

Metallic beads near the boundary of two media with different dielectric constants

Shikin V B

Institute of Solid State Physics of the Russian Academy of Sciences,
Akademika Osipyana Street 2, Chernogolovka 142432, Russia

shikin@issp.ac.ru

The electrostatic properties of charged colloids (the so-called *DLVO*—complexes) near the boundaries of two media with different dielectric constants are discussed. It is shown that remaining quasi-neutral in the volume of electrolyte *DLVO* colloids turn out to be partially charged near the border of $z = 0$ separating these media. The problem of the interaction of a separate colloid, having a solid core of $R_0 \gg a$ (a —the interatomic distance) and the charge of $Q = ze \gg 1$ (e —elementary charge) with a metal electrolyte boundary. This problem has a variety of applications in the characterization of *DLVO*—complexes and working with solutions maintaining the electrophoretic movement of colloidal formations.