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Descrizione fisica	1 online resource (433 p.)
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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Electrochemistry in Nonaqueous Solutions; Contents; Preface to the First Edition; Preface to the Second Edition; Part One: Fundamentals of Chemistry in Nonaqueous Solutions: Electrochemical Aspects; 1 Properties of Solvents and Solvent Classification; 1.1 Properties of Solvents; 1.1.1 Physical Properties of Solvents; 1.1.2 Chemical Properties of Solvents; 1.1.3 Structural Aspects of Solvents; 1.1.4 Toxicity and Hazardous Properties of Solvents; 1.2 Classification of Solvents; 1.3 Effects of Solvent Properties on Chemical Reactions: An Outline; References 2 Solvation and Complex Formation of Ions and Behavior of Electrolytes2.1 Influence of Ion Solvation on Electrolyte Dissolution; 2.2 Some Fundamental Aspects of Ion Solvation; 2.2.1 Ion-Solvent Interactions Affecting Ion Solvation; 2.2.2 Structure of Solvated Ions; 2.2.3 Ultrafast Ion Solvation Dynamics; 2.3 Comparison of Ionic Solvation Energies in Different Solvents and Solvent Effects on Ionic Reactions and Equilibria; 2.3.1 Gibbs Energies of Transfer and Transfer Activity Coefficients of Ions; 2.3.2 Prediction of Solvent Effects by the Use of Transfer Activity Coefficients 2.4 Solvent Effects on the Complexation of Metal Ions2.5 Selective

Solvation of Ions in Mixed Solvents; 2.6 Ion Association and Solvent Permittivities; References; 3 Acid-Base Reactions in Nonaqueous Solvents; 3.1 Solvent Effects on Acid-base Reactions; 3.1.1 Acid-Base Reactions in Amphiprotic Solvents of High Permittivity; 3.1.2 Acid-Base Reactions in Aprotic Solvents of High Permittivity; 3.1.3 Acid-Base Reactions in Amphiprotic Solvents of Low Permittivity; 3.1.4 Acid-Base Reactions in Aprotic Solvents of Low Permittivity; 3.2 pH Scales in Nonaqueous Solutions
3.2.1 Definition of pH in Nonaqueous Solutions3.2.2 pH Windows in Nonaqueous Solvents and pH Scales Common to Multisolvents; References; 4 Redox Reactions in Nonaqueous Solvents; 4.1 Solvent Effects on Various Types of Redox Reactions; 4.1.1 Fundamentals of Redox Reactions; 4.1.2 Solvent Effects on Redox Potentials and Redox Reaction Mechanisms; 4.1.3 Dynamical Solvent Effects on the Kinetics of Redox Reactions; 4.2 Redox Properties of Solvents and Potential Windows; 4.3 Redox Titrations in Nonaqueous Solutions; 4.3.1 Titrations with Oxidizing Agents; 4.3.2 Titrations with Reducing Agents ReferencesPart Two: Electrochemical Techniques and Their Applications in Nonaqueous Solutions; 5 Overview of Electrochemical Techniques; 5.1 Classification of Electrochemical Techniques; 5.2 Fundamentals of Electrode Reactions and Current-Potential Relations; 5.2.1 Current-Potential Relation for Electron Transfer at the Electrode; 5.2.2 Current-Potential Relations and Mass Transport; 5.3 DC Polarography - Methods that Electrolyze Electroactive Species Only Partially (1); 5.4 New Types of Polarography - Methods that Electrolyze Electroactive Species Only Partially (2); 5.4.1 AC Polarography
5.4.2 SW Polarography

Sommario/riassunto

An excellent resource for all graduate students and researchers using electrochemical techniques. After introducing the reader to the fundamentals, the book focuses on the latest developments in the techniques and applications in this field. This second edition contains new material on environmentally-friendly solvents, such as room-temperature ionic liquids.

2. Record Nr. UNINA9910797961503321

Titolo	Deformation characteristics of geomaterials : proceedings of the 6th International Symposium on Deformation Characteristics of Geomaterials, IS-Buenos Aires 2015, 15-18 November 2015, Buenos Aires, Argentina / / edited by Victor A. Rinaldi, Marcelo E. Zeballos, Juan Jose Claria
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Collana	Advances in Soil Mechanics and Geotechnical Engineering, , 2212-7828 ; ; Volume 6
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Nota di contenuto	Title Page; Preface; Conference Organization; Contents; Bishop Lecture and Plenary Lecture; Advanced Testing and Modelling of Granular Materials with and Without Viscous Glue: Research and Practical Implication - The Third Bishop Lecture; Compaction Characteristics and Physical Properties of Compacted Soil Controlled by the Degree of Saturation; Keynote Lectures; Rockfill Mechanics. Experimental Observations and DEM Modelling; Limitations of a Critical State Framework Applied to the Behaviour of Natural and ""Transitional"" Soils Shear Strength and Stiffness Anisotropy of Geologically Aged Stiff ClaysMeasurement and Application of Shear Wave Velocity to Various Geotechnical Problems; Hydro-Mechanical Behaviour of Shales; Improved Laboratory Techniques for Advanced Geotechnical Characterization Towards Matching in Situ Properties; Reviewed Papers; Behavior of Compacted Unsaturated Soil in Isotropic Compression,

Cyclic and Monotonic Shear Loading Sequences in Undrained Condition; Influence of Initial Stress/Strain State on the Coefficient of Earth Pressure at Rest; Small Strain Modulus of Bio-Cemented Sand
Disk Transducer for Stiffness Measurement on Granular MaterialsExperimental Evaluation of Liquefaction Resistance of Unsaturated Sandy Soils; Development of Stacked-Ring Shear Apparatus for Multiple Liquefactions Tests; Effects of Inherent Anisotropy on Deformation and Strength Characteristics of a Reconstituted Sand; Element Tests on Lumpy Inhomogeneous Soil and Their Interpretation; Dynamic Shear Modulus of Kaolin-Silt Clay Using a Novel Technique; Study of the Mechanical Behavior of Unsaturated Argillaceous Rocks; Effect of Cement Type on the Mechanical Behavior of Fiber Reinforced Sands
Relationship Between Undrained Shear Strength and Shear Wave Velocity for ClaysDevelopment of Large Size Disk Transducer to Evaluate Elastic Properties of Coarse Granular Materials; Assessment of Shear Modulus by Different Seismic Wave-Based Techniques; In Situ and Laboratory Mechanical Characterization Using High-Resolution Fiber Optic Distributed Sensing; Experimental Investigation of Wave Propagation in Three Dimensions in Unbounded Particulate Assemblies; Frequency Domain Method in Bender Element Testing - Experimental Observations
An Alternative Shear Strength Test for Saturated Fine-Grained Soils: Preliminary ResultsInfluence of Grading and Mineralogy on the Behaviour of Saprolites; Towards the Measurement of Fabric in Granular Materials With X-Ray Tomography; Observing Breakage in Sand Under Triaxial and Oedometric Loading in 3D; Early Age Cemented Paste Backfill Stiffness Development; Influence of Volumetric and Shear Strains on the Destructuration of Saprolitic Soils; Description and Calibration of Triaxial Tests with Internal Measurement of Displacement on Artificially Cemented Lateritic Soil
Studying Collapse Behaviour of Sandy Silt Under Generalised Stress Conditions

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Autore	Cooke Jennifer G.
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Sommario/riassunto	Sub-Saharan Africa is on the verge of an energy boom. New discoveries off the East and West coasts have raised hopes of significant revenues that can accelerate poverty reduction and enhance Africa's status as a destination for industrial investment.