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Monograph has been recommended by the Scientific Council of Kyiv National University of Technologies and Design (KNUTD) for the wide range of lectors, scientists, PhD students, holders of a master's degree and students of Universities, engineers and technicians of various electrochemical enterprises.

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The promising processes and materials have been considered in such key directions of applied electrochemistry as electrochemical power sources, electroplating, corrosion protection, electrochemical sensors, modern electrochemical and related technologies during the last years. A state of art in these key directions of electrochemistry determines a progress in general development of science and engineering of XXI century and promotes to creation of essentially new types of production and technologies. Monograph has been recommended for scientists, lectors, PhD students, engineers and technicians.
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CONTENT

INTRODUCTION 11

COLLECTIVE MONOGRAPH AUTHORS 12

Part 1. ELECTROCHEMICAL POWER SOURCES

1.1 CARBON MATERIALS FOR HIGH POWER NEGATIVE ELECTRODES OF LITHIUM-ION BATTERIES AND CAPACITORS 16
KHOMENKO V.G., BARSUKOV V.Z., MAKYEYEVA I.S., CHERNYSH O.V.

1.2 COMPOSITION OF INTERMEDIATE PHASES SHOWING UP UPON DELITHIATION OF LITHIUM-MANGANESE SPINEL POTAPENKO A.V. 22

1.3 THE DENSITY GRADIENT THERMAL AGING MODEL OF THE ALKALINE Zn-Mn BATTERIES 29
RIABOKIN O.L., BOJCHUK O.V., PERSHINA K.D.

1.4 THE ELECTROCHEMICAL REDUCTION OF OXYGEN ON ELECTRODEPOSITED PALLADIUM CATALYST 35
KATASHYNSKI A.S., KHOMENKO V.G., BARSUKOV V.Z.

1.5 ORR STUDY ON Fe- AND Co- DOPED MANGANESE DIOXIDE WITH RAMSDELLITE STRUCTURE 42
ZUDINA L.V., SOKOLSKY G.V., BOLDYREV E.I., GAIUK N.V.

1.6 MANGANESE DIOXIDE AS A CATHODE CATALYST IN METAL-AIR CELLS 49
MAKYEYEVA I.S., KATASHINSKII A.S., ANDREITSEVA M.V.
1.7 CATHODE PROCESSES OF HYDROGEN EVOLUTION ON VANADIUM-CONTAINING MATERIALS
MAIZELIS A.A., RUĐENKO N.O., VORONINA O.V., FINOGENOV O.M., BAIRACHNIY B.I.

1.8 CONDUCTIVITY AND VISCOSITY OF TETRAMETHYLAMMONIUM BIS(SALICYLATO)BORATE IN SOLUTIONS OF APROTIC DIPOLAR SOLVENTS
DIAMANT V.A., PERSHINA K.D., KAZDOBIN K.A.

1.9 THE EFFECT OF SURFACE MODIFICATION OF CATHODE MATERIALS ON THEIR ELECTROCHEMICAL CHARACTERISTICS
KRAVETS Y.A., POTAPENKO A.V.

Part 2. ELECTRODEPOSITION

2.1 USING PULSE MODES IN NON-CHROMIUM ELECTROLYTES FOR ELECTROPOLISHING
ANTSIKHOVICH I.V., CHERNIK A.A.

2.2 THE INTENSIFICATION OF COMPACT COPPER ELECTROWINNING PROCESS BY INCREASING VERTICAL CURRENT DENSITY AND DISTRIBUTION UNIFORMITY
USHCHAPOVSKYI D.Yu., MOTRONYUK T.I., LINYUICHEVA O.V., TSYMBALIUK A.S.

2.3 FUNCTIONAL TERNARY Fe-Co-Mo(W) COATINGS
YERMOLENKO I. Yu., VED’ M. V., SAKHNENKO N. D., SACHANOVA Yu. I., LAGDAN I. V., PROSKURINA V. O.

