

## Списък на публикации на Даниела Ковачева

представени за участие в конкурс за заемане на академичната длъжност „професор”, по професионално направление 4.2 „Химически науки” и научна специалност „Химия на твърдо тяло”, обявен в ДВ бр. 10/03.02.2012

1. R.M. Rojas, **D. Kovacheva**, K. Petrov, “Synthesis and Cation Distribution of the Spinel Cobaltites  $\text{Cu}_x\text{M}_y\text{Co}_{3-(x+y)}\text{O}_4$  (M = Ni, Zn) Obtained by Pyrolysis of Layered Hydroxide Nitrate Solid Solutions”, *Chem. Mater.*, 11 (1999) 3263-3267.
2. A. Batchvarov, T. Bacalova, **D. Kovacheva**, “Spray pyrolysis deposition and electrical characteristics of polycrystalline thin films of  $\text{Ba}_2\text{LnBiO}_6$  (Ln = Ce, Pr, Nd)”, *Proc. of the Int. School of Condensed Matter Physics*, Varna, Bulgaria, 1-4 Sept., 1998, Singapore: World Scientific, (1999) 441-444.
3. **D. Kovacheva**, V. Nikolov, K. Petrov, R. Rojas, P. Herrero, J. M. Rojo, “Synthesis and ionic conductivity of pure and Co-doped lithium barium diphosphates  $\text{Li}_{2-2x}\text{Co}_x\text{BaP}_2\text{O}_7$  ( $0 < x < 0.06$ )”, *J. Mater. Chem.*, 11 (2001) 444-448.
4. **D. Kovacheva**, T. Bacalova, A. Batchvarov, K. Petrov, “Structural and humidity sensing characteristics of  $\text{Zn}_{2-x}\text{Mg}_x\text{SnO}_4$  spinels”, *J. Mater. Sci. Lett.* 20 [17] (2001) 1597-1599.
5. **D. Kovacheva**, H. Gadjov, K. Petrov, S. Mandal, M.G. Lazarraga, L. Pascual, J. M. Amarilla, R. M. Rojas, P. Herrero, J. M. Rojo, “Synthesizing nanocrystalline  $\text{LiMn}_2\text{O}_4$  by a combustion route”, *J. Mater. Chem.*, 12 (2002) 1184-1188.
6. **D. Kovacheva**, T. Trendafilova, K. Petrov, A. Hewat, “Cation ordering in  $\text{Li}_2\text{M(II)Sn}_3\text{O}_8$ , M(II)=Mn, Zn”, *Journal of Solid State Chemistry*, 169 (2002) 44-52.
7. H. Gadjov, **D. Kovacheva**, “New method for synthesis of nanocrystalline lithium manganites”, *Journal of the University of Chemical Technology and Metallurgy*, 38 [4] (2003) 1293-1300.
8. Т. Трендафилова, **Д. Ковачева**, “Порядък/безпорядък в катионната подрешетка на фази с двойнохексагонал тип структура” - *Научна конференция с международно участие – Стара Загора*, 4 [1] (2003) 37-41.
9. M. Lazarraga, L. Pascual, H. Gadjov, **D. Kovacheva**, K. Petrov, J. Amarilla, R. Rojas, M. Martin-Luengo, J. Rojo, “ $\text{LiNi}_y\text{Mn}_{2-y}\text{O}_4$  ( $0 < y \leq 0.5$ ) nanospinels synthesized by a sucrose-aided combustion method. Characterization and electrochemical performances”, *J. Mater. Chem.* 14 [10] (2004) 1640-1647.
10. H. Gadjov, M. Gorova, V. Kotzeva, G. Avdeev, S. Uzunova, **D. Kovacheva** “ $\text{LiMn}_2\text{O}_4$  prepared by different methods at identical thermal treatment conditions: structural, morphological and electrochemical characteristics”, *Journal of Power Sources*, 134 [1] (2004) 110-117.

