

## **2. Effective dielectric constant of confined water in nanostructured carbon nanotube electrodes**

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*At the electrode-solution region of an electrolytic cell, a double layer capacitance comes out as consequence of the confined fluid within the atomic layer of ions formed close the solid-liquid interface. For a plain, smooth surface, this capacitance is consistent with ordinary water confined to a layer of nanometric dimensions. We made a set of structured carbon nanotube (NTC) electrodes and performed cyclic voltammetry measurements. Some electrodes were also functionalized with platinum nanoparticles. Double layer capacitance values were obtained as function of the maximum applied voltage in the cycle and its voltage rate. Your results indicate that ionic confinement close the complex geometry of the structured electrodes may lead to water dielectric constant in the double layer that differs from its bulk values.*