation

Authors:Kim, R.K. (1); Chu, S. (1); Han, Y.G. (1)

Author affiliation: (1) Hanyang Univ, Dept Phys, Seoul 133791, South Korea

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Abstract:A stably and widely tunable single-longitudinal-mode dual-wavelength erbium-doped fiber (EDF) laser is investigated for the generation of a tunable optical beat frequency. The lasing wavelength spacing is widely controlled in a range from 3.46 to 13.2 nm, which means that the tunable optical beat frequency in a range from 0.43 to 1.66 THz can be achieved. Nonlinear polarization rotation effect is implemented to stabilize and equalize outputs of the tunable dual-wavelength EDF laser. Since the dual-wavelength fiber laser has a single-longitudinal mode, the proposed dual-wavelength fiber laser is stable.

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