CONTENTS

DANIELA CĂILEAN and CARMEN TEODOSIU, Assessment of Combined Wastewater Treatment for 4-Chlorophenol Removal ................................................................. 11 - 19

CRISTINA GHINEA and MARIA GAVRILESCU, Models for Sustainable Waste Management ............................................................................................................. 21 - 36

RALUCA MARIA HLHOR, VASILE LUCIAN PAVEL, DUMITRU BULGARIU and MARIA GAVRILESCU, Equilibrium Study of Cd(II) Sorption from Aqueous Solution onto Soil: Effect of Temperature ........................................ 37 - 46

LAURA CARMEN APOSTOL, FLORENTINA ANCA CĂLIMAN and MARIA GAVRILESCU, Influence of Some Parameters on Sorption of Erythrosine B onto Soil .................................................................................. 47 - 56

PETRONELA COZMA and MARIA GAVRILESCU, Pneumatic (Bio)Reactors Applied in Environmental Protection .................................................................................. 57 - 76

MĂDĂLINA PETRARU and MARIA GAVRILESCU, Overview on the Economic Assessment of Pollution Prevention/Cleaner Production Practices ............... 77 - 93

LILIANA TOPLICEANU and DIANA SMEU, Study Concerning the Amortization of the Environmental Expenses ................................................................. 95 - 104

LILIANA TOPLICEANU, About the Connection Between Environment and Economy ........................................................................................................ 105 - 109

IONELA MEZDREA COJOCĂREANU PATA and MATEI MACOVEANU, Use of Native Epigeic Mosses to Study Atmospheric Deposition of Pb and Cd ..... 111 - 120

IRINA SPĂTĂRESCU, IOAN ROSCA, DOINA SIBIESCU and MIHAELA AURELIA VIZITIU, Complexing Hg(II) with N,N’-Bis(Saliciliden)-Methin-Methyl-Diamine and Characterization of the New Compound .......... 121 - 127
MIHAELA BUDIANU and MATEI MACOVEANU, Modeling of Dispersions of Powder Emissions from the Industrial Area of Vaslui .................................................. 129 - 138

NICOLETA ROADEVIN, CONSTANTIN STANCIU and IONUI RĂDULESCU, Research on the Concentration of Phenols and Heavy Metals in the Danube Water .............................................................................................. 139 - 146

PETRE CHIPURICI, ADINA IONUIA GAVRILĂ, IOAN CĂLINESCU, GEORGETA PREDEANU and ANCA MIHAELA BULEARCĂ, Wastewater Treatment By Adsorption on the Multipurpose Carbon Materials ........................................................................................................... 147 - 155

SIMONA TURCUMAN (ANTIGHIN), DOINA SIBIESCU, IOAN ROSCA and MIHAELA VIZITIU, The Synthesis and the Study in Solide Stade of a New Coordination Compound of Ni(II) with Organic Ligand ......................... 157 - 165

SIMONA TURCUMAN (ANTIGHIN), DOINA SIBIESCU and IOAN ROSCA, A New Coordination Compound of Ni(II) with Ligand Derived from 1-(3,5-Dibromo-2-Hydroxy-4-Methyl-Phenyl)-2-(Naphtylsulphanyl)-Ethanone ........................................................................................................... 167 - 174

GIANNINA ACATRINEI (MERLAN), TIBERIU-MIHI STURZU, MATEI MACOVEANU and MIHAI NICU, A Mathematical Modeling of Metallic Surfaces Degreasing Process ................................................................. 175 - 182

CAMELIA SMARANDA, MARIA GAVRILESCU and DUMITRU BULGARIU, Sorption and Desorption Characteristics of Acid Orange 7 on Soil .......... 183 - 191

CAMELIA ARDELEANU and CARMEN TEODOSIU, Institutional Aspects Regarding Water and Wastewater Infrastructure Assessment in the North-Eastern Region of Romania ..................................................... 193 - 200

