XII МЕЂУНАРОДНИ НАУЧНИ СКУП

САВРЕМЕНИ МАТЕРИЈАЛИ 2019

ПРОГРАМ РАДА
И
КЊИГА АПСТРАКАТА

XII INTERNATIONAL SCIENTIFIC CONFERENCE

CONTEMPORARY MATERIALS 2019

PROGRAMME
AND
THE BOOK OF ABSTRACTS

ОРГАНИЗАТОР НАУЧНОГ СКУПА

Академија наука и умјетности Републике Српске

СУОРГАНИЗАТОР

Alma Mater Europaea

ПОКРОВИТЕЉ НАУЧНОГ СКУПА

Министарство за научнотехнолошки развој, високо образовање и информационо друштво

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THE SCIENTIFIC CONFERENCE HAS BEEN SUPPORTED BY

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Научни скуп одржаће се у Великој сали АНУРС-а у Бањој Луци

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The scientific conference will take place in the Big Hall of the ASARS in Banja Luka

6. Danijela Vuković, Slavica Maletić, Blanka Škipina, Adriaan Stephanus Luyt, Dragoljub Mirjanić i Duško Dudić
Dielectric, photodielectric and optical properties of pmma/Alq3 composites

7. Amela Greksa, Mladenka Novaković, Maja Đogo, Ivana Mihajlović, Mirjana Sekulić, Jasna Grabić
Assessment of heavy metals (Cu, Pb, Zn and Ni) in the stormwater runoff from the main streets of the city of Novi Sad

8. Ljiljana Suručić, Dijana Mihajlović, Bojana Marković, Zvjezdana Sandić, Aljoša Stanković, Aleksandra Nastasović
Metal ions speciation by magnetic polymer/bentonite nanocomposite

9. Zvjezdana Sandić, Bojana Marković, Dijana Mihajlović, Ines Miljanović, Ivan Stefanović, Jasna Džunuzović, Aleksandra Nastasović
Novel amino-functionalized magnetic polymer/bentonite composite for chromium removal from aqueous solutions

10. Aco Janićijević, Nemanja Stojanović, Srđan Divac, Aleksandra Kalezić-Glišović, Aleksa Maričić
Activation time dependent magnetization of the Fe/BaTiO3 system with varying Constituent mass ratios

11. Milesa Srećković, Aco Janićijević, Milovan Janićijević, Sanja Jevtić, Zoran Latinović, Katarina Zarubica, Aleksandar Bugarinović
Application and modeling of laser invasive, modulation and diagnostical techniques in biomedicine

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In order to examinate the presence of heavy metals in urban stormwater runoff, six main streets of Novi Sad city with high traffic intensity were chosen for the analysis. In recent years, after heavy rains these locations are also being flooded and the wastewater of the city of Novi Sad (combined sewage, industrial, municipal and stormwater) is directly discharged without any chemical or mechanical treatment into the Danube River. Samples of stormwater runoff were collected around the storm drains along the selected streets in april 2017. year after a rain event that lasted 2 hours. Stormwater samples were tested for zinc (Zn), copper (Cu) lead (Pb) and nickel (Ni). Concentrations of zinc were above limit of quantification (LOQ) (mean value 0.58 mg/L) for all six sampling locations in the city of Novi Sad, while for other metals, concentrations were under LOQ. The highest measured concentration of zinc was 1.21 mg/L. All detected values of zinc concentration were under the maximum allowable value for wastewater discharge to watercourse (2 mg/L).

Key words: stormwater runoff, heavy metals, urban streets, Novi Sad.

METAL IONS SPECIATION BY MAGNETIC POLYMER/BENTONITE NANOCOMPOSITE

Ljiljana Suručić[1], Dijana Mihajlović[2], Bojana Marković[3], Zvjezdana Sandić[4], Aljoša Stanković[5], Aleksandra Nastasović[6],
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Abstract: Speciation of Cu(II), Cd(II) and Ni(II) ions from aqueous solutions by means of the magnetic amino-functionalized polymer/bentonite composite based on methacrylates was investigated. The influence of contact time and initial concentration was monitored and the obtained data were analyzed by kinetic models, as well as the Langmuir and Freundlich adsorption isotherms. The composite was shown to be very efficient in the sorption of investigated ions, which can effectively be removed from aqueous solutions by applying the external magnetic field.

Key words: magnetic sorbent; metal ions speciation; kinetics; isotherms.