Abstracts

Harmonic Enhancement of Modulated Semiconductor Laser with Optical Feedback

T.-D. Ni, X. Zhang and A.S. Daryoush. "Harmonic Enhancement of Modulated Semiconductor Laser with Optical Feedback." 1993 Microwave and Guided Wave Letters 3.5 (May 1993 [MGWL]): 139-141.

A harmonic conversion approach for the efficient transfer of power to the desired harmonic of a directly modulated semiconductor laser diode is presented. This approach will help to overcome the limitations of modulation bandwidth that are associated with semiconductor laser diodes. In particular, the transfer of power from the second harmonic to the fourth harmonic of the modulation signal by the establishment of an external cavity matching to the fourth harmonic frequency is shown. The fourth harmonic at 5 GHz is at least 14 dB higher than the fundamental signal level.

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