

## Features of formation of metal sulfide films from water solutions

© Vyacheslav Ph. Markov,\* and Larisa N. Maskaeva<sup>+</sup>

*Faculty of Physical and Colloidal Chemistry. Federal State Autonomous Educational Institution of Higher Professional Education "Ural Federal University Named After the First President of Russia B.N. Yeltsin".*

*Mira St., 28. Ekaterinburg, 620002. Russia. Phone: +7 (343) 375-93-18. E-mail: markv@mail.ustu.ru*

\*Supervising author; <sup>+</sup>Corresponding author

**Keywords:** *metal sulfides, substitutional solid solutions, thin films, hydrochemical synthesis, aggregation, cluster, fractality.*

### Abstract

Process of formation of metal sulfide films and solid solutions on their basis by hydrochemical deposition is considered from positions of fractal-cluster approach. By results of calculations of fractal dimensions of deposited films the mechanism of growth by cluster-cluster aggregation is established. Formation of layers is represented in the form of evolution of structural levels with increase of their amplitudinous-structural hierarchy. It is proved, that the supersaturation degree on replacing component of deposited solid solutions of metal sulfides is consequence of appearing dimensional effect.