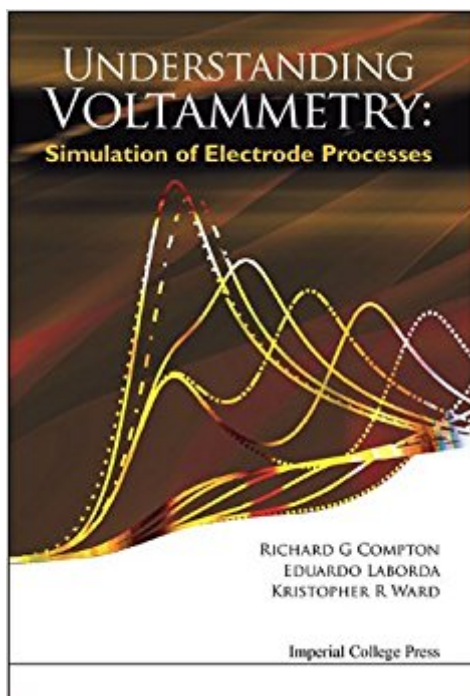


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Understanding Voltammetry: Simulation Of Electrode Processes



Synopsis

This is the first textbook in the field of electrochemistry that will teach experimental electrochemists how to carry out simulation of electrode processes. Processes at both macro- and micro-electrodes are examined and the simulation of both diffusion-only and diffusion-convection processes are addressed. The simulation of processes with coupled homogeneous kinetics and at microelectrode arrays are further discussed. Over the course of the book the reader's understanding is developed to the point where they will be able to undertake and solve research-level problems. The book leads the reader through from a basic understanding of the principles underlying electrochemical simulation to the development of computer programs which describe the complex processes found in voltammetry. This is the third book in the "Understanding Voltammetry" series, published with Imperial College Press and written by the Compton group. Other books in the series include "Understanding Voltammetry", written by Richard G Compton with Craig Banks and also "Understanding Voltammetry: Problems and Solutions" (2012) written by Richard G Compton with Christopher Batchelor-McAuley and Edmund Dickinson. These are and continue to be successful textbooks for graduates in electrochemistry and electroanalytical studies. Readership: Graduate students pursuing electrochemistry and electroanalytical studies, as well as researchers and professionals working in the area.

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Richard G Compton is Professor of Chemistry and Aldrichian Praelector at Oxford University, United Kingdom where he is also Tutor in Chemistry at St John's College. Compton has broad interests in both fundamental and applied electrochemistry and electroanalysis including nanochemical aspects. He is the Physical Chemistry editor of the Oxford Chemistry Primers series which comprises about 100 short texts covering a wide range of essential topics in the undergraduate chemistry curriculum. He has published more than 1300 papers ($h = 82$; Web of Science, February 2015) and hold numerous patents. He has been Chinese Academy of Sciences Visiting Professor at the Institute of Physical Sciences, Hefei and is a Lifelong Honorary Professor at Sichuan University. He holds Honorary Doctorates from the Estonian Agricultural University and Kharkov National University of Radioelectronics (Ukraine) and is a Fellow of the RSC and of the ISE. He is also a Fellow of the International Union of Pure and Applied Chemistry and a Thomson Reuters Highly Cited. He is the Founding Editor and Editor-in-Chief of the journal Electrochemistry Communications.

Excellent supplement to Introduction to Voltammetry. The treatment of simulations is very good with well written software examples.

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