Interaction between proteins and carbon nanotubes field effect transistors. MIKHAIL BRIMAN, UCLA, Department of Physics and Astronomy, KEITH BRADLEY, Nanomix, ALEX STAR, Nanomix, GEORGE GRUNER. — The interaction between proteins and carbon nanotube network field effect transistors in a biological buffer environment has been investigated. In general, chemical or biological species can affect conduction through the network either by charge transfer or by introduction of a scattering potential on the nanotubes. A method employing the real-time analysis of transistor transfer characteristics allows us to distinguish between these two effects. Based on the available experimental data, we argue that the mechanism by which proteins influence carbon nanotubes is the charge transfer from \(-\text{NH}_2\) groups.

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