Abstracts

Dynamic Range of Semiconductor Laser in the Presence of External Cavity

T.-D. Ni, X. Zhang and A.S. Daryoush. "Dynamic Range of Semiconductor Laser in the Presence of External Cavity." 1994 Microwave and Guided Wave Letters 4.3 (Mar. 1994 [MGWL]): 68-70.

This paper presents experimental observations of dynamic range of a laser diode in the presence of external optical feedback. The external cavity provides an efficient frequency response over a narrow band for high frequency carrier signal, while reducing the relative intensity noise for data signals away from the natural resonant frequency. The experimental results show that the spurious free dynamic range can be improved at least by 8 dB using optical feedback over a broad bandwidth. This technique can be used to simultaneously transmit high quality data signal as well as high frequency carrier signal.

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