

ΟΜΙΛΙΑ

Δευτέρα 20 Φεβρουαρίου 2012
Ώρα 14:00

Αίθουσα Συνεδριάσεων Τομέα ΙΙΙ (Κτήριο Β1, Αίθουσα 009)



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Nanobubble at normal hydrogen electrode

One of the unsolved problems in fundamental physical chemistry is the mismatch between the electrochemical energy scale and the electromagnetic one, which correspond to the redox potential and the ionization potential /the electron affinity of matter, respectively. In electrochemistry, the Gibbs free energy of hydrogen evolution is defined as zero, at Pt electrode dipped in $a_{\text{H}^+} = 1$ aqueous solution under 1atm hydrogen saturated conditions. The existence of hydrogen nanobubbles breaks these normal conditions since the hydrogen pressure in the bubble is increased by surface tension. The electrochemical reactions occurring at the three phases boundary around the nanobubbles are able to present the reasonable cause for the mismatch in the energy scales.