

**Справка за цитиранията на
доц. д-р Илиана Наумова Апостолова,**

представени за участие в конкурс за заемане на академичната длъжност „професор“ в област на висше образование 4. **Природни науки, математика и информатика**, професионално направление 4.1. **Физически науки**, научна специалност „**Електрични, магнитни и оптични свойства на кондензираната материя (мултифероични свойства на обемни образци и наноматериали)**“, по дисциплината „**Физика с биофизика**“, обявен в ДВ, бр. 102 от 8.12.2023 г, код на процедурата: WWI-P-1123-112

В конкурса участват 414 бр. цитирания в списания с Q.

Общ брой цитирания в списания с Q 505 бр., h фактор 11.

*номерацията в скобите съответства на номерацията в: Общ списък на трудовете и публикациите

1(1). J. M. Wesselinowa and I. Apostolova, Size and anisotropy effects on static and dynamic properties of ferromagnetic nanoparticles, J. Phys.: Cond. Matter. 19, 216208 (2007).

1. L. B. Drissi, S. Zriouel, L. Bahmad, Monte Carlo study of magnetic behavior of core–shell nanoribbon, Journal of Magnetism and Magnetic Materials 374, 639 (2015). – Q₁
doi: 10.1016/j.jmmm.2014.08.094

2. R. Masrour, A. Jabar, Magnetic properties of bilayer graphene: a Monte Carlo study, Journal of Computational Electronics 16, 12 (2017). – Q₃ doi: 10.1007/s10825-016-0930-2

3. B. Drissi, S. Zriouel and L. Bahmad, Surface effects and discontinuity behavior in nano-systems composed of Prussian blue analogues, Physica A: Statistical Mechanics and its Applications 496, 663 (2018). – Q₂ doi: 10.1016/j.physa.2017.12.125

2(2). J. M. Wesselinowa and I. Apostolova, Ion doping effects on static and dynamic properties of ferromagnetic nanoparticles, J. Appl. Phys. 101, 103915 (2007).

1. S. P. Gubin, Yu. A. Koksharov and Yu. V. Ioni, Magnetism of Nanosized “Nonmagnetic” Materials; the Role of Defects (Review), Russian Journal of Inorganic Chemistry 66(1), 1-24 (2021). – Q₃ doi: 10.1134/S0036023621010034

3(3). J. M. Wesselinowa and I. Apostolova, Size, anisotropy and doping effects on the coercive field of ferromagnetic nanoparticles, J. Phys.: Condens. Matter 19, 406235 (2007).

1. Minoru Osada, Satoshi Yoguchi, Masayuki Itose et al., Controlled doping of semiconducting titania nanosheets for tailored spinelectronic materials, Nanoscale 6, 14227 (2014). – Q₁
doi: 10.1039/C4NR04465G

2. V. N. Nikoforov and B. L. Oksengendler, Magnetometric study of gadolinium solubility in magnetite nanocrystals, Inorganic Materials 50, 1222 (2014). – Q₂
doi: 10.1134/S0020168514120176

3. Zara P. Cherkezova-Zheleva, Katerina L. Zaharieva, Martin P. Tsvetkov et al., Impact of preparation method and chemical composition on physicochemical and photocatalytic properties of nano-dimensional magnetite-type materials, American Mineralogist 100, 1257 (2015). – Q₂
doi: 10.2138/am-2015-5152 1257

