A COMPUTATIONAL STUDY OF THE AGGREGATION KINETICS OF SPHERICAL COLOIDAL PARTICLES.

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The use of equations of diffusion for the description of processes activated in interacting particle systems is discussed, within the quantum theory of open systems and the description of subsystems using an equation of the Fokker-Planck type.

As application is considered the case of two particles interacting through a DLVO potential. The numerical solution of the diffusion equation is obtained by a method based on an exponential propagator and the use of fast Fourier transform (FFT). size particles, surfaces potentials, Hamaker constants and electrolyte concentrations. The effect of the height of the potential barrier on the stability ratio of the system obtained by this methodology is discussed.