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A simple linear cavity dual-wavelength fiber laser using AWG as wavelength selective mechanism (Article)

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Abstract

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In this paper, a simple design of linear cavity dual-wavelength fiber laser (DWFL) is proposed. Operating in the C-band region stretching from 1538.3 nm to 1548.6 nm, an arrayed waveguide grating (AWG) is used to generate the dual-wavelengths output together with a broadband fiber Bragg grating as a back reflector and an optical circulator with a 10% output coupling ratio which acts as a front mirror. The measured average output power of the DWFL is about -5.66 dBm and with a side mode suppression ratio (SMSR) of 53.1 dB. The spacing between the two output wavelengths can be varied from 0.8 nm to 10.3 nm with a stable output and minimum power fluctuations. © 2010 Pleiades Publishing, Ltd.

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