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Tenkých vrstev a nanostruktur

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TÉMA

Controlling Single-Molecule Circuits Through Electrolytic Environment

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Over the past ten years, there has been tremendous progress in the measurement, modeling and understanding of structure-function relationships in single molecule circuits. Experimental techniques for reliable and reproducible single molecule junction formation and characterization have led, in part, to this progress. In particular, the scanning tunneling microscope based break-junction technique has enabled rapid, sequential measurement of large numbers of nanoscale junctions allowing a statistical analysis to readily distinguish reproducible characteristics. In this talk, I will present methods to create single-molecule devices and measured their physical properties, including electronic, electrochemical and thermoelectric. I will then show how their molecular structure as well as the environment around these nanoscale systems can control their electronic characteristics.

odborný garant: *Hector Vazquez, Ph.D.*