Optimization of VCSELs for Self-Mixing Sensing - DTU Orbit (19/01/2019)

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We have simulated the variations in optical output power from a vertical-cavity surface-emitting laser (VCSEL) subject to self-mixing feedback, which is very important for applications in sensing. In order to maximize the self-mixing signal for a given feedback we have optimized the epitaxial design of the VCSEL. The most important parameters are the number of quantum wells (gain), the number of Bragg mirrors (reflection), and the detector position.

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