Full Paper	Thematic Section: Physico-Chemical Research.
Registration Code of Publication: 13-34-5-16	Subsection: Colloidal Chemistry.

Publication is available for discussion in the framework of the on-line Internet conference "Butlerov readings".

http://butlerov.com/readings/ Contributed: April 24, 2013.

The problem of stochastic flow cluster caustics in oxyhydrate systems

© Boris A. Markov, Yury I. Sukharev,* and Inna Yu. Apalikova

Department of Solids and Nanoprocesses. Chelyabinsk State University.

Bratiev Kashirinykh St., 129. Chelyabinsk, 454000. Russia.

Phone: +7 (963) 460-27-75. E-mail: Yuri Sucharev@mail.ru.

Keywords: Lagrangian maps, caustics, oxyhydrate gel systems, oxyhydrate noise, colloid clusters, spontaneous pulsation current, spike surge, diffuse double electrical layer.

Abstract

It is common knowledge that the equation for the motion of particles in a gel is subject to viscous equations of hydrodynamics. This means that a system of equations that describes motions of particles in a gel can be put down in a form that is similar to that of the equations for plasma dynamics. A caustic is a set of degenerated critical points of the function that describes the phenomenon. Therefore, one can find those points by formulating a solution to the equation that is a simple linear equation.

^{*}Supervising author; *Corresponding author