

Abstract Submitted
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Electric field manipulation of magnetoresistance in a single molecular spin-valve device¹ KAMAL DHUNGANA, RANJIT PATI, Michigan Tech Univ — Manipulation of spin transport in a molecular spin-valve device using external electric field is a challenging as well as an exciting task from both fundamental and technological points of view. The weak spin-orbit and hyperfine interactions in organic molecules make them potential candidates for spin conserved tunneling. Tunable spin transport properties in single molecular junctions have recently been demonstrated using spin polarized scanning tunneling microscope. Here, we model a molecular spin-valve device by attaching an organic molecule between two ferromagnetic electrodes. A single-particle many-body Green's function approach together with unrestricted density functional theory is employed to ca

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