

Abstract Submitted  
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**Wave chaos in a new class of optical microcavity** G. PAINCHAUD-APRIL, J. POIRIER, P.-Y. ST-LOUIS, J. LÉPINE, Université Laval, S. SAIDI, L. J. DUBÉ, Uni. Laval - Uni. Pierre et Marie Curie — We introduce a new class of open optical microcavity whose confinement and directional emission properties can be engineered through modification of a space-dependent refractive index. Numerical results are provided for a microdisc with Gaussian deformation of the refractive index. This leads to a new way of breaking integrability and inducing chaos in the classically equivalent system (*photonic billiard*, see companion contribution in Category 7.3) and to the potential fabrication of reconfigurable microlasers.

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