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

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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 $\theta p = 0^{\circ}$ for the dominant polarization mode (XP), and at $\theta p = 90^{\circ}$ 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 $\theta p = 45^{\circ}$ and decreases for angles greater than 45° .

 $\textbf{Keywords:} \ lasers, \ vertical\text{-}cavity \ surface\text{-}emitting \ lasers, \ optical \ switching, \ optical \ polarization \ feedback, \ relative \ intensity \ optical \ polarization \ feedback, \ relative \ intensity \ optical \ polarization \ feedback, \ relative \ intensity \ optical \ polarization \ feedback, \ relative \ intensity \ optical \ polarization \ feedback, \ relative \ intensity \ optical \ polarization \ feedback, \ relative \ intensity \ optical \ polarization \ feedback, \ relative \ intensity \ optical \ polarization \ feedback, \ relative \ intensity \ optical \ polarization \ feedback, \ relative \ intensity \ optical \ polarization \ feedback, \ relative \ intensity \ optical \ polarization \ feedback, \ relative \ intensity \ optical \ polarization \ feedback, \ relative \ intensity \ optical \ polarization \ feedback, \ relative \ intensity \ optical \ polarization \ feedback, \ relative \ intensity \ optical \ polarization \ feedback, \ relative \ intensity \ optical \ polarization \ feedback, \ relative \ optical \ polarization \ optical \ opt$

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