DESCRIPTION

This book bridges three different fields: nanoscience, bioscience, and environmental sciences. It starts with fundamental electrostatics at interfaces and includes a detailed description of fundamental theories dealing with electrical double layers around a charged particle, electrokinetics, and electrical double layer interaction between charged particles. The stated fundamentals are provided as the underpinnings of sections two, three, and four, which address electrokinetic phenomena that occur in nanoscience, bioscience, and environmental science. Applications in nanomaterials, fuel cells, electronic materials, biomaterials, stems cells, microbiology, water purification, and humic substances are discussed.

ABOUT THE AUTHOR

Hiroyuki Ohshima is a Professor of Pharmaceutical Sciences at the Tokyo University of Science, Japan. He is the author or coauthor of seven books and over 300 book chapters and journal publications reflecting his research interests in colloid and interfacial sciences, as well as biophysical chemistry. Dr. Ohshima has conducted research at the University of Melbourne, the State University of New York at Buffalo, and the University of Utah. He currently edits two journals, Colloids and Surfaces B: Biointerfaces and Colloid and Polymer Science.
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