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Transport properties of coupled quantum dots in the presence of phonons G. MARTINS, Oakland Univ.-MI, K. AL-HASSANIEH, C. BUSSER, A. MOREO, E. DAGOTTO, Univ. Tenn. at Knoxville and ORNL — Here is presented the numerical study of the effect of Holstein phonons in the transport properties of two coupled quantum dots (QDs) in the Kondo regime. For the QDs we use the Anderson impurity model and each QD is coupled to a different Holstein mode. At $T = 0$, in the absence of phonons, and with 1 electron per dot, the usual splitting of the Kondo resonance is observed.[1] When the QDs are coupled to the phonons, there is a reduction of the effective Coulomb repulsion, which is explained through a canonical transformation. In addition, the conductance at the electron-hole symmetric gate potential is not affected by the phonons. This is caused by the modulation of the coupling factors.[2] The difference between the effects of phonons in lithographic QDs and in molecular conductors is also discussed. 1- C.A. Büsser et al, Phys. Rev. B **62**, 9907 (2000). 2- K.A. Al-Hassanieh, C.A. Büsser, G.B. Martins, Adriana Moreo and Elbio Dagotto (preprint)

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