

Abstract Submitted  
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**Optical Control of Spin Coherence in Singly Charged Quantum**

**Dots** A. SHABAEV<sup>1</sup>, AL. L. EFROS, Naval Research Laboratory, Washington DC, USA, I. A. MERKULOV, A. F. Ioffe Institute, RAS, St. Petersburg, Russia, A. GREILICH, R. OULTON, E. A. ZHUKOV, I. A. YUGOVA<sup>2</sup>, D. R. YAKOVLEV<sup>3</sup>, M. BAYER, Universität Dortmund, Dortmund, Germany, V. STAVARACHE, D. REUTER, A. WIECK, Ruhr-Universität Bochum, Bochum, Germany — In singly charged dots, resonant light couples an electron in the ground state with a trion consisting of the electron and an excited electron-hole pair. We show that a polarized laser pulse, driving the electron/trion transition, coherently changes the spin state of the ground state electron. The controlled spin dynamics provide a mechanism for the optical orientation of an electron spin in a quantum dot. The theory is supported by experimental evidence of the electron spin coherence induced and controlled by optical pulses in (In,Ga)As/GaAs quantum dots.

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