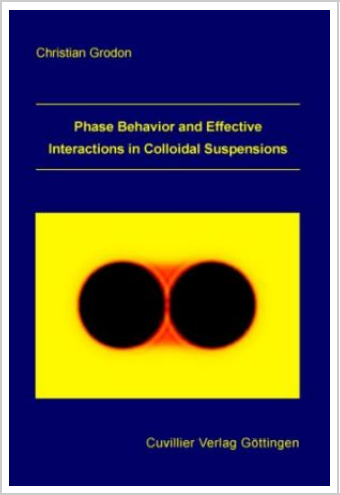

Phase Behavior and Effective Interactions in Colloidal Suspensions

By Christian Grodon

Cuvillier Verlag Apr 2007, 2007. Taschenbuch. Condition: Neu. Neuware - Colloidal suspensions describe particles with size from typically a few nanometers to a few microns which are dispersed in a medium. In physics, in chemistry, and in biology colloids play an important role and the study of colloidal systems underwent a recent renaissance. This is based on the development of experimental techniques, the availability of extensive computer simulations and well-developed theoretical approaches. From a technological point of view, the relevance of micro- and nanostructured materials and the presence of colloids in nature and everyday life motivates study of this rich field.In this thesis the phase behavior and the effective interactions of colloidal suspensions in bulk, in contact with surfaces, and in confined geometry are studied. For mixtures of particles with hard-core interactions the model introduced by Asakura, Oosawa and Vrij provides an appropriate starting-point. Based on that model the free-volume theory and the density functional theory are employed.In experimental systems one faces particles with properties such as the size or the shape which are described by a distribution. To capture that issue a generalized approach based on free-volume theory for treating mixtures of colloids and a polydisperse depletion agent is...

Reviews

It in one of the best book. Better then never, though i am quite late in start reading this one. You wont feel monotony at at any moment of the time (that's what catalogues are for regarding in the event you check with me).

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