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Title:Dual-wavelength tunable fibre laser with a 15-dBm peak power

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Abstract:A high-power dual-wavelength tunable fibre laser (HPDWTFL) operating in the C-band at wavelengths from 1536.7 nm to 1548.6 nm is proposed and demonstrated. The HP-DWTFL utilises an arrayed waveguide grating (AWG) (1 × 16 channels) and is capable of generating eight different dual-wavelength pairs with eight possible wavelength spacings ranging from 0.8 nm (the narrowest spacing) to 12.0 nm (the widest spacing). The average output power and side mode suppression ratio (SMSR) of the HP-DWTFL are measured to be 15 dBm and 52.55 dB, respectively. The proposed HP-DWTFL is highly stable with no variations in the chosen output wavelengths and has minimal changes in the output power. Such a laser has good potential for use in measurements, communications, spectroscopy and terahertz applications. © 2011 Kvantovaya Elektronika and Turpion Ltd.