11. K. Krezhov, **D. Kovacheva**, E. Svab, F. Bouree, P. Stamenov, “Structural distortions and charge/orbital ordering in  $\text{Bi}_{0.25}\text{Ho}_{0.25}\text{Ca}_{0.5}\text{MnO}_3$ ”, *Physica B*, 350 [1-3] (2004) E13-17.
12. L. Pascual, H. Gadjov, **D. Kovacheva**, K. Petrov, P. Herrero, J.M. Amarilla, R. M. Rojas, J. M. Rojo, “Effect of the thermal treatment on the particle size and electrochemical response of nano-sized  $\text{LiCr}_{0.2}\text{Mn}_{1.8}\text{O}_4$  spinel” *Journal of the Electrochemical Society*, 152 [2] (2005) A301-A306.
13. D. Tzankov, **D. Kovacheva**, K. Krezhov, R. Puzniak, A. Wisiniewski, E. Svab, M. Mihov, “Magnetic and transport properties of  $\text{Bi}_{0.5}\text{Ca}_{0.5}\text{Fe}_x\text{Mn}_{1-x}\text{O}_3$  ( $0 < x < 0.6$ )” *Journal of physics Condensed Matter*, 17 (2005) 4319-4332.
14. **D. Kovacheva**, B. Markovsky, G. Salitra, Y. Talyosef, M. Gorova, E. Levi, M. Riboch, H.-J. Kim, D. Aurbach, “Electrochemical behavior of electrodes comprising micro-sized and nano-sized particles of  $\text{LiNi}_{0.5}\text{Mn}_{1.5}\text{O}_4$ : a comparative study”, *Electrochimica Acta*, 50 [28] (2005) 5553-5560.
15. K. Krezhov, **D. Kovacheva**, E. Svab, F. Bouree, “Neutron powder diffraction study of a system of a half hole-doped bismuth-based calcium manganites at room temperature”, *Journal of Physics-Condensed Matter*, 17 (2005) S3139-S3147.
16. T. Trendafilova, **D. Kovacheva**, K. Petrov, A. Hewat, “Cation distribution in  $\text{Li}_2\text{M(II)Sn}_3\text{O}_8$ ,  $\text{M(II)=Mg, Co, Fe}$ ”, *Zeitschrift fuer Kristallographie*, 23 (2006) 475-481.
17. B. Markovsky, **D. Kovacheva**, Y. Talyosef, M. Gorova, J. Grinblat, D. Aurbach, “Studies of nanosized  $\text{LiNi}_{0.5}\text{Mn}_{0.5}\text{O}_2$ -layered compounds produced by self-combustion reaction as cathodes for lithium-ion batteries”, *Electrochemical and Solid-State Letters*, 9 [10] (2006) A449-A453.
18. R. M. Rojas, J. M. Amarilla L. Pascual, J. M. Rojo, **D. Kovacheva**, K. Petrov, “Combustion Synthesis of Nanocrystalline  $\text{LiNi}_y\text{Co}_{1-2y}\text{Mn}_{1+y}\text{O}_4$  Spinels for 5V Cathode Materials”, Characterization and Electrochemical Properties”, *J. Power Sources*, 160 [1] (2006) 529-535.
19. D. Aurbach, B. Markovsky, G. Salitra, E. Markevich, Y. Talyossef, M. Koltypin, L. Nazar, B. Ellis, **D. Kovacheva**, „Review on electrode–electrolyte solution interactions, related to cathode materials for Li-ion batteries”, *Journal of Power Sources*, 165 (2007) 491–499.
20. T. Trendafilova, K. Ivanova, **D. Kovacheva**, “Electrical characteristics of  $\text{Li}_2\text{MM}'_3\text{O}_8$ , ( $\text{M}=\text{Mg, Zn}$ ;  $\text{M}'=\text{Ti, Sn}$ )”, *Journal of Optoelectronics and Advanced Materials*, 9 (2) (2007)271-274.