4. L. B. Drissi, S. Zriouel, L. Bahmad, Monte Carlo study of magnetic behavior of core–shell nanoribbon, *Journal of Magnetism and Magnetic Materials* 374, 639 (2015). – Q₁
doi: 10.1016/j.jmmm.2014.08.094
5. R. Masrour, A. Jabar, A. Benyoussef and M. Hamedoun, Spin-1 and -2 bilayer Bethe lattice: A Monte Carlo study, *Journal of Magnetism and Magnetic Materials* 401, 700 (2016). – Q₁
doi: 10.1016/j.jmmm.2015.10.098
6. A. Jabar, R. Masrour, Magnetic Properties of Graphene Structure: a Monte Carlo Simulation, *Journal of Superconductivity and Novel Magnetism* 29, 1363 (2016). – Q₃
doi: 10.1007/s10948-016-3417-2
7. Oihane K. Arriortua, Eneko Garaio, Borja Herrero de la Parte et all., Antitumor magnetic hyperthermia induced by RGD-functionalized Fe₃O₄ nanoparticles, in an experimental model of colorectal liver metastases, *Beilstein Journal of Nanotechnology* 7, 1532 (2016). – Q₁
doi: 10.3762/bjnano.7.147
8. A. Jabar, R. Masrour, A. Benyoussef, M. Hamedoun, Magnetic properties of the mixed spin-1 and spin-3/2 Ising system on a bilayer square lattice: A Monte Carlo study, *Chemical Physics Letters* 670, 16 (2017). – Q₂ doi: 10.1016/j.cplett.2016.12.070
9. A. Jabar, R. Masrour, Effect of surface and interface couplings in thin film system: Monte Carlo simulation, *Computational Condensed Matter* 13, 91 (2017). – Q₃
doi: 10.1016/j.cocom.2017.09.010
10. A. Jabar, R. Masrour, Spin Compensation Temperatures in the Monte Carlo Study of a Mixed Spin-3/2 and Spin-1/2 Ising Ferrimagnetic System, *Journal of Superconductivity and Novel Magnetism* 30(10), 2829 (2017). – Q₃ doi: 10.1007/s10948-017-4093-6
11. R. Masrour, A. Jabar, Magnetic properties of bilayer graphene: a Monte Carlo study, *Journal of Computational Electronics* 16(1), 12 (2017). – Q₃
doi: 10.1007/s10825-016-0930-2
12. A. Jabar, R. Masrour, Dependence of the Magnetic Transition Temperatures T_{N1} and T_{N2} and Magnetization Plateau of the 2D Checkerboard Lattice Structure with the Superblock (N,N), *Journal of Superconductivity and Novel Magnetism* 31, 1459 (2018). – Q₃
doi: 10.1007/s10948-017-4348-2
13. A. Jabar, R. Masrour, A. Benyoussef and M. Hamedoun, Critical phenomena in kagomé multilayer with RKKY-like interaction: A Monte Carlo study, *Physica A: Statistical Mechanics and its Applications* 523, 915 (2019). – Q₂ doi: 10.1016/j.physa.2019.04.153
14. R. Masrour and A. Jabar, Effect of surface and bulk exchange interactions on superlattice materials with a mixed spins: A Monte Carlo study, *Solid State Communications* 291, 15 (2019). – Q₂ doi: 10.1016/j.ssc.2019.01.004
15. A. Jabar, R. Masrour, Magnetic properties of Kekulene structure: A Monte Carlo study, *Physica A: Statistical Mechanics and its Applications* 514, 974 (2019). – Q₂
doi: 10.1016/j.physa.2018.09.125
16. Z. Fadil, N. Maaouni, M. Qajjour, A. Mhirech, B. Kabouchi, L. Bahmad, W. Ousi Benomar, Magnetization and susceptibility behaviors in a bi-layer graphyne structure: A Monte Carlo study, *Physica B: Condensed Matter* 578, 411852 (2020). – Q₂
doi: 10.1016/j.physb.2019.411852

