

Contents

P. Vanýsek

STATE OF THE ECS: INFORMATION ABOUT THE STATE OF THE ELECTROCHEMICAL SOCIETY AND THE BENEFITS OF BEING A MEMBER.....	13
--	----

Key Lectures

<i>J. Vondrák, M. Sedlaříková, J. Velická, M. Kocian, V. Špachman, B. Klápště</i> DOUBLE LAYER ON CARBON IN APROTIC ELECTROLYTES	19
---	----

<i>M. Chatenet, F. Micoud, I. Roche, E. Chainet, J. Vondrák</i> KINETICS OF OXYGEN REDUCTION IN SODIUM (HYDROXIDE + BOROHYDRIDE) ELECTROLYTE	23
---	----

Lithium polymer electrolytes

<i>R.Apostolova, V.Tsyachnyi, I.Kirsanova, and E.Shembel</i> KINETIC PARAMETERS OF Li^+ INTERCALATION IN ELECTROLYTIC MOLYBDENUM OXSULFIDES	31
---	----

<i>Weihua Pu, Xiangming He, Zheng Tian, Chunrong Wan, Changyin Jiang</i> PREPARATION OF POLY(ACRYLONITRILE-BUTYL ACRYLATE) POROUS MEMBRANE FOR LITHIUM-ION BATTERIES.....	35
--	----

<i>O.Chervakov, E.Shembel, Y.Burmistr, N.Bannik, V.Ryabenko, Yu.Polischuk</i> POLYMER MATERIALS FOR PROMISING SOLID-STATE IONIC CONDUCTORS	36
---	----

<i>L.P. Paskal, V.A. Dusheyko, V.G. Syromyatnikov</i> HIGH METHACRYLATES COPOLYMERS AS MATRICES OF SOLID ELECTROLYTES FOR LITHIUM POWER SOURCES	39
--	----

<i>J. Reiter, J Vondrák, J Michálek</i> TERNARY POLYMER ELECTROLYTES WITH 1-METHYLIMIDAZOLE BASED IONIC LIQUIDS AND APROTIC SOLVENTS	40
---	----

<i>T. Jiráček, M. Sedlaříková, J. Vondrák, J. Makovička, H. Polsterová</i> MATERIALS BASED IN LiCOO_2 DOPED BY ALKALI METALS FOR POSITIVE ELECTRODES OF SECONDARY LITHIUM BATTERIES.....	45
--	----

<i>T. Nováček, J. Vondrák, M. Sedlaříková, P. Šíková</i> PROPERTIES OF NaClO_4 PMMA BASED GEL ELECTROLYTES	47
--	----

<i>E. Mikotová, K. Bartušek, E. Gescheidtová</i> MEASURING OF RELAXATION TIMES OF NARIUM IONS BY MAGNETIC RESONANCE METHODS	51
--	----

<i>O.Krejza, Z. Šilhán M. Sedlaříková</i> SPECIFIC CONDUCTIVITY MEASUREMENTS OF THE PMMA BASED ELECTROLYTES CONTAINING Al_2O_3 NANOPARTICLES.....	55
--	----

Proton polymer electrolytes

<i>P. Krzyczmonik, S. Domagała, H. Scholl, J. Dziegieć, M. Cichomski, J. Grobelny</i> ELECTROCHEMICAL ACTIVITY OF Ce(III) IONS IMMOBILIZED IN NAFION FILM ON PLATINUM	61
--	----