CRISTIAN DRANCA, GABRIELA CARJA and SOFRONIA DRANCA, The Optical Features of Silver - Layered Double Hydroxides Nanostructured Ensembles Studied By UV-Vis Spectroscopy ........................................... 201 - 208
ASSESSMENT OF COMBINED WASTEWATER TREATMENT FOR 4-CHLOROPHENOL REMOVAL

BY
DANIELA CĂILEAN and CARMEN TEODOSIU

Priority organic pollutants are a class of chemicals which are hazardous for the human health and the environment and also very resistant to conventional wastewater treatment, this being the reason why advanced treatment processes (such as ultrasonication and ultrafiltration) are used for their removal. Both processes have good results in the degradation of priority organic pollutants such as 4-chlorophenol. Several common advantages of these processes may be mentioned, i.e. small usage of chemical reagents, decrease of secondary pollution, lack of special conditions for temperature and pressure for ultrasonication, lack of chemical reactions leading to toxic products or intermediates, good degree of separation and recovery, high retention rate and selectivity for ultrafiltration. The aim of this preliminary laboratory-scale study is to analyze the conditions for the efficient removal of 4-chlorophenol from wastewater by advanced treatment under different initial conditions, using a membrane process- ultrafiltration and/or ultrasonication. Experimental results show an average 4-chlorophenol removal efficiency of 40%.

Key words: 4-chlorophenol, ultrafiltration, ultrasonication, wastewater treatment.

MODELS FOR SUSTAINABLE WASTE MANAGEMENT

BY
CRISTINA GHINEA and MARIA GAVRILESCU

The purpose of this paper is to review the types of models that are currently being used in the area of waste management and to highlight some major advantages and shortcomings of these models. The study is based on the reality that, for a waste management model to be sustainable, it must consider environmental, economic and social aspects. Most of the waste management models identified in the literature, especially for municipal waste, are decision support models, divided into three categories: based on cost benefit analysis, based on life cycle assessment and based on multicriteria decision making. The study analyses the model abilities to compare different waste management strategies, waste treatment methods and waste process technologies, as well as their potential environmental impacts. Also, using waste management models, the most environmentally sustainable solution could be identified which may differ among waste materials and regions and can add valuable information about environmental achievements from each process in a solid waste management system.

Key words: model, recycling, sustainability, waste management.

EQUILIBRIUM STUDY OF Cd(II) SORPTION FROM AQUEOUS SOLUTION ONTO SOIL: EFFECT OF TEMPERATURE

BY
RALUCA MARIA HLHOR, VASILE LUCIAN PAVEL, DUMITRU BULGARIU and MARIA GAVRILESCU

Cadmium is a non-essential element and one of the most hazardous trace elements, being considered a “priority metal” from the standpoint of potential hazard to human health. Toxic metal ions such as Cd(II) can eventually reach the top of food chain and thus, become a risk factor for peoples health. Sorption of Cd(II) ions from aqueous solution onto soil was studied as a function of temperature using a batch technique. Langmuir and Freundlich models were applied to describe sorption isotherm of metal ions. The maximum sorption capacity (qmax) increase with the increasing of temperature (5.37 mg/g at 284 K and 9.06 mg/g at 314 K) which suggested that Cd(II) sorption from aqueous solution onto soil was dependent on temperature. The thermodynamic parameters, enthalpy (AH°), entropy (AS°) and Gibbs free energy (AG°) were calculated from the temperature – dependent sorption isotherms.

Key words: equilibrium, heavy metal, soil, sorption, thermodynamic parameters.
INFLUENCE OF SOME PARAMETERS ON SORPTION OF ERYTHROSINE B ONTO SOIL

BY
LAURA CARMEN APOSTOL, FLORENTINA ANCA CĂLIMAN
and MARIA GAVRILESCU

Abstract. An equilibrium study concerning the sorption of the dye Erythrosine B in an aqueous solution, onto a Romanian soil was performed in a batch system. The influence of two parameters as temperature and pH of the dye containing solution has been investigated. The thermodynamic parameters were determined as well.

Key words: dyes, parameters, soil, sorption.

