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Observation of Polarization Switching in Vertical-Cavity Surface-Emitting Lasers at Constant Injection Current YU-HENG WU, YUEH-CHEN LI, WANG-CHUANG KUO, TSU-CHIANG YEN, Department of Physics, National Sun Yat sen University, DEPARTMENT OF PHYSICS, NATIONAL SUN YAT SEN UNIVERSITY TEAM — This study investigated the thermal characteristics of the polarization switching (PS) in vertical-cavity surface-emitting lasers (VCSELs) at constant injection current. The experiments were performed with a quasi-step function current experiment. A simplified temperature rate equation was used to simulate the experiment of the step function. The consistency of the experiments and simulations concludes that the thermal effect plays a major role in PS and PS's hysteresis. These results contribute to the understanding of the mechanism of VCSEL's polarization switching.

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