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The Density Functional Calculation for Surface Capacitance of Metal-Semiconductor Junction CHIN-SHENG WU, Yuan Ze University — We use the density functional theory to find the density of the surface electronic charge around metal-semiconductor junction. We use the local approximation for the inhomogeneous dielectric function around the junction. Therefore this surface charge can be applied to find dielectric constant, which is a function of the electron density. The capacitances are calculated on the junction by their shapes and dielectric constants for various metal and semiconductor densities.

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