

Widely tunable linear cavity multiwavelength Brillouin-Erbium fiber laser

ABSTRACT

Wideband multiwavelength Brillouin-Erbium fiber laser (BEFL) utilizing a linear cavity is presented, highlighting the usage of higher Brillouin and lower erbium doped-fiber pump powers to achieve higher lasing spectral bandwidth. A tuning range of 60 nm has been obtained from 1525 to 1585 nm. The dependency of the Stokes signal tuning range on the laser's pumping power is also elaborated. The wide tuning range of the proposed BEFL has potential in dense wavelength division multiplexing communication systems.

Keyword: Brillouin scattering; Erbium; Lasers; Nonlinear optics; Fibers