2.4 DYNAMICS OF REDOX PROCESSES IN THE ELECTROLYTE FOR ELECTRODEPOSITION OF Cu-Sn ALLOY
MAYZELIS A.A., OVCHARENKO G.V.
Part 3. CORROSION PROTECTION

3.1 INFLUENCE OF STRENGTH PROPERTIES OF PIPE STEEL ON ITS CORROSION RESISTANCE AND ELECTROCHEMICAL CHARACTERISTICS IN SOLUTIONS OF DIFFERENT CORROSIVITY
NYRKOVA L.I., MELNYCHUK S.L., BORYSENKO Yu.V.

3.2 ELECTROCHEMICAL SYNTHESIS OF PROTECTIVE CERIA LAYERS USING METHANESULFONATE ELECTROLYTES
TSURKAN A.V., VASIL’EVA E.A., PROTSENKO V.S., DANILOV F.I.

3.3 THE INFLUENCE OF ULTRASOUND VIBRATION ON THE PITTING CORROSION OF AISI 316 STAINLESS STEEL
VASYLIEV G. S., KUSHNIRCHUK S. A.

3.4 VOLTAMMETRIC STUDY OF CORROSION OF MILD STEEL IN DEEP EUTECTIC SOLVENTS
KITYK A.A., RUBLOVA Y.D., PROTSENKO V.S., DANILOV F.I.

Part 4. ELECTROCHEMICAL SENSORS

4.1 ELECTROCHEMICAL DEVICE FOR ENVIRONMENTAL SAFETY MONITORING
MIROSHNYCHENKO Iu.S., KOSOHIN O.V., LINYUCHEV O.G.
4.2 **ANODE MATERIAL OF COULOMETRIC GAS GENERATOR**
MAZANKA V.M., MATVEEV O.M., KOSOHIN O.V.

4.3 **PREVENTION OF CARBONIZATION IN THE ALKALINE ELECTROLYTE OF OXYGEN SENSOR**
VASHCHENKO O.M., BUKET O.I.

4.4 **DECREASE OF ELECTROCHEMICAL NOISE OF TITANIUM ELECTRODE**
ZINCHUK O.V., BUKET O.I.

---

**Part 5. MODERN ELECTROCHEMICAL AND RELATED TECHNOLOGIES**

5.1 **MULTIFUNCTIONAL COMPOSITE MATERIALS FOR ALTERNATIVE ENERGY STORAGE**
KHOMENKO V.G.

5.2 **ELECTROCHEMICAL INVESTIGATION OF QUANTUM DOTS BAND STRUCTURE**
TYNKEVYCH O. O., OKREPKA G. M., KHALAVKA Y. B.

5.3 **ELECTROCHEMICAL SYNTHESIS OF 3-METHYLTHIOPHENE/3,4-ETHYLENEDIOXYTHIOPHENE COPOLYMERS AND THEIR ELECTROCHROMIC PROPERTIES**
SYDOROV D.O., TOVKACH L.L., MOTRONYUK T.I., PUD A.A.

5.4 **THE EFFECT OF GROWTH TIME ON THE PROPERTIES OF LPCVD GROWN WO₃ THIN LAYERS FOR ELECTROCHROMIC APPLICATIONS**
LOULOUDAKIS D., VERNARDOU D., SUCHEA M., DAVAZOGLOU D., KOUDOUMAS E.

5.5 **ELECTROSYNTHESIS AND OPTICAL PROPERTIES OF CADMIUM SELENIDE NANOPARTICLES**
FOMANYUK S.S., SMILYK V.O., ASAULA V.N., KOLBASOV G.Ya., RUSETSKYI I.A., MIRNAYA T.A.
5.6 ELECTROCHEMICAL OXIDATION OF TOXIC ORGANIC AROMATIC SUBSTANCES
SHMYCHKOVA O., LUK’YANENKO T., KNYSHV.

