

Abstract Submitted
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Signatures of classical chaos in gate-defined graphene quantum dots JENS H. BARDARSON, Laboratory of Atomic and Solid State Physics, Cornell University, Ithaca, NY 14853-2501, USA, M. TITOV, School of Engineering & Physical Sciences, Heriot-Watt University, Edinburgh EH14 4AS, UK, P.W. BROUWER, Laboratory of Atomic and Solid State Physics, Cornell University, Ithaca, NY 14853-2501, USA — A generic, non-integrable, gate-potential can not confine electrons in graphene. Integrable gate-defined quantum dots, in contrast, do have well defined bound states. This difference between integrable and non-integrable graphene quantum dots is revealed in e.g. the two terminal conductance, whose dependence on the gate potential strength is starkly different for the two cases.

Jens H. Bardarson
Laboratory of Atomic and Solid State Physics,
Cornell University, Ithaca, NY 14853-2501, USA

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