

Polarography and potentiometry of adsorbable compounds

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[The cause of the discrepancy between results obtained in polarography and potentiometry of redox species in specific interaction with the electrode surface - the surface and volume redox waves and their properties - the Erii-Markov effect, adsorption and the shift of the half-wave potential - the inadequacy of the static, planar condenser models of the electrical double layer.

A brief description of the "dynamic interface" and the non-equipotential nature of the metal surface at a metal-solution interface - specific changes in the surface charge distribution and the consequent change of electrode potential at the adsorption site.

The charging and faradaic currents, adsorption and the non-Nernstian slopes (α) - arguments against the theory of partial charge transfer, the electroadsorption valency or the formal ~~electron~~ ^{method} charge transfer coefficient.

Polarography as ideally suited for the study of electrochemistry of adsorption phenomena - brief mention of other processes involving adsorption like the H^+ reduction and the polarographic maxima - ~~reinterpretation~~ ^{reinterpretation} of the double layer effects by the surface and volume electron transfer concepts.

Conclusive remarks about the nature of ~~the~~ specific interaction of adsorbable species ~~on~~ ^{at} a metal surface ~~and~~ the similarity of with homogeneous metal ~~ligand~~ ^{ligand} interactions ~~in a complex~~ ^{in a complex}.