

Nonlinear distortion suppression in directly modulated DFB lasers by sidemode optical injection

J.-H. Seo, Y.-K. Seo and W.-Y. Choi. "Nonlinear distortion suppression in directly modulated DFB lasers by sidemode optical injection." 2001 MTT-S International Microwave Symposium Digest 01.1 (2001 Vol. 1 [MWSYM]): 555-558 vol.1.

We demonstrate a new method of suppressing nonlinear distortions in directly modulated DFB lasers. In our scheme, external laser light is injected into the sidemode of the DFB laser. Using this scheme, we achieved significant reduction in nonlinear distortions such as the second harmonic distortion (SHD), second order intermodulation distortion (IMD2), and third order intermodulation distortion (IMD3). In addition, we enhanced the external light detuning range.

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