

Transport through strongly correlated triple quantum dot

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Strong electron correlations are discussed for the system of three capacitively coupled quantum dots, each of which is connected to a separate pair of electrodes. The finite-U mean field slave boson approach is used. The analysis is carried out in a wide range of parameter space including both repulsive and attractive intra- and inter-dot interactions. Gate voltage dependencies of occupation, local magnetic moment, isospin and conductance, as well as fluctuations of these quantities are studied. Depending on the ratio and the sign of interaction parameters and occupation, either charge ordered states or different many-body resonances arise. In the emerging charge Kondo effects pseudospin fluctuations correspond to a coherent movement of six electrons into and out of the system.