PNEUMATIC (BIO)REACTORS APPLIED IN ENVIRONMENTAL PROTECTION

BY
PETRONELA COZMA and MARIA GAVRILESCU

This paper is an overview on the most recent application of pneumatic (bio)reactors in environmental protection. In the last decades pneumatic bioreactors have extensively been studied and applied in chemical and biotechnological process as well as in environmental protection because of their functional and economics advantages, such as: simple design and construction, high efficiency of homogenization and intense mixing for heat and mass transfer and low power consumption. This analysis considers the pneumatic bioreactors ranking in two main categories: bubble columns and air-lift bioreactors. These heterogeneous reactors are examined considering their intensive application as multiphase contactors and (bio)reactors in chemical, biochemical industries and environmental remediation. Investigation of design parameters characterizing the operation and transport phenomena is considered opportune for a better understanding of the hydrodynamic properties, heat and mass transfer mechanisms and flow regime characteristics ongoing during the operation. In particular, air-lift reactors have received much attention because of their unique hydrodynamic characteristics, which make them more attractive than bubble column reactors for many processes. Aerobic bio-treatment of the wastewater, gaseous streams and contaminated soils may be successfully performed in three-phase flow pneumatic bioreactors.

Key words: airlift reactor, bubble column, wastewater treatment.

OVERVIEW ON THE ECONOMIC ASSESSMENT OF POLLUTION PREVENTION/CLEANER PRODUCTION PRACTICES

BY
MĂDĂLINA PETRARU and MARIA GAVRILESCU

The paper provides a synthetic study concerning the technical and economic assessment of pollution prevention/cleaner production practices based on the available technologies in some relevant industries and highlights critical factors influencing strategic decisions on the adoption of Best Available Technologies in the light of IPPC Directive. A baseline for comparative purposes is established to properly determine the cost of any project. Changes in material consumption, equipment, technology, utility demands, manpower etc., for the considered pollution prevention options can be evaluated as either more or less expensive than the baseline. The benefit to cost ratio (B/C) is taken as a basic measure, which indicates if a project is economically worthwhile to invest in. The present value of net benefits (PVNB) shows the worth of a pollution prevention project in terms of a present value sum. Even if the analysis confirms the potential of pollution prevention/cleaner production practices to generate significant cost savings with a short payback time, it highlights the need of funds for research and to access the know-how necessary to implement new and cleaner technologies.

Key words: economic aspects, pollution prevention, clean production.
STUDY CONCERNING THE AMORTIZATION OF THE ENVIRONMENTAL EXPENSES

BY
LILIANA TOPLICEANU and DIANA SMEU

The paper explores the connection and the dispute between economic growth and ecology. Investments in infrastructure to combat the environmental impact must be considered since the design phase of the economic purpose and the study case presented highlights this idea.

Key words: environment, economy, expenses amortization.

USE OF NATIVE EPIGEIC MOSSES TO STUDY ATMOSPHERIC DEPOSITION OF Pb AND Cd

BY
IONELA MEZDREA COJOCĂREANU PATA and MATEI MACOVEANU

It were investigated some atmospheric sediments of lead and cadmium in mining areas of Dorna Basin by passive monitoring with six species of native epigeic moss (Mnium hornum, Mnium cuspidatum, Mnium punctatum, Polytrichum strictum, Thamnium alopecurum si Cephalozia bicuspidate) in two stages: April - September 2005 and October 2005 - March 2006. These determinations were achieved in 4 locations: Dealul Boambei, Saru Dornei, Sâr%orul Mic, Neagra Sarului. In the same time was determined the concentration of these elements in soil. It was noticed a decrease of lead and cadmium concentrations in the second stage comparing to the first. The concentration factor (CF) values shows a maximum accumulation in the selected epigeic mosses. There are presented external and internal factors that affect passive absorption of the heavy metals in the atmosphere. High capacity retention of the same moss species is due to both environment mental factors and high content of the complex compounds in their composition.

Key words: atmospheric deposition, heavy metals, biomonitoring.

