



Showcasing research from the Laboratory of Prof. Kunio Awaga, Department of Chemistry, Nagoya University, Japan.

Chemical potentials of electric double layers at metal–electrolyte interfaces: dependence on electrolyte concentration and electrode materials, and application to field-effect transistors

Solid state physics meets solution chemistry. We found characteristic dependences of the potential energy of surface electrons in the metal electrode  $E_M$  on the concentration of the electrolyte solutions and on the electrode materials. These dependences were successfully explained in terms of gradual transition between the metal work function  $\Phi_M$  and the solution chemical potential  $\mu_{\text{bulk}}$  at the metal–solution interfaces. Consequently, by varying the electrolyte concentration in electric-double-layer field-effect transistors, the carrier injection could be controlled.

As featured in:



See Kunio Awaga *et al.*,  
*Phys. Chem. Chem. Phys.*,  
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