

# **Quantum Dynamical Phase Transition in a pair of interacting spins, double quantum dots and two level systems**

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## **Abstract:**

It focuses in the effect of the environment on dynamical manipulation of charge and spin qubits in a swapping gate in Marcus' double quantum dot and NMR experiments. We found a critical value for the interaction with the environment which totally freezes the swapping through Quantum Zeno Effect. The critical strength depends on the symmetry of the S-E interaction. A complete abstract could be sent if required. Part of the theory and the NMR experiments have been published recently in Journal of Chemical Physics.