17. S. P. Gubin, Yu. A. Koksharov, and Yu. V. Ioni, Magnetism of Nanosized “Nonmagnetic” Materials; the Role of Defects (Review), *Russian Journal of Inorganic Chemistry* 66(1), 1-24 (2021). – Q₃ doi: 10.1134/S0036023621010034
18. J.-Q. Hu, N. Si, W. Jiang, J. Meng and Y.-L. Zhang, Magnetic and thermodynamic properties of center decorated hexagon and tetragon structures, *Physics Letters A* 405, 127434 (2021). – Q₂ doi: 10.1016/j.physleta.2021.127434
19. A. G. G. Lehmann, G. Muscas, M. Ferretti, E. Pusceddu, D. Peddis, F. Congiu, Structural and Magnetic Properties of Nanosized Half-Doped Rare-Earth Ho_{0.5}Ca_{0.5}MnO₃ Manganite, *Applied Sciences* 12(2), 695 (2022). – Q₂ doi: 10.3390/app12020695
20. B.-c. Li, W. Wang, J.-q. Lv, M. Yang and F. Wang, Compensation and critical characteristics of the ferrimagnetic bilayer graphdiyne film with RKKY interaction, *Applied Physics A* 128, Article number: 445 (2022). – Q₂ doi: 10.1007/s00339-022-05592-z
21. K.-L. Shi, Z. Wang and W. Jiang, Monte Carlo simulation of magnetic and thermodynamic properties of hexagonal decorated nanoparticle in a magnetic field, *Journal of Materials Science* 58, 7620 (2023). – Q₁ doi: 10.1007/s10853-023-08504-5
22. R. Masrour, Study of magnetic properties of Ising nanowires with core–shell structure, *European Physical Journal B* 96, 100 (2023). – Q₃ doi: 10.1140/epjb/s10051-023-00567-2
23. E. E. Ateia, K. Elsayed and D. E. El-Nashar, Tuning the properties of NBR/BaFe_{11.5}Co_{0.5}O₁₉: a road toward diverse applications, *Applied Physics A* 129, 118 (2023). – Q₂ doi: 10.1007/s00339-023-06388-5
24. B. Zhang, J. Chen, J. Wang, W. Li, K. Tong, G. Li, J. Ma, J. Wu and Y. Xu, Effect of Defects on the Characteristics of CoFeB–MgO-Based MRAM Structure, *Spin*, Published: 31 October 2023 (2023). – Q₃ doi: 10.1142/S2010324723500297

4(4). J. M. Wesselinowa and I. Apostolova, Theoretical study of phonon spectra in ferromagnetic nanoparticles, *Physics Letters A* 372, 305 (2008).

1. I. F. I. Mikhail, I. M. M. Ismail, M. Ameen, Model calculation of thermal conductivity in antiferromagnets, *Physica B: Condensed Mater* 476, 29 (2015). – Q₂ doi: 10.1016/j.physb.2015.06.022
2. S. Šegota, G. Baranović, M. Mustapić, V. Strasser, D. D. Jurašin, I. Crnolatac, Md S. Al Hossain, M. D. Sikirić, The role of spin-phonon coupling in enhanced desorption kinetics of antioxidant flavonols from magnetic nanoparticles aggregates, *Journal of Magnetism and Magnetic Materials* 490, 165530 (2019). – Q₂ doi: 10.1016/j.jmmm.2019.165530

5(5). J. M. Wesselinowa and I. Apostolova, Impact of defects on the properties of ferromagnetic nanoparticles, *J. Appl. Phys.* 103, 073910 (2008).

1. A. R. Abraham, B. Raneesh, S. Joseph, P. M. Arif, P. M. G. Nambissan, D. Das, D. Rouxel, O. S.Oluwafemi, S. Thomas and N. Kalarikkal, Magnetic performance and defect characterization studies of core–shell architected MgFe₂O₄@BaTiO₃ multiferroic nanostructures, *Physical Chemistry Chemical Physics* 21, 8709-8720 (2019). – Q₁ doi: 10.1039/C8CP04946G
2. S. P. Gubin, Yu. A. Koksharov and Yu. V. Ioni, Magnetism of Nanosized “Nonmagnetic” Materials; the Role of Defects (Review), *Russian Journal of Inorganic Chemistry* 66(1), 1-24 (2021). – Q₃ doi: 10.1134/S0036023621010034

6(6). I. Apostolova and J. M. Wesselinowa, Magnetic control of ferroelectric properties in multiferroic BiFeO₃ nanoparticles, Solid State Commun. 147, 94 (2008).

