Spin transport across molecules and quantum dots

Mandar Deshmukh* Tata Institute of Fundamental Research

Single electron tunneling via quantum dot provides a way to probe its energy spectrum. The discrete energy level spectrum reflects the interactions within the quantum dot, or the single molecule. Energy levels where the spin degeneracy is lifted due to the application of magnetic field act as spin filters to probe spin physics. I will discuss two examples of spin-physics probed using this idea for a quantum dot and a single molecule transistor.