

## **Effect of Raman pump direction on conventional multiwavelength Brillouin-Raman fiber laser**

### **ABSTRACT**

We have experimentally investigated the effects of Raman pump direction on the performance of multiwavelength Brillouin-Raman fiber laser. Comparison of Raman gain profiles at different Raman pump direction demonstrates higher gain in backward-pumping scheme than that in the forward pumping configuration. 192 channels at the typical Brillouin shifted frequency spacing of 10 GHz are attained through backward pumping due to the higher Raman gain. On the other hand, forward-pumping scheme produces better optical signal-to-noise ratio of 26 dB with 20 GHz channel spacing.

**Keyword:** Raman pump direction; Multiwavelength Brillouin-Raman fiber laser; Backward pumping