

Conf.dr. Adrian BÎRZU

Domeniu de cercetare: Dinamică neliniară și dinamica sistemelor complexe

Cursuri predate: Cinetică chimică, anul II

Chimie computațională și termodinamică statistică, anul III CH

Cinetică enzimatică, anul I CMSA

Lucrări semnificative:

1. A. Bîrzu, B.J. Green, R.D. Otterstedt, N.I. Jaeger, J.L. Hudson, "Modelling of spatiotemporal pattern during metal electrodisolution in a cell with a point reference electrode", *Phys. Chem. Chem. Phys.* **2**, 2000, 2715-2724.
2. A. Bîrzu, B. J. Green, N. I. Jaeger, J. L. Hudson, "Spatiotemporal patterns during electrodisolution of a metal ring: three-dimensional simulations", *J. Electroanal. Chem.* **504**, 2001, 126-136.
3. A. Bîrzu, B.J. Green, R.D. Otterstedt, J.L. Hudson, N.I. Jaeger, "Spatiotemporal Patterns on a Disk Electrode: Effects of Cell Geometry and Electrolyte Properties", *Z. Phys. Chem.* **216**, 2002, 459-477.
4. N. I. Jaeger, R. D. Otterstedt, A. Bîrzu, B. J. Green, J. L. Hudson, "Evolution of spatiotemporal patterns during the electrodisolution of metals: Experiments and simulations", *Chaos* **12**, 2002, 231-239.
5. A. Bîrzu, F. Plenge, N. I. Jaeger, J. L. Hudson, K. Krischer, "Complex spatiotemporal antiphase oscillations during electrodisolution of a metal disk electrode: model calculations", *J. Phys. Chem. B* **107**, 24, 2003, 5825-5835.
6. A. Bîrzu, F. Plenge, N. I. Jaeger, J. L. Hudson, K. Krischer, "Excitable dynamics during electrodisolution of a metal disk electrode: model calculations", *Phys. Chem. Chem. Phys.* **5**, 2003, 3724-3731.
7. K. Krischer, H. Varela, A. Bîrzu, F. Plenge, A. Bonnefont, "Stability of uniform electrode states in the presence of Ohmic drop compensation", *Electrochim. Acta* **49**, 2003, 103-115.
8. P. Jitaru, A. Bîrzu, R. Mocanu, F. C. Adams, "Effect of the interface on separation in multicapillary gas chromatography-based hyphenated techniques for speciation analysis of organometallic compounds", *Anal. Bioanal. Chem.* **382**, 2005, 1993-1998.
9. A. Bîrzu, K. Krischer, "Two-dimensional electrochemical turbulence during the electrodisolution of metal disk electrodes: Model calculations", *Phys. Chem. Chem. Phys.* **8**, 2006, 3659-3668.
10. A. Bîrzu, K. Krischer, "Confined spatio-temporal chaos during metal electrodisolution: simulations", *Z. Phys. Chem.* **221 (9-10)**, 2007, 1245-1254.
11. A. Bîrzu, V. Gáspár, "Synchronization of electrochemical oscillators of S-NDR type", *Electrochimica Acta* **55**, 2009, 383-394.
12. A. Bîrzu, K. Krischer, "Resonance tongues in a system of globally coupled FitzHugh-Nagumo oscillators with time periodic coupling strength", *Chaos* **20**, 2010, 043114.
13. A. Bîrzu, J. Coleman, I. Kiss, "Highly disparate activity regions due to non-uniform potential distribution in microfluidic devices: Simulations and experiments", *J. Electroanal. Chem.* **726**, 2014, 27-35.