Invited Lecture IL 03

Application of Analytical Centrifugation to Chemical Systems for Measurement of Properties and Phase Equilibria

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Abstract

Analytical centrifugation applies a gravitational field to a sample solution and measures space-time extinction profiles (STEP) to determine the properties and stability of a colloidal system. In this work, we review measurements being made with analytical centrifugation for the determination of properties in chemical systems (diffusion coefficients, phase separation) and introduce our own studies on estimation of effective densities of nanoparticles in solution and consider two phase systems in which partition coefficients can be measured. Systems of interest and highlighted in the presentation are those in environmental (octanol-water), food (emulsions), chemical (nanoparticles) fields.