COMPLEXING Hg(II) WITH N,N’-BIS(SALICILIDEN)-METHIN-METHYL-DIAMINE AND CHARACTERIZATION OF THE NEW COMPOUND

BY
IRINA SPĂTĂRESCU, IOAN ROSCA, DOINA SIBIESCU and MIHAELA AURELIA VIZITIU

In this paper are presented the results of the synthesis and characterization of the new compound resulted from the interaction between Hg(II) and N,N’-bis(saliciliden)-methin-methyl-diamine. The methods used for study are: elemental chemical analysis, IR absorption spectroscopy, thermal-gravimetry analysis. The obtaining reaction of the new compound can be used in analytic gravimetric determining of Hg(II).

Key words: Hg(II); N,N’-bis(saliciliden)-methin-methyl-diamine; synthesis; thermal-gravimetric analysis.
MODELING OF DISPERSIONS OF POWDER EMISSIONS FROM THE INDUSTRIAL AREA OF VASLUI

BY

MIHAELA BUDIANU and MATEI MACOVEANU

The toxicity of the heavy metals being well-known, the study concerning their environmental impacts is more and more increased. The heavy metals originate from different sources but one may state that the most significant one is the emission of heavy metals by the economic agents. Regarding the study of the heavy metals transfer to soil, a great attention is given to the dispersion of the pollutants emanated by different sources. This paper presents the data of a study on the dispersion of the powders emitted by 14 point sources from 5 economical agents: SC STEMAR SA Vaslui, SC TERMICA SA Vaslui, SC Fabrica de căramizi SRL Vaslui, SC ULEROM SA Vaslui, SC VASCAR SA Vaslui, using the ECO 95ep program for modeling the dispersion of a pollutant caused by a point source.

Key words: heavy metals, pollutants dispersion, dispersion models, suspended powders.

RESEARCH ON THE CONCENTRATION OF PHENOLS AND HEAVY METALS IN THE DANUBE WATER

BY

NICOLETA ROADEVIN, CONSTANTIN STANCIU and IONUȚ RĂDULESCU

The condition of the ecosystems, purification and biological purification and human health are all impacted by a number of toxic substances. These include phenols, heavy metals and inorganic salts. The study outlines the evolution of the phenols, heavy metals concentrations and the cause of their variations throughout 1998-2008. The rates obtained for the monitored indicators (2008) place Brăila county river waters under class II of surface water quality.

Key word: toxic substances, heavy metals, phenols, ecosystems, purification.

WASTEWATER TREATMENT BY ADSORPTION ON THE MULTIPURPOSE CARBON MATERIALS

BY

PETRE CHIPURICI, ADINA IONUȚA GAVRILĂ, IOAN CĂLINESCU, GEORGETA PREDEANU and ANCA MIHAELA BULEARCA

The multipurpose carbon materials (MCM) are porous products resulted from the carbonization and activation of the following materials used in our study: peach and plum kernels, particleboard PAL and soybean hulls. The paper presents a method for the removal of anionic surfactant (Dodecyl sulfate sodium salt) from aqueous solutions by adsorption onto MCM using dynamic conditions. The anionic surfactant has usually been determined by spectrophotometric methods, using Methylene Blue. Experimental studies have been demonstrated the possibility of surfactant removal by adsorption onto MCM. The breakthrough point depends on the MCM parent type; the treated water volume increases with the adsorbent column height and with the decreasing of the concentration and supply flow.

Key words: anionic surfactant, waste water treatment, adsorption, activated carbon.
THE SYNTHESIS AND THE STUDY IN SOLIDE STADE OF A NEW COORDINATION COMPOUND OF Ni(II) WITH ORGANIC LIGAND

BY
SIMONA TURCUMAN (ANTIGHIN), DOINA SIBIESCU, IOAN ROSCA and MIHAELA VIZITIU

In this paper, the synthesis and study of a coordinative compound resulted from the reaction between the ligand 1-(3-brome-2-hyeroxy-4-methyl-phenyl)-2- (4-brome-phenylsulfanyl)-etanone, with Ni(II) in the molar ratio 2:1, is presented. In order to characterize the new compound, the following methods were used: chemical analysis, thermal gravimetric measurements, IR absorption spectroscopy and electronic spin resonance. The experimental results show that the obtaining reaction of the new compound can be useful for gravimetric determining of Ni(II) with ± 0.27% errors.

