

Abstract Submitted
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Optimization of realistic silicon double quantum dots through simulation ERIK NIELSEN, SUZEY GAO, RALPH YOUNG, RICHARD MULLER, Sandia National Laboratories — We present results obtained using a newly developed semiclassical and Poisson-Schrodinger simulation tool which is able to simultaneously optimize many solution parameters. We discuss the benefit this capability has on realistic device design, and report general trends seen when targeting few-electron quantum dots in silicon and silicon-germanium structures. This work was supported by the Laboratory Directed Research and Development program at Sandia National Laboratories. Sandia National Laboratories is a multi-program laboratory managed and operated by Sandia Corporation, a wholly owned subsidiary of Lockheed Martin Corporation, for the U.S. Department of Energy's National Nuclear Security Administration under contract DE-AC04-94AL85000.

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