Abstracts

Recirculating loop for experimental evaluation of EDFA saturated regime effects on optical communication systems

C. Mazzali and H.L. Fragnito. "Recirculating loop for experimental evaluation of EDFA saturated regime effects on optical communication systems." 1998 Transactions on Microwave Theory and Techniques 46.3 (Mar. 1998 [T-MTT]): 253-257.

We demonstrate an optical-fiber recirculating loop for experimental simulation of long-haul optical communication systems using cascaded erbium-doped fiber amplifiers (EDFA's) operating in the gain saturation regime. The loop contains sections of dispersion shifted fibers (DSF's), standard fiber, and a set of in-line devices, such as tuning filters, optical amplifiers, polarization controllers, and a variable attenuator. The main results presented here are related to the observation of the effects due to the slow dynamics of the EDFA. We also discuss the validity of using an optical attenuator to simulate an extra length of fiber.

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