Key words: organic ligand, complex compound, Ni(II), gravimetric analysis.

A NEW COORDINATION COMPOUND OF Ni(II) WITH LIGAND DERIVED FROM 1-(3,5-DIBROMO-2-HYDROXY-4-METHYL-PHENYL)-2-(NAPHTYLSULPHANYL)-ETHANONE

BY
SIMONA TURCUMAN (ANTIGHIN), DOINA SIBIESCU and IOAN ROSCA

In this paper, the authors continue the researches on obtaining new coordination compounds from transitional metals, by presenting a new complex containing Ni(II) and a ligand derived from 1-(3,5-dibromo-2-hydroxy-4-methyl-phenyl)- 2-(naphtylsulphanyl)-ethanone. This new complex was synthesized in aqueous solution by mixing 250 mL 10-2M of NiCl2 and respectively 250 mL 2 10-2M of 1-(3,5-dibromo-2-hydroxy-4-methyl-phenyl)-2-(naphtylsulphanyl)-ethanone, and stirring them at room temperature. The study of this compound was performed with the following methods: chemical analysis, thermogravimetry, IR absorption spectroscopy, electronic spectroscopic resonance (RES) and X-ray diffraction. The complex crystallizes in the triclinic system with Ni(II), as central atoms, hexa-coordinated in octahedral structures. The obtaining reaction of this new complex can be used in gravimetric determination of Ni(II) with an error of ± 0,35%.

Key words: Ni(II), 1-(3,5-dibromo-2-hydroxy-4-methyl-phenyl)-2-(naphtylsulphanyl)- ethanone, reagent of precipitating, , thermogravimetry, IR absorption spectroscopy, X-ray diffraction , RES.

A MATHEMATICAL MODELING OF METALLIC SURFACES DEGREASING PROCESS

BY
GIANNINA ACATRINEI (MERLAN), TIBERIU-MIHAI STURZU, MATEI MACOVEANU and MIHAI NICU

Metal products need degreasing processes for removing fat substances out of their surfaces, especially before a mechanical or chemical processing of their surfaces. The paper depicts the fact that degreasing process leads to a low decrease of tensile strength and it offers mathematical models for the study of process’s parameters influence. Mathematical models were established using passive experiments and a compound-central routable program of second order, being validated on the basis of some statistical tests.

Key words: degreasing process, tensile strength, compound-central routable program of second order, level contours, 3-D representation.
SORPTION AND DESORPTION CHARACTERISTICS OF ACID ORANGE 7 ON SOIL

BY
CAMELIA SMARANDA MARIA GAVRILESCU and DUMITRU BULGARU

The paper describes the sorption and desorption of an anionic azo dye, Acid Orange 7, from aqueous solutions onto soil from Iași area. The adsorption - desorption experiments were conducted by the batch mode data were analyzed with different mathematical models to describe the characteristics and mechanism of adsorption - desorption of dye in soil. The results showed that the adsorption-desorption isotherms of Acid Orange 7 fitted for the Freundlich model well, and the physical reaction presents the main contribution during the adsorption-desorption process.

For desorption studies were used distilled water, 0.01 M calcium chloride solution and ethyl alcohol 20%; and four desorption cycles were carried out. Also, the effect of pH of the dye solution on the amount of dye sorbed and desorbed was studied; the increase in initial pH of the dye solution decreased the amount of dye sorbed on soil.

Key words: sorption, desorption, Acid Orange 7, isotherms, hysteresis.

