Potential estimation for a floating electrode

For a given nanoparticle network of N_{NP} nanoparticles and N_e electrodes, one electrode voltage is choosen to be floating, i.e variable during the simulation. The remaining electrodes might also vary in time, but are constant during the *KMC* procedure at a specific time step. As the floating electrode is connected to a particular nanoparticle it will depend on the nanoparticle's potential ϕ_{NP}.

The nanoparticle as it sits on an insulating SiO_2 environment has the ability to store charges by itself (isolated) defined by its self capacitance $C_{self} = 4\pi\epsilon_{SiO_2}r_{NP}$. The interaction between the charges on nanoparticle and electrode is represented by its mutual capacitance $C_{}

$$U_{out} = \frac{C_i}{C_{self}}$$