عنوان مقاله:

Study various compensation methods SHB effect in DFB lasers and effect of temperature on the structure DFB lasers

محل انتشار:

دومین کنفرانس بین المللی مهندسی و علوم کاربردی (سال: 1395)

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خلاصه مقاله:

In this paper,Temperature effect on the device characteristics plays a critical role for its applications. In case of semiconductor distributed feedback (DFB) laser, because the gain bandwidth and the Bragg wavelength do not necessarily have the same responses to the environment temperature. If the two wavelength shifts are not optimized, even though we were able to achieve single mode at certain temperatures by index Bragg grating, the DFB laser can suddenly appear lasing in multimodes by the Fabry-Perot (FP) cavity in any other thermal conditions. Calculations showed that with addition of thermal conditions (ASE) the beam changes to longer wave lengths and it is because of connection between wavelength and coefficient of thermal failure.In above threshold, the figure of (ASE) will change to shorter wave lengths.Calculations also showed that there is a reduction in threshold with increase in thermal condition and the coefficient of thermal defeat that the reason is connection between energy gap and coefficient of thermal defeat.In threshold levelwith differentThermal conditions increasing in heat will result in lowering effect of (SHB).

کلمات کلیدی:

semiconductor distributed feedback(DFB) laser,SHB effect, Fabry-Perot (FP) cavity, Bragg grating, coefficient of (dispatched self amplification spectrum (ASE