INSTITUTIONAL ASPECTS REGARDING WATER AND WASTEWATER INFRASTRUCTURE ASSESSMENT IN THE NORTH-EASTERN REGION OF ROMANIA

BY
CAMELIA ARDELEANU and CARMEN TEODOSIU

There is a continue need to ensure better services capable to reach EU standards in water supply and wastewater sector. This requires the adoption and implementation of adequate development policies, focused on people real needs, and accessibility of services. “Regionalization” is a key aspect of development policy for water services. This policy aims to improve the sector performances through better management and professionalism. The eligibility criteria for accessing European funds for water sector require a regional operator to be established by the local authority’s beneficiary. From an institutional point of view, the framework of regionalization comprises three key elements: Intercommunity Development Association (IDA), Regional Operator Company (COR) and Delegation of Management Services contract. This paper presents an analysis of the institutional needs for water and wastewater infrastructure and the problems in establishing these institutional requirements, in the North - Eastern Region of Romania.

Key words: Regionalization, Intercommunity Development Association (IDA), Regional Operator Company (COR), Delegation of Management Services contract.

THE OPTICAL FEATURES OF SILVER - LAYERED DOUBLE HYDROXIDES NANOSTRUCTURED ENSEMBLES STUDIED BY UV-VIS SPECTROSCOPY

BY
CRISTIAN DRANCA, GABRIELA CARJA and SOFRONIA DRANCA

Nanosized silver-LDH nanostructured ensembles were obtained by a facile, environmentally friendly synthesis route. MgAILDH and ZnAILDH were used as biocompatible matrices with porous properties. UV-Vis spectroscopy was used to study the optical properties of the nanoparticles of silver supported on the clay. The absorption band recorded in the UV-Vis spectral range is assigned to silver surface plasmon (SPR) of nanosized silver.