21. S. Dimitrovska-Lazova, **D. Kovacheva**, S. Aleksovska, V. Mirceski, "Synthesis and Electrochemical Investigation of  $\text{PrCoO}_3$  Perovskite", *Proceedings of the 25-th Annual Meeting of the Chemical Society of Serbia*, Novi Sad, 25-26 January (2007) 238-241.
22. Y. Talyosef, B. Markovsky, R. Lavi, G. Salitra, D. Aurbach, **D. Kovacheva**, M. Gorova, E. Zhecheva, R. Stoyanova, "Comparing the Behavior of Nano- and Micro-Sized Particles of  $\text{LiMn}_{1.5}\text{Ni}_{0.5}\text{O}_4$  Spinel as Cathode Materials for Li-Ion Batteries", *Journal of the Electrochemical Society*, 154 [7] (2007) 682-691.
23. J. M. Amarilla, R. M. Rojas, F. Pico, L. Pascual, K. Petrov, **D. Kovacheva**, M. G. Lazarraga, I. Lejona, J. M. Rojo, "Nanosized  $\text{LiM}_y\text{Mn}_{2-y}\text{O}_4$  (M+Cr,Co,and Ni) spinels synthesized by a sucrose-aided combustion method. Structural characterization and electrochemical properties", *Journal of Power Sources*, 174 [2] (2007) 1212-1217.
24. M. Mladenov, P. Zlatilova, **D. Kovacheva**, K. Belov, I. Dragieva, "Phase transition in nanocomposites  $\text{Li}_x\text{Cu}_y\text{Sn}_z$  as anode material in rechargeable lithium batteries", *Proceedings on CD of the Third International Conference on Multi-Materials Micro Manufacture*, 3-5 October 2007, Borovets, Bulgaria, editors: S. Dimov, W. Menz, Y. Toshev, 1-4.
25. D. Tzankov, **D. Kovacheva**, K. Krezhov, R. Puźniak, A. Wiśniewski, E. Svab, M. Mikhov, "Magnetic properties of  $\text{Bi}_{0.5}\text{Sr}_{0.5}\text{Fe}_x\text{Mn}_{1-x}\text{O}_3$ , „ $0 < x < 0.7$ ”, *Journal of Applied Physics*, 103 (2008) article 053910, 1-7.
26. **D. Kovacheva**, "Perovskite Materials with Interesting Electrical and Magnetic Properties" *Proceedings on CD of the XX Congress of Chemists and Technologists of Macedonia*, September 17-20 (2008), Ohrid, Macedonia, 1-4.
27. T. Ruskov, I. Spirov, H.W. Green II, **D. Kovacheva**, P. Tzvetkov, M. Georgieva, L. Dobrzhinetskaya, "Mössbauer milliprobe studies of small mineral samples with a silicon drift detector", *Physics and Chemistry of Minerals*, 35 [9] (2008) 485-491.
28. S. Martha, H. Sclar, Z. Samuk-Fromovich, **D. Kovacheva**, N. Saliyski, Y. Gofer, P. Sharon, E. Golik, B. Markovsky, D. Aurbach, "A Comparative Study of Electrodes Comprising Nanometric and Submicron Particles of  $\text{LiNi}_{0.50}\text{Mn}_{0.50}\text{O}_2$ ,  $\text{LiNi}_{0.33}\text{Mn}_{0.33}\text{Co}_{0.33}\text{O}_2$ , and  $\text{LiNi}_{0.40}\text{Mn}_{0.40}\text{Co}_{0.20}\text{O}_2$  Layered Compounds", *Journal of Power Sources*, 189 (2009) 248–255.
29. S. K. Martha, E. Markevich, V. Burgel, G. Salitra, E. Zinigrad, B. Markovsky, H. Sclar, Z. Pramovich, O. Heik, D. Aurbach, I. Exnar, H. Buqa, T. Drezen, G. Semrau, M. Schmidt, **D. Kovacheva**, N. Saliyski, "A Short Review on Surface Chemical Aspects of Li Batteries: A Key for a Good Performance", *Journal of Power Sources*, 189 (2009) 288–296.