Fuel cells

<i>M. O. Danilov, G. Ya. Kolbasov, A. V. Melezhyk</i> NANOSTRUCTURED CATALYTIC COMPOSITIONS FOR FUEL CELL ELECTRODE BASED ON MANGANESE DIOXIDE AND LEAD	69
<i>I. Roche, E. Chainet, M. Chatenet, J. Vondrák</i> MANGANESE OXIDE/CARBON-BASED ELECTROCATALYSTS FOR ORR IN ALKALINE MEDIUM: ORR MECHANISM	72
<i>P. Janderka, P. Brož, M. Gernátová, A. Marcinková, P. Ostřížek</i> MASS SPECTROMETRY AS A TOOL FOR STUDY OF ORGANIC SPECIES PENETRATION THROUGH MEMBRANES	76
<i>L. Janík</i> FUEL CELLS BUS (FCZ H ₂ -BUS) (FUEL CELLS CZECH HYDROGEN-BUS)	80
<i>P. Barath, V. Novák, J. Vondrák, M. Sedlaříková</i> BIPOLAR MEMBRANES	84
<i>M. Paidar, M. Míka, M. Mašinová, K. Bouzek</i> GAS SENSOR FOR TEMPERATURES ABOVE 100 °C BASED ON HYBRID INORGANIC-ORGANIC PROTON CONDUCTING PHOSPHOSILICATE POLYMER	87
<i>M. Míka, M. Mašinová, S. Švarcová, M. Paidar, K. Bouzek, B. Klápště, and J. Vondrák</i> CHARACTERIZATION OF PROTON CONDUCTING PHOSPHOSILICATE MEMBRANES FOR H ₂ /O ₂ FUEL CELLS	90
<i>P. Barath, V. Novák, J. Vondrák, M. Sedlaříková</i> ALKALINE IONEX MEMBRANES	93

Electrochromism

<i>M. Macalík, A. Matěj, M. Sedlaříková, J. Vondrák</i> ELECTROCHROMIC EFFECT IN VANADIUM PENTOXIDE THIN FILMS	99
---	----

Aqueous batteries

<i>P. Bača, P. Křivák</i> CAUSES OF THE LIFE SHORTENING OF LEAD-ACID BATTERIES IN PHOTOVOLTAIC (PV) APPLICATIONS	105
---	-----

<i>Delia Maria Constantin, Eleonora Maria Rus, Georgeta Taralunga</i> ELECTROCHEMICAL AND STRUCTURAL CHARACTERISTICS OF SINTERED NICKEL ELECTRODES CONTAINING CADMIUM HYDROXIDE ADDITIVE	110
--	-----

<i>P. Křivák, P. Bača</i> NEW FINDING FROM STUDY OF INNER RESISTANCE OF LEAD-ACID BATTERY	115
--	-----

<i>C. Poinsignon</i> MANGANESE DIOXIDES FOR ELECTROCHEMICAL STORAGE OF ENERGY	119
--	-----

<i>T. Uhlířová, J. Reiter, J. R. Owen</i> THE ELECTROCHEMICAL REDOX PROCESSES IN THE LYOTROPIC LIQUID CRYSTALS	123
--	-----

Supercapacitors

<i>M. Kocian, J. Vondrák, M. Sedlaříková</i> CARBON NANOTUBES IN SUPECAPACITORS	131
--	-----

<i>S. Domagała, P. Krzyczmonik</i> ELECTROCHEMICAL CHARACTERIZATION OF HYBRID MATERIALS OF PRUSSIAN BLUE-POLYANILINE OR CO-POLYMERS OF ANILINE AND ANTRANILIC AND METHANILIC ACID	135
--	-----

<i>S. A. Samoylenko</i> ON THE GENERATION OF BARRIER ANODIC OXIDE FILMS (AOF) WITH MESH STRUCTURE IN ALUMINUM	139
---	-----

<i>M. Přikryl, M. Kocian, M. Sedlaříková, J. Vondrák, E. Hajátková, J. Mohelníková</i> ELECTROLYTES FOR THE ELECTROCHEMICAL SUPERCAPACITORS	141
--	-----

Market and Applications

<i>G. Taralunga, E.M. Rus, D.M. Constantin</i> SILVER – IODINE BATTERIES	149
---	-----

<i>J. Špinka, J. Jiráček</i> X-RAY MICROANALYSIS IN ESEM	153
---	-----

<i>J. Kliment</i> PHOTOVOLTAIC PRINCIPLE AND ENERGY ACCUMULATION R&D IN THE CZECH REPUBLIC	157
--	-----

Methods

<i>P. Špičák, V. Svoboda, M. Sedlaříková, J. Vondrák, J. Kazelle</i> ELECTRODES FOR ELECTROCHROMIC DEVICES STUDIED BY EQCM	165
---	-----

<i>P. Vanýsek, R. J. Hoey</i> MAPPING OF IMPEDANCE TO VOLTAMMETRIC CURVES	168
--	-----

<i>Martijn van Dijk</i>	
ECO CHEMIE – AUTOLAB	171
ABOUT BOCHEMIE S.R.O.	173