

The Effects of Signal Level of the Microwave Generator on the Brillouin Gain Spectrum in BOTDA and BOTDR

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Abstract : In this study, Brillouin gain spectrum (BGS) is experimentally analyzed in the Brillouin optical time domain reflectometry (BOTDR) and Brillouin optical time domain analyzer (BOTDA). For this purpose, the signal level of the microwave generator is varied and the effects of BGS are investigated. In the setups, 20 km conventional single mode fiber is used to both setups and laser wavelengths are selected around 1550 nm. To achieve best results, it can be used between 5 dBm to 15 dBm signal level of microwave generator for BOTDA and BOTDR setups.

Keywords : microwave signal level, Brillouin gain spectrum, BOTDA, BOTDR

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