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Temperature-Dependent Multi-Polarization Switching in VCSELs YU-FONG CHEN, PEI-HOU CHIN, CHENG HSU, SHAHAM QUADIR, YUEH-CHEN LI, YU-HENG WU, TSU-CHIANG YEN, National Sun Yat-sen University Department of Physics, NATIONAL SUN YAT-SEN UNIVERSITY DEPARTMENT OF PHYSICS TEAM — The multi-polarization switching (MPS) in vertical-cavity surface-emitting lasers (VCSELs) at constant temperature was investigated. The experiment was performed by triangular modulation signal at 100 Hz under 10 °C and 7 °C. The results show that the number of polarization switching (PS) was varied from single PS to five PSs and seven PSs at 10 °C and 7 °C, respectively. It also observed that the variation of PS in VCSEL was sensitive to the increasing and decreasing process of temperature. Rich results concluded that the substrate temperature play an significant role in MPS.

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