Key words: layered double hydroxides, silver nanoparticles, optical properties, nanostructured ensembles, SPR.
<table>
<thead>
<tr>
<th>Sumar</th>
<th>Pag.</th>
</tr>
</thead>
<tbody>
<tr>
<td>DANIELA CĂILEAN și CARMEN TEODOSIU, Evaluarea unui procedeu combinat de epurare a apelor uzate pentru eliminarea 4-clorfenolului (engl., rez. rom.)</td>
<td>11</td>
</tr>
<tr>
<td>CRISTINA GHINEA și MARIA GAVRILESCU, Modele pentru managementul durabil al deșeurilor (engl., rez. rom.)</td>
<td>21</td>
</tr>
<tr>
<td>RALUCA MARIA HLHOR, VASILE LUCIAN PAVEL, DUMITRU BULGARIU și MARIA GAVRILESCU, Studiul de echilibru a sorbției Cd(II) din soluții apoase pe sol: efectul temperaturii (engl., rez. rom.)</td>
<td>37</td>
</tr>
<tr>
<td>LAURA CARMEN APOSTOL, FLORENTINA ANCA CĂLIMAN și MARIA GAVRILESCU, Influența unor parametri asupra sorbției colorantului Eritrozină B pe sol (engl., rez. rom.)</td>
<td>47</td>
</tr>
<tr>
<td>PETRONELA COZMĂ și MARIA GAVRILESCU, Aplicațiile (bio)reactoarelor pneumatice în protecția mediului (engl., rez. rom.)</td>
<td>57</td>
</tr>
<tr>
<td>MĂDĂLINA PETRARU și MARIA GAVRILESCU, Aspecte privind evaluarea economică a practicilor pentru prevenirea poluării și producție curată (engl., rez. rom.)</td>
<td>77</td>
</tr>
<tr>
<td>LILIANA TOPLICEANU și DIANA SMEU, Studiu privind amortizarea costurilor de mediu (engl., rez. rom.)</td>
<td>95</td>
</tr>
<tr>
<td>LILIANA TOPLICEANU, Despre legatura dintre mediu și economie (engl., rez. rom.)</td>
<td>105</td>
</tr>
<tr>
<td>IONELA MEZDREA COJOCĂREANU PATA și MATEI MACOVEANU, Utilizarea mușchilor epigeici nativi pentru studiul depunerilor atmosferice de plumb și cadmiu (engl., rez. rom.)</td>
<td>111</td>
</tr>
<tr>
<td>IRINA SPĂTĂRESCU, IOAN ROȘCA, DOINA SIBIESCU și MIHAELA AURELIA VIZITIU, Complexarea Hg(II) cu N,N'-bis(saliciliden)-metinmetildiamină și caracterizarea noului compus (engl., rez. rom.)</td>
<td>121</td>
</tr>
<tr>
<td>Author(s)</td>
<td>Title</td>
</tr>
<tr>
<td>-----------</td>
<td>--------</td>
</tr>
<tr>
<td>MIHAELA BUDIANU și MATEI MACOVEANU</td>
<td>Modelarea dispersiei emisiilor de pulberi de la surse punctiforme selectate din județul Vaslui (engl., rez. rom.)</td>
</tr>
<tr>
<td>NICOLETĂ ROADEVIN, CONSTANTIN STANCIU și IONUȚ RĂDULESCU</td>
<td>Cercetări privind determinarea conținutului de fenoli și metale grele din apele Dunării (engl., rez. rom.)</td>
</tr>
<tr>
<td>PETRE CHIPURICI, ADINA IONUȚA GAVRILĂ, IOAN CĂLINESCU, GEORGETA PREDEANU și ANCA MIHAELA BULEARCĂ</td>
<td>Tratamentul apelor reziduale prin adsorbție pe materiale carbonice multifuncționale (engl., rez. rom.)</td>
</tr>
<tr>
<td>NICOLETA ROADEVIN, CONSTANTIN STANCIU și IONUȚ RĂDULESCU</td>
<td>Cercetări privind determinarea conținutului de fenoli și metale grele din apele Dunării (engl., rez. rom.)</td>
</tr>
<tr>
<td>PETRE CHIPURICI, ADINA IONUȚA GAVRILĂ, IOAN CĂLINESCU, GEORGETA PREDEANU și ANCA MIHAELA BULEARCĂ</td>
<td>Tratamentul apelor reziduale prin adsorbție pe materiale carbonice multifuncționale (engl., rez. rom.)</td>
</tr>
<tr>
<td>SIMONA TURCUMAN (ANTIGHIN), DOINA SIBIESCU, IOAN ROȘCA și MIHAELA VIZITIU</td>
<td>Sinteza și studiul în fază solidă al unui nou compus de coordinație al Ni(II) cu ligand organic (engl., rez. rom.)</td>
</tr>
<tr>
<td>SIMONA TURCUMAN (ANTIGHIN), DOINA SIBIESCU și IOAN ROȘCA</td>
<td>Un nou compus de coordinație al Ni(II) cu ligand provenit de la 1-(3,5-dibrom-2-hidroxi-4 metil-fenil)-2-(naftilsulfanil)-etanonă (engl., rez. rom.)</td>
</tr>
<tr>
<td>GIANNINA ACATRINEI (MERLAN), TIBERIU-MIHAI STURZU, MATEI MACOVEANU și MIHAI NICU</td>
<td>O modelare matematică a procesului de degresare a suprafețelor metalice (engl., rez. rom.)</td>
</tr>
<tr>
<td>CAMelia SMARANDA, MARIA GAVRILESCU și DUMITRU BULGARIU</td>
<td>Caracteristicile sorbției și desorbției colorantului Acid Orange 7 pe sol (engl., rez. rom.)</td>
</tr>
<tr>
<td>CAMELIA ARDELEANU și CARMEN TEODOSIU</td>
<td>Evaluarea aspectelor instituționale. Aspecte privind infrastructura apă și apă uzată din regiunea de nord-est a României (engl., rez. rom.)</td>
</tr>
<tr>
<td>CRISTIAN DRANCA, GABRIELA CARJA și SOFRONIA DRANCA</td>
<td>Caracteristicile optice ale ansamblor nanostructurate argint – hidroxizi dublu lamelari studiate prin spectroscopie UV-Vis (engl., rez. rom.)</td>
</tr>
</tbody>
</table>