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Negative Differential Resistance and Current Rectification in C_{60} Multilayers MICHAEL GROBIS, ANDRE WACHOWIAK, RYAN YAMACHIKA, MICHAEL CROMMIE, Department of Physics, University of California, Berkeley — Electronic components exhibiting negative differential resistance (NDR) and current rectification (CR) play a crucial role in modern electronic devices. Though most such devices are based on semiconducting technology, several molecular systems have been recently shown to exhibit NDR and CR that involve very different mechanisms. This talk will focus on NDR and CR behavior seen in our scanning tunneling spectroscopy studies of C_{60} multilayers on metal surfaces. The NDR mechanism observed here appears to differ from those seen in previous studies and is consistent with the behavior expected from a bias-dependent tunneling barrier height.

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