U.S. DEPARTMENT OF ENERGY | Office of Science

Understanding Charge Separation and Transfer at Interfaces in Energy Materials

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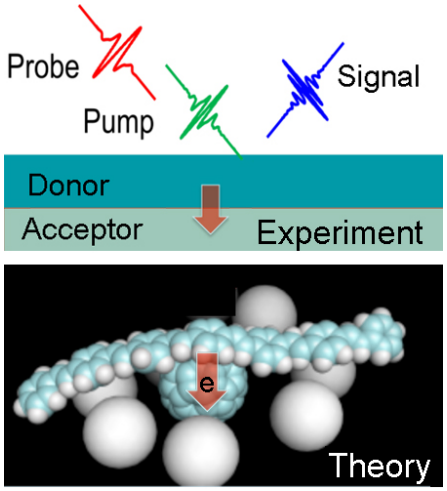
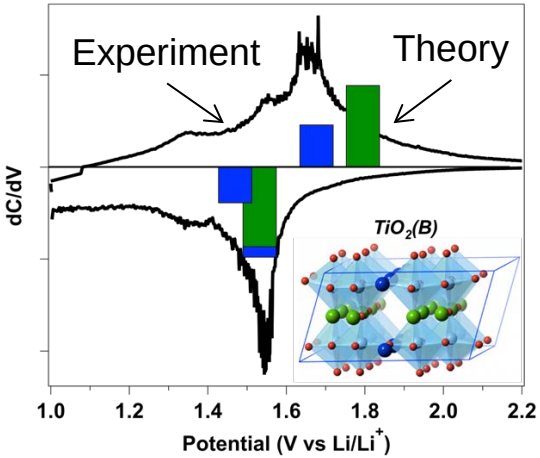
We are developing a *fundamental understanding* of interfacial charge separation and transfer processes that govern the *function* of molecular energy materials, thus *enabling design* of next-generation organic "plastic" solar cells and advanced batteries.





RESEARCH PLAN AND DIRECTIONS

We use *cutting-edge experimental methods* (e.g., interface-specific laser probes, *in situ* electron microscopy) *intimately coupled with frontier theoretical methods* (e.g., multiscale and quantum electronic dynamics simulation) to elucidate the mechanisms and structural basis for observed charge separation and transfer behavior in energy materials.

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