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Distributed feedback multimode Brillouin-Raman random fiber laser in the S-band (Article)

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Abstract

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A novel S-band multimode Brillouin-Raman random fiber laser based on distributed feedback of Rayleigh scattered light is demonstrated. It relies on a short length, 7.7 km long angle-cleaved dispersion compensating fiber in a mirror-less open cavity. Two 1425 nm laser diodes at a modest operating power amplify a Brillouin pump (BP) signal, which in turn generates a multi-wavelength laser output through the stimulated Brillouin scattering. Eleven Brillouin Stokes lines, spanning from 1515.15 to 1516.00 nm, were obtained at a Raman pump power of 361.66 mW. Out of these, five odd Brillouin Stokes lines were generated with a flat peak power of about 0 dBm. © 2013 Astro Ltd.

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