

SIMULATION OF ELECTROCHEMICAL PROCESSES

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Preface

This book contains most of the papers presented at the first International Conference on the Simulation of Electrochemical Processes held in Cadiz, Spain in May 2005. The meeting was organised by the Wessex Institute of Technology.

The motivation for the meeting was to bring together researchers who have made significant developments in the area of Electrochemical modelling over recent years. Electrochemical processes are used by engineers to protect structures against corrosion, to apply coatings and paints, and as a manufacturing process. However, until recently, engineers had to use experimental testing or frequent surveys to ensure the adequacy of a design as sophisticated prediction models were not available. The papers presented at this conference demonstrate the major advances that have been made in computational modelling to enable the most complex processes to be simulated.

The papers in this book are divided into the following main topics:

- Cathodic Protection Systems
- Modelling Methodologies
- Electrodeposition and Electroforming
- Modelling Coatings
- Modelling Stress Corrosion Cracking and Corrosion Fatigue

The editors are indebted to the members of the International Scientific Advisory Committee for their help in reviewing the abstracts and papers. The generous support of the Office of Naval Research Global is also much appreciated.

The Editors
Cadiz, 2005

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