5.7 COBALT AND MANGANESE OXIDE CATALYTIC SYSTEMS ON VALVE METALS IN ECOTECHNOLOGIES.
KARAKURKCHI A., SAKHNENKO M., VED’ M., GOROHIVSKIY A., GALAK O., MENSHOSTOY S., MATYKIN O.

5.8 THERMOCHEMICAL AND ELECTROCHEMICAL DESCRIPTION OF THE Fe-C CATALYTIC SYSTEM
KRAVCHENKO A.V., PERSHINA K.D.

5.9 THE CHOICE OF ANODE MATERIAL FOR THE ELECTROCHEMICAL SYNTHESIS OF PEROXYACETIC ACID
BILIOUS T.A., TULSKAYA A.G., MATRUNCHYK O.L.

5.10 SYNTESIS ROUTE FOR PREPARATION OF PRECURSOR SOLUTIONS
ZULFIGAROV A.O., ANDRIKO A.A., POTASKALOV V.A.

5.11 ELECTROMEMBRANE REMOVAL OF TOXIC IONS FROM DILUTED GALVANIC WASTES USING ORGANIC-INORGANIC ION-EXCHANGERS
PONOMAROUVA L.N., DZYAZKO Yu.S., ROZHDESTVENSKA L.M., VOLFOKOVICH Y.M., SOSENKIN V.E.

5.12 IONIC CONDUCTIVITY OF GRANULATED ORGANIC-INORGANIC ION-EXCHANGERS
KOLOMIYETS Ye.A., MALTSEVA T.V., VASILYUK S., DZYAZKO Yu.S.

5.13 DEVELOPING COMPOSITE POLYMER SHIELDING MATERIALS FOR THE UHF RANGE
BUTENCO O.A., SENYK I.V., BARSUKOV V.Z.
PROMISING MATERIALS AND PROCESSES IN APPLIED ELECTROCHEMISTRY

5.14 PHOTOBIOELECTROCHEMICAL HYDROGEN AND ELECTRICITY PRODUCTION FROM DIFFERENT ORGANIC WASTES
ZUBCHENKO L.S.

THE SHORT ABSTRACTS OF SOME PRESENTED PAPERS

5.15 GLASS-FORMING CYANO-SUBSTITUTED CARBAZOLE DERIVATIVES FOR OPTOELECTRONICS
SKUODIS E., TOMKEVICIENE A., VOLYNIUK D., GRAZULEVICIUS J.

5.16 ELECTROCHEMISTRY IN MICROSCALE. SCANNING ELECTROCHEMICAL MICROSCOPY: NEW POSSIBILITIES, NEW TECHNIQUES
PINI L., SIDES R.

5.17 SILICON-BASED ELECTROACTIVE COMPOUNDS CONTAINING DIFFERENT DONOR MOIETIES AS POTENTIAL HOSTS FOR ORGANIC LIGHT EMITTING DIODES
GRYBAUSKAITE-KAMINSKIENE G., BUCINSKAS A., GRAZULEVICIUS J.
INTRODUCTION

In May 2016, on the eve of Science Day in Ukraine, a remarkable tradition was established in the framework of cooperation with International Society of Electrochemistry (ISE). Under the auspices and sponsorship of this Society the ISE Satellite Student Regional Symposium on Electrochemistry – 1st ISE Regional Student Meeting in Ukraine was organized. In May 2017 this excellent tradition was further developed: 2nd ISE Regional Student Meeting in Ukraine “Promising Materials and Processes in Applied Electrochemistry” was organized.

Both these events gave the participants an opportunity to get better acquainted with the modern objectives and achievements in the field, to meet personally with leading electrochemists from Ukraine and abroad, to discuss their researches.

Such increasing creative activity of young Ukrainian electrochemists has stimulated the preparation of this collective monograph, which considers some modern problems and promising ways of solving them in the following key directions of applied electrochemistry: Electrochemical power sources (part 1), Electroplating (part 2), Corrosion protection (part 3), Electrochemical sensors (part 4), Modern electrochemical and related technologies (part 5).

