

Abstract for an Invited Paper  
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**Molecular Junction Transport - Some Vibronic Effects**

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The behavior of molecular transport junctions in the coherent tunneling (Landauer-Imry) regime is rapidly becoming understood. But vibronic effects characterize molecules, and understanding how they act in such junctions is a significant issue. This talk will deal with the role of both weak and strong vibronic interactions in molecular junctions. The weak mixing appears in IETS spectra, and can be handled by perturbation theory in the coherent tunneling limit. It provides some quantitative comparisons between calculation and experiment, and can clarify pathways for transport. But strong vibronic interaction requires a more elaborate analysis, and changes the mechanisms for transport. Hysteresis and switching behaviors will be discussed.