1. L.-J. Zhai and H.-Y. Wang, Theoretical study of magnetic spin correlations and the magnetocapacitance effect in BiMnO₃, European Physical Journal B 87, 250 (2014). – Q₂
doi: 10.1140/epjb/e2014-50396-5
2. E. Kantar, Hysteretic features of Ising-type segmented nanostructure with alternating magnetic wires, Journal of Alloys and Compounds 676, 337 (2016). – Q₁
doi: 10.1016/j.jallcom.2016.03.202
3. E. Kantar, Geometry-Dependent Magnetic Properties of Ising-Type Multisegment Nanowires, Journal of Superconductivity and Novel Magnetism 29, 2699 (2016). – Q₃
doi: 10.1007/s10948-016-3603-2
4. S. Ahmad, M. A. Khan, M. Sarfraz, A. ur Rehman, M. F. Warsi, I. Shakir, The impact of Yb and Co on structural, magnetic, electrical and photocatalytic behavior of nanocrystalline multiferroic BiFeO₃ articles, Ceramics International 43, 16880 (2017). – Q₁
doi: 10.1016/j.ceramint.2017.09.088
5. E. Kantar, Dynamic magnetic behaviors in the Ising-type nanowire with core-shell single-ion anisotropies under a time-dependent oscillating external magnetic field, Chinese Journal of Physics 55, 1808 (2017). – Q₃ doi: 10.1016/j.cjph.2017.06.013
6. E. Kantar, Ising-Type Single-Segment Ferromagnetic Nanowire with Core/Shell: the Dependences of the Angle, Temperature, and Geometry, Journal of Superconductivity and Novel Magnetism 31, 341 (2018). – Q₃ doi: 10.1007/s10948-017-4221-3
7. A. Zaim, L. H. Omari and K. Mohamed, The Effect of a Random Transverse Field on the Ferroelectric Properties of a Nanowire with Core/Shell Morphology (FN(C/S)M), Journal of Superconductivity and Novel Magnetism 31 (1), 163 (2018). – Q₃
doi: 10.1007/s10948-017-4186-2
8. B. B. Kantar and M. Ertaş, Dynamic magnetic and hysteretic properties of the different type core/shell nanostructures: the effect of geometry of wire shape, Philosophical Magazine 98(30), 2734 (2018). – Q₂ doi: 10.1080/14786435.2018.1505055
9. J. Mo, Q. Zhang, Y. Chen, L. Liu, P. Xia, J. Yang, Y. Xia, M. Liu, The Magnetic Properties of Different Proportions Cr-Doped BiFeO₃ as Studied Using Heisenberg Model, Journal of Superconductivity and Novel Magnetism 35, 1207–1214 (2022). – Q₃
doi: 10.1007/s10948-022-06151-6

7(7). J. Wesselinowa and I. Apostolova, Theoretical study of multiferroic BiFeO₃ nanoparticles, J. Appl. Phys. 104, 084108 (2008).

1. L.-J. Zhai and H.-Y. Wang, Effects of magnetic correlation on the electric properties in multiferroic materials, Journal of Magnetism and Magnetic Materials 377, 121 (2015). – Q₁
doi: 10.1016/j.jmmm.2014.10.072
2. Z. Wang, M. J. Grimson, Dynamic Response in a Finite Size Composite Multiferroic Thin Film, Journal of Applied Physics 118, 124109 (2015). – Q₂ doi: 10.1063/1.4944604
3. E. Kantar, Hysteretic features of Ising-type segmented nanostructure with alternating magnetic wires, Journal of Alloys and Compounds 676, 337 (2016). – Q₁
doi: 10.1016/j.jallcom.2016.03.202

