Synchronization of Chaotic VCSELs

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Abstract

The performance of a master-slave configuration for effecting the synchronization of chaotic VCSELs is studied using numerical simulations. The dynamical evolution of optically coupled VCSELs is examined using a travelling wave model which is valid in the strong feedback regime. It is shown that the proposed configuration is capable of effecting synchronization in a robust manner. The opportunity for exploiting synchronized chaos in secure optical communication systems is indicated