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Investigation of the effects of SOA locations in the linear cavity of an O-band Brillouin SOA fiber laser

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Abstract
An investigation into the effect of semiconductor optical amplifier (SOA) location in an O-band Brillouin SOA fiber laser (BSFL) was performed. Better output peak power flatness was generated by placing the SOA after the nonlinear medium, which is a 20 km true wave fiber (TWF) than placing it before the TWF. A maximum power of six flat output peaks with average power of - 22.0 dBm for a BP (Brillouin pump) wavelength of 1320 nm was obtained, generated from a BSFL with a SOA located after the TWF, compared with three flat Stokes signals with the SOA before the TWF at a BP wavelength of 1310 nm. The flat peak power output for the O-band Brillouin fiber laser is important, especially in producing a good O-band source. © 2011 Taylor & Francis.

Author Keywords
Multi-wavelength Brillouin fiber laser; O-band semiconductor optical amplifier

Index Keywords
Average power, Brillouin, Brillouin fiber laser, Brillouin pump, Flat output, Linear cavity, Maximum power, Nonlinear medium, O-band semiconductor optical amplifier, Output peak power, Peak power, Stokes signal; Fiber lasers, Optical switches, Semiconductor optical amplifiers; Fibers

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