The following major developments are only some examples of many more contributions to this monograph: promising anode, cathode and binder materials for effective lithium-ion accumulators and hybrid supercapacitors; effective catalysts for air-metal batteries and fuel cells; photo-bioelectrochemical fuel cells for electricity production from different organic wastes; new functional binary and ternary coatings; electrochemical sensors for monitoring of SO₂, CO₂ and other toxic substances; effective coatings which can protect metals against corrosion and people and electronic equipment against unfavorable effects of electromagnetic radiation, etc.

You can see the list of all 84 authors of this collective monograph in alphabetical order at the next page. The papers which prepared by these authors, have shown in parentheses in concordance with the Content.

The monograph could be useful for a wide range of lecturers, scientists, PhD students, holders of a master’s degree and students of universities, engineers and technicians of various electrochemical enterprises.

Prof.Dr. V. Barsukov
# AUTHORS OF COLLECTIVE MONOGRAPH

<table>
<thead>
<tr>
<th>Surname</th>
<th>Article number</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANDREITSEVA M.V.</td>
<td>1.6</td>
</tr>
<tr>
<td>ANDRIIKO A.A.</td>
<td>5.10</td>
</tr>
<tr>
<td>ANTSIKHOVICH I.V.</td>
<td>2.1</td>
</tr>
<tr>
<td>ASAULA V.N.</td>
<td>5.5</td>
</tr>
<tr>
<td>BAIRACHNIY B.I.</td>
<td>1.7</td>
</tr>
<tr>
<td>BANNYK N.G.</td>
<td>3.4</td>
</tr>
<tr>
<td>BARSUKOV V.Z.</td>
<td>1.1; 1.4; 5.13</td>
</tr>
<tr>
<td>BEZIK A. O.</td>
<td>2.5</td>
</tr>
<tr>
<td>BILOUS T.A.</td>
<td>5.9</td>
</tr>
<tr>
<td>BOLDYREV E.I.</td>
<td>1.5</td>
</tr>
<tr>
<td>BORYSENKO Yu.V.</td>
<td>3.1</td>
</tr>
<tr>
<td>BOJCHUK A.V.</td>
<td>1.3</td>
</tr>
<tr>
<td>BUCINSKAS A.</td>
<td>5.17</td>
</tr>
<tr>
<td>BUKET O.I.</td>
<td>4.3; 4.4</td>
</tr>
<tr>
<td>BUTENKO O.A.</td>
<td>5.13</td>
</tr>
<tr>
<td>CHEREMYSINOVA A. O.</td>
<td>2.5</td>
</tr>
<tr>
<td>CHERNIK A.A.</td>
<td>2.1</td>
</tr>
<tr>
<td>CHERNYSH O.V.</td>
<td>1.1</td>
</tr>
<tr>
<td>DANILOV F.I.</td>
<td>3.2; 3.4</td>
</tr>
<tr>
<td>DAVAZOGLOU D.</td>
