

**S1-P.58****The Influence of External Cavity Optical Feedback on the Dynamics of Quantum Dots Lasers**

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This paper reports the numerical results on the investigation of the dynamical behavior of a semiconductor laser with quantum dots active medium and a feedback from double cavity. Due to the influence of the external feedback, under the appropriate conditions, the system displays chaotic behavior appropriate for chaos-based communications. The optimal conditions and parameters for chaos generation are identified. It is found that the double cavity feedback requires lower feedback strengths for developing high complexity chaos when compared with a single cavity.