

Thematic course: Hydrochemical synthesis of metal chalcogenide films. Part 25.

Hydrochemical deposition features of metal sulfide and selenide films

© Vyacheslav F. Markov,^{1,2*} Larisa N. Maskaeva,^{1,2+} and Tatiana A. Alekseeva¹

¹ Chair Physical and Colloidal Chemistry. The Ural Federal University of a Name of the First President of Russia B.N. Yeltsin. Mira St., 19. Ekaterinburg, 620002. Sverdlovsk area. Russia.

Phone: +7 (343) 375-93-18. E-mail: mln@ural.ru

² Chair of Chemistry and Burning Processes. Ural Institute GPS of the Ministry of Emergency Measures of Russia. Mira St., 22. Ekaterinburg, 620022. Russia. Phone: +7 (343) 360-81-68.

*Supervising author; +Corresponding author

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Abstract

The features of the chalcogenizator nature, the reaction solution composition and temperature prehistory at hydrochemical deposition described. It is offered to expand idea of the chalcogenizator activation by joining various strength nucleophils. The reaction solution anions play a role of nucleophil. It is shown the role of anionic component of cadmium salt in the solid solution formation $Cd_xPb_{1-x}S$. Influence of a cationic component of the entered salt on morphology, texture and properties of sulfide films is established. Mixed effect of temperature prehistory of water solution components of reactionary mixture is revealed on the architecture, composition and photoelectrical properties of the thin films. The fractal regularities are calculated for deposition of thin sulfide and selenide films. It is concluded that the cluster - cluster aggregation of particles is the basis of chemical bath deposition.