

Problem Set 4. (due 5/13)

Problem 1 What is the dependence - within the DLVO theory of colloidal stability - of the critical concentration of a $Z:Z$ electrolyte on Z ?

Problem 2 a) Given a $u(r) = -\alpha a^5 r^{-6}$ form of the Van der Waals interaction between a pair of atoms, calculate (within Hamaker's additive approximation) the VdW interaction energy (per unit surface area) of two planar surfaces (formed by semiinfinite blocks with density ρ_1 and ρ_2) separated by a gap D .