30. O. Haik, S. K. Martha, H. Sclar, Z. Samuk-Fromovich, E. Zinigrad, B. Markovsky, **D. Kovacheva**, N. Saliyski, D. Aurbach, "Characterizations of Self-Combustion Reactions (SCR) for the Production of Nanomaterials Used as Advanced Cathodes in Li-ion batteries", *Thermochimica Acta*, 493 [1-2] (2009) 96-104.
31. P. Tzvetkov, N. Petrova, **D. Kovacheva**, "Combustion assisted synthesis and characterization of  $\text{Pb}_{1.33}\text{Sr}_{0.67-x}\text{Ba}_x\text{Fe}_2\text{O}_5$  ( $0 \leq x \leq 0.67$ ) perovskite-type materials", *Journal of Alloys and Compounds*, 485 (2009) 862–866.
32. H. Sclar, **D. Kovacheva**, E. Zhecheva, R. Stoyanova, R. Lavi, G. Kimmel, J. Grinblat, O. Girshevitz, F. Amalraj, O. Haik, E. Zinigrad, B. Markovsky, D. Aurbach, "On the Performance of  $\text{LiNi}_{1/3}\text{Mn}_{1/3}\text{Co}_{1/3}\text{O}_2$  Nanoparticles as a Cathode Material for Lithium-Ion Batteries", *Journal of the Electrochemical Society*, 156 [11] (2009) A938-A948.
33. S. Kovachev, **D. Kovacheva**, S. Aleksovska, E. Svab, K. Krezhov, "Structure and magnetic properties of multiferroic  $\text{YCr}_{1-x}\text{Fe}_x\text{O}_3$  ( $0 \leq x \leq 1$ )", *Journal of Optoelectronics and Advanced Materials*, 11 [10] (2009) 1549 – 1552.
34. S. Kovachev, **D. Kovacheva**, S. Aleksovska, E. Svab, K. Krezhov, "Structure and Properties Investigation of Mixed Oxides  $\text{YCr}_{1-x}\text{Fe}_x\text{O}_3$  ( $0 < x < 1$ )", *AIP Conference Proceedings*, 1203 (2009) 199-204.
35. K. Krezhov, S. Kovachev, **D. Kovacheva**, E. Svab, G. Andre, F. Porcher, "Neutron Diffraction Investigation of  $\text{Pb}_{0.5}\text{La}_{0.5}\text{FeO}_3$ ", *AIP Conference Proceedings*. 1203 (2009) 205-210.
36. P. Tzvetkov and **D. Kovacheva**, "Variable counting time approach for powder diffraction data collection: influence on the accuracy of the structural parameters"; *Proceedings of the I<sup>st</sup> National Crystallographic Symposium*, (2009) 107-110.
37. F. Amalraj, **D. Kovacheva**, M. Talianker, L. Zeiri, J. Grinblat, N. Leifer, G. Goobes, B. Markovsky, D. Aurbach, "Synthesis of integrated cathode materials  $x\text{Li}_2\text{MnO}_3 \cdot (1-x)\text{LiMn}_{1/3}\text{Ni}_{1/3}\text{Co}_{1/3}\text{O}_2$  ( $x=0.3, 0.5, 0.7$ ) and studies of their electrochemical behaviour", *Journal of the Electrochemical Society*, 157 [10] (2010) A1121-A1130.
38. P. Tzvetkov, **D. Kovacheva**, D. Nihtianova, T. Ruskov, "Synthesis of cation substituted  $\text{A}_2\text{B}_2\text{O}_5$  perovskites with crystallographic shear planes", *Z. Kristallogr. Proc.* 1 (2011) 397-402.
39. P. Tzvetkov, **D. Kovacheva**, D. Nihtianova, T. Ruskov, "Structure stability towards cation substitutions in  $\text{A}_2\text{B}_2\text{O}_5$  perovskites with crystallographic shear planes", *Bulgarian Chemical Communications*, 43 [2] (2011) 339-345.

40. S. Dimitrovska-Lazova, V. Mireski, **D. Kovacheva**, S. Aleksavska, "Solution combustion synthesis of  $\text{YCoO}_3$  and investigation of its catalytic properties by cyclic voltammetry", *Journal of Solid State Electrochemistry*, 16 [1] (2012) 219-225.
41. T. Lazarova, T. Ruskov, I. Spirov, P. Krystev, P. Todorova, D. Nihtianova, **D. Kovacheva**, "Synthesis and Characterization of Magnetic Nano-sized  $\text{MnFe}_2\text{O}_4$ " *Nanoscience & Nanotechnology* 11, Eds. E. Balabanova, I. Dragieva, Varna, Bulgaria (2011) 68-71.
42. P. Tzvetkov, **D. Kovacheva**, D. Nihtianova, N. Velichkova, T. Ruskov, "Synthesis and crystal structure of new  $\text{PbBaFe}_{2-x}\text{Mn}_x\text{O}_5$  perovskite-type compounds", *Bulgarian Chemical Communications*, (2012) - Article in Press.