

Thin film coatings of graphite substrates in the colloid-chemical oxyhydrate gels in the conditions of uncorrelated chain ratchets

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Abstract

During the evolution the gel of tin oxyhydrate undergoes a series of structural changes causing the change in the intensity of cluster ion fluxes existing in oxyhydrate. This is either the damaged Stern layers of adsorbed (cations containing tin), or diffuse Gouy layer (cations of Na^+). Such nanocluster flows are discharged on graphite electrodes in the form of inhomogeneous thin films, generating electric current.

We objectively confirmed the movement of clusters in gel colloid on some lines of current due to the evolution on the electrodes of thin films of sodium and tin compounds strongly bound to the substrate. These fluid motions are possible in the formation of the Ratchet potentials difference in the cell during the installation of conductive graphite plates. The other elements in small amounts (calcium, zinc, copper) are deposited on the carbon and graphite substrate in the form of impurities.