<td>5.4</td>
</tr>
<tr>
<td>DIAMANT V.A.</td>
<td>1.8</td>
</tr>
<tr>
<td>DZYAZKO Yu.S.</td>
<td>5.11; 5.12</td>
</tr>
<tr>
<td>FINOGENOV O.M.</td>
<td>1.7</td>
</tr>
<tr>
<td>FOMANYUK S.S.</td>
<td>5.5</td>
</tr>
<tr>
<td>GAIUK N.V.</td>
<td>1.5</td>
</tr>
<tr>
<td>GALAK O.</td>
<td>1.5; 5.7</td>
</tr>
<tr>
<td>GOROHIVSKIIY A.</td>
<td>5.7</td>
</tr>
<tr>
<td>GRAZULEVICIUS J.</td>
<td>5.15; 5.17</td>
</tr>
<tr>
<td>GRYBAUSKAITE-KAMINSKIENE G.</td>
<td>5.17</td>
</tr>
<tr>
<td>KARAKURKCHI A.</td>
<td>5.7</td>
</tr>
<tr>
<td>KATASHINSKII A.S.</td>
<td>1.4; 1.6</td>
</tr>
<tr>
<td>KAZDOBIN K.A.</td>
<td>1.8</td>
</tr>
<tr>
<td>KITYK A.A.</td>
<td>3.4</td>
</tr>
</tbody>
</table>
KHALAVKA Y.B. 5.2
KHOMENKO V.G. 1.1; 1.4; 5.1
KNYSH V. 5.6
KOLBASOV G.Ya. 5.5
KOLOMIYETS Ye.A. 5.12
KOSOHIN O.V. 4.1; 4.2
KOUDOUMAS E. 5.4
KRAVCHENKO A.V. 5.8
KRAVETS Y.A. 1.9
KUSHNIRCHUK S.A. 3.3
LAGDAN I. V. 2.3
LINYUCHEV O.G. 4.1
LINYUICHEVA O.V. 2.2
LOULOUDAKIS D. 5.4
LUK’YANENKO T. 5.6
MAYZELIS A.A. 1.7; 2.4
MAKYEYEV I.S. 1.1; 1.6
MALTSEVA T.V. 5.12
MATRUNCHYK O.L. 5.9
MATVEEV O.M. 4.2
MATYKIN O. 5.7
MAZANKA V.M. 4.2
MELNYCHUK S.L. 3.1
MENSHOV S. 5.7
MIRNAYA T.A. 5.5
MIROSHNYCHENKO Iu.S. 4.1
MOTRONYUK T.I. 2.2; 5.3
NYRKOV A.I. 3.1
OKREPKA G.M. 5.2
OVCHARENKO G.V. 2.4
PERSHINA K.D. 1.3; 1.8; 5.8
PINI L. 5.16
PONOMAROUVA L.N. 5.11
POTAPENKO A.V. 1.2; 1.9
POTASKALOV V.A. 5.10
PROSKURINA V.O. 2.3
PROTSENKO V.S. 3.2; 3.4
PUD A.A. 5.3
RIABOKIN O.L. 1.3
ROZHDESTVENSKA L.M. 5.11
RUBLOVA Y.D. 3.3
RUDENKO N.O. 1.7
RUSETSKYI I.A. 5.5
SACHANOVA Yu. I. 2.3
SAKHNENKO N. D. 2.3; 5.7
SAVCHUK O.O. 2.5
SENYK I.V. 5.13
SHMYCHKOVA O. 5.6
SIDES R. 5.16
SKNAR I.V. 2.5
SKNAR Yu.E. 2.5
SKUODIS E. 5.15
SMILYK V.O. 5.5
SOKOLSKY G.V. 1.5
SOSENKIN V.E. 5.11
SUCHEA M. 5.4
SYDOROV D.O. 5.3
TOMKEVICIENE A. 5.15
TOVKACH L.L. 5.3
TSURKAN A.V. 3.2
TSYMBALIUK A.S. 2.2
TULSKAYA A.G. 5.9
TYNKEVYCH O.O. 5.2
USHCHAPOVSKYI D.Yu. 2.2
VASHCHENKO O.M. 4.3
VASIL'EVA E.A. 3.2
VASILYUK S. 5.12
VASYLIEV G. S. 3.3
VED' M. V. 2.3; 5.7
VERNARDOU D. 5.4
VOLFKOVICH Y.M. 5.11
VOLYNIUK D. 5.15
VORONINA O.V. 1.7
YERMOLENKO I. Yu. 2.3
ZINCHUK O.V. 4.4
ZUBCHENKO L.S. 5.14
ZUDINA L.V. 1.5
ZUL'FIGAROV A.O. 5.10