World Academy of Science, Engineering and Technology
International Journal of Electronics and Communication Engineering
Vol:8, No:05, 2014

Relative Intensity Noise of Vertical-Cavity Surface-Emitting Lasers Subject to Variable Polarization-Optical Feedback

Authors : Salam Nazhan Ahmed

Abstract : Influence of variable polarization angle (θp) of optical feedback on the Relative Intensity Noise (RIN) of a Vertical-Cavity Surface-Emitting Laser (VCSEL) has been experimentally investigated. The RIN is a minimum at θp = 0° for the dominant polarization mode (XP), and at θp = 90° for the suppressed polarization mode (YP) of VCSEL. Furthermore, the RIN of the XP mode increases rapidly with increasing θp, while for the YP mode, it increases slightly to θp = 45° and decreases for angles greater than 45°.

Keywords : lasers, vertical-cavity surface-emitting lasers, optical switching, optical polarization feedback, relative intensity noise
Conference Title : ICEICE 2014 : International Conference on Electronics, Information and Communication Engineering
Conference Location : Amsterdam, Netherlands
Conference Dates : May 15-16, 2014