4. X.-S. Cao , G.-F. Ji, X.-F. Jiang, Effect of ferromagnetic and ferroelectric properties on the sound velocity anomaly in BiFeO₃, Journal of Alloys and Compounds 685, 978 (2016). – Q₁ doi: 10.1016/j.jallcom.2016.06.138
5. X.-S. Cao, G.-F. Ji, X.-F. Jiang, Anomalous sound velocity in multiferroic BiFeO₃, Solid State Communications 245, 55 (2016). – Q₂ doi: 10.1016/j.ssc.2016.07.022
6. Z. Wang, M. J. Grimson, Driving skyrmions in a composite bilayer, Physical Review B 94, 014311 (2016). – Q₁ doi: 10.1103/PhysRevB.94.014311
7. B. Qin, Y. Guo, D. Pan et al., Size-controlled synthesis of BiFeO₃ nanoparticles by a facile and stable sol-gel method, Journal of Materials Science: Materials in Electronics 27, 10803 (2016). – Q₂ doi: 10.1007/s10854-016-5186-x
8. Xian-Sheng Cao, Anomalous Specific Heat of Multiferroic BiFeO₃, Journal of Low Temperature Physics 189(3-4), 196 (2017). – Q₂ doi: 10.1007/s10909-017-1804-0
9. S. Goswami, D. Bhattacharya, C. K. Ghosh, B. Ghosh, S. D. Kaushik, V. Siruguri and P. S. R. Krishna, Nonmonotonic particle-size-dependence of magnetoelectric coupling in strained nanosized particles of BiFeO₃, Scientific Reports 8, Article number: 3728 (2018). – Q₁ doi: 10.1038/s41598-018-21803-1
10. R. Jana, V. Pareek, P. Khatua, P. Saha, A. Chandra and G. Dev Mukherjee, Pressure induced anomalous magnetic behaviour in nanocrystalline YCrO₃ at room temperature, Journal of Physics: Condensed Matter 30, 335401 (2018). – Q₁ doi: 10.1088/1361-648X/aad24c
11. B. B. Kantar and M. Ertaş, Dynamic magnetic and hysteretic properties of the different type core/shell nanostructures: the effect of geometry of wire shape, Philosophical Magazine 98(30), 2734 (2018). – Q₂ doi: 10.1080/14786435.2018.1505055
12. C. A. O. Xian-Sheng , Theoretical investigation on the magnetocaloric effect of BiFeO₃, Journal of Alloys and Compounds 806, 1008 (2019). – Q₁ doi: 10.1016/j.jallcom.2019.07.330
13. S. Nath, S. K. Barik, S. Hajra, R. N. P. Choudhary, Relaxation mechanism, conductivity and multiferroic property studies in (La_{1/2}Li_{1/2})(Fe_{2/3}W_{1/3})O₃, Physica B: Condensed Matter 567, 100 (2019). – Q₂ doi: 10.1016/j.physb.2018.10.042
14. X.-S. Cao, Phonon properties of multiferroic BiFeO₃, Materials Science and Engineering: B 251, 114446 (2019). – Q₁ doi: 10.1016/j.mseb.2019.114446
15. F. Orudzhev, S. Ramazanov, D. Sobola, N. Alikhanov, V. Holcman, L. Škvarenina, P. Kaspar and Gamzat Gadzhilov, Piezoelectric Current Generator Based on Bismuth Ferrite Nanoparticles, Sensors 20(23), 6736 (2020). – Q₂ doi: 10.3390/s20236736
16. A. Arbaoui, K. Htoutou, L. B. Drissi and R. Ahl Laamara, Theoretical Investigation of Phase Diagrams and Compensation Behaviors of a Ferrimagnetic Mixed-Spin (3/2,2) Ising Nanowire with Cylindrical Core-Shell Structure, Journal of Superconductivity and Novel Magnetism 34(2), 1-11 (2021). – Q₃ doi: 10.1007/s10948-021-05985-w

8(8). I. Apostolova, A. Apostolov and J. Wesselinowa, Theoretical study of the phonon spectra of multiferroic BiFeO₃ nanoparticles, J. Phys.: Condens. Matter 21, 036002 (2009).

1. X.-S. Cao, G.-F. Ji, X.-F. Jiang, Effect of ferromagnetic and ferroelectric properties on the sound velocity anomaly in BiFeO₃, Journal of Alloys and Compounds 685, 978 (2016). – Q₁ doi: 10.1016/j.jallcom.2016.06.138
2. X.-S. Cao, Phonon properties of multiferroic BiFeO₃, Materials Science and Engineering: B 251, 114446 (2019). – Q₁ doi: 10.1016/j.mseb.2019.114446

3. Y. Zhang, Y. Zhang, Q. Guo, D. Zhang, S. Zheng, M. Feng, X. Zhong, C. Tan, Z. Lu, J. Wang, P. Hou, Y. Zhou and J. Yuan, Enhanced electromagnon excitations in Nd-doped BiFeO₃ nanoparticles near morphotropic phase boundaries, *Physical Chemistry Chemical Physics* 21, 21381 (2019). – Q₁
doi: 10.1039/C9CP04194J
4. X.-S. Cao, Theoretical investigation on the magnetocaloric effect of BiFeO₃, *Journal of Alloys and Compounds* 806, 1008-1011 (2019). – Q₁ doi: 10.1016/j.jallcom.2019.07.330

9(9). I. Apostolova and J. M. Wesselinowa, Ion doping effects on the properties of multiferroic BiFeO₃ nanoparticles, *J. Magn. Magn. Mater.* 321, 2477 (2009).

