

Abstract Submitted
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Laser induced trapping of excitons in coupled quantum wells A.T. HAMMACK, M. GRISWOLD, L.V. BUTOV, University of California, San Diego, A.L. IVANOV, L.E. SMALLWOOD, Cardiff University, A.C. GOSSARD, University of California, Santa Barbara — Optical trapping and manipulation of neutral particles plays a major role in single particle studies in physics, chemistry, and biology [1]. An exciting recent outgrowth of the technique has been the experimental implementation of atom Bose- Einstein Condensation [2,3]. In this contribution, we report proposal and demonstration of laser induced trapping for a new system - a cold gas of excitons in coupled quantum wells. We report trapping a cold gas of excitons in laser induced traps and on the formation of a highly degenerate Bose gas of excitons in the trap. [1] A. Ashkin, *IEEE Journal on Selected Items in Quantum Electronics* **6**, 841 (2000). [2] E. A. Cornell, C. E. Wieman, *Rev. Mod. Phys.* **74**, 875 (2002). [3] W. Ketterle, *Rev. Mod. Phys.* **74**, 1131 (2002).

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