

Abstract Submitted
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Transport and charge detection spectroscopy of few electron quantum dot molecular states. ANDREW SACHRAJDA, Institute for Microstructural Sciences, National Research Council, Ottawa, Canada K1A 0R6, MICHEL PIORO-LADRIERE, Institute for Microstructural Sciences, NRC, Canada K1A 0R6 and CERPEMA, Universite de Sherbooke, Sherbooke, Quebec, Canada J1K 2R1, PAWEL HAWRYLAK, RAMIN ABOLFATH, PIOTR ZAWADZKI, JEAN LAPOINTE, SERGEI STUDENIKIN, Institute for Microstructural Sciences, National Research Council, Ottawa, Canada K1A 0R6 — . Few electron lateral quantum dot molecules have been fabricated and studied using both transport and charge detection techniques. Such devices are ultimately planned for quantum information applications such as charge and spin based qubits. Measurements have been performed for several specific configurations (n,m) relevant for quantum information where n and m refer to the measured number of electrons in each dot e.g. (5,5) the lowest occupancy configuration with a filling factor 2 state. Measurements were made as a function of magnetic field and the tunnel coupling between the dots.

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