1. A. Shabbir, Z. A. Gilani, A. Nawaz et al., Enhanced dielectric and photocatalytic behaviour of Dy-Co co-doped multiferroic BiFeO₃ nanoparticles, *Digest Journal of Nanomaterials and Biostructures* 11, 1189 (2016). – Q₄ https://chalcogen.ro/1189_ShabbirA.pdf

10(10). I. Apostolova and J. M. Wesselinowa, Possible low-T_C nanoparticles for use in magnetic hyperthermia treatments, *Solid State Commun.* 149, 986 (2009).

1. I. M. Obaidat, B. Issa and Y. Haik, Magnetic Properties of Magnetic Nanoparticles for Efficient Hyperthermia, *Nanomaterials* 5, 63-89 (2015). – Q₁ doi: 10.3390/nano5010063
2. K. McBride, J. Cook, S. Gray et al., Evaluation of La_{1-x}Sr_xMnO₃ ($0 \leq x < 0.4$) synthesised *via* a modified sol-gel method as mediators for magnetic fluid hyperthermia, *CrystEngComm* 18, 407 (2016). – Q₁ doi: : 10.1039/c5ce01890k
3. Z. Hedayatnasab, F. Abnisa, W.M.A.W. Daud, Review on magnetic nanoparticles for magnetic nanofluid hyperthermia application, *Materials&Design* 123, 174-196 (2017). – Q₁
doi: 10.1016/j.matdes.2017.03.036
4. H. Das, A. Inukai, N. Debnath, T. Kawaguchi, N. Sakamoto, S.M. Hoque, H. Aono, K. Shinozaki, H. Suzuki, N. Wakiya, Influence of crystallite size on the magnetic and heat generation properties of La_{0.77}Sr_{0.23}MnO₃ nanoparticles for hyperthermia applications, *Journal of Physics and Chemistry of Solids* 112, 179 (2018). – Q₂ doi: 10.1016/j.jpcs.2017.09.030
5. M. M. N. Ansari, S. Khan, N. Ahmad, Effect of R³⁺ (R = Pr, Nd, Eu and Gd) substitution on the structural, electrical, magnetic and optical properties of Mn-ferrite nanoparticles, *Journal of Magnetism and Magnetic Materials* 465, 81 (2018). – Q₂ doi: 10.1016/j.jmmm.2018.05.071
6. M. A. Almessiere, Unique structural and magnetic traits of Nd³⁺-substituted Co-Zn nanoferrites, *Journal of Rare Earths* 37, 1108 (2019). – Q₂ doi: 10.1016/j.jre.2019.07.002
7. P. A. Rao, K. S. Rao, T. R. K. P. Raju, G. Kapusetti, M. Choppadandi, M. C. Varma, K. H. Rao, A systematic study of cobalt-zinc ferrite nanoparticles for self-regulated magnetic hyperthermia, *Journal of Alloys and Compounds* 794, 60 (2019). – Q₁
doi: 10.1016/j.jallcom.2019.04.242
8. S. Pan, W. Huang, Q. Yu, X. Liu, Y. Liu, R. Liu, A rapid combustion process for the preparation of Ni_xCu_(1-x)Fe₂O₄ nanoparticles and their adsorption characteristics of methyl blue, *Applied Physics A* 125, 88 (2019). – Q₂ doi: 10.1007/s00339-019-2390-6
9. El. Abouzir, M. Elansary, M. Belaiche and H. Jaziri, Magnetic and structural properties of single-phase Gd³⁺-substituted Co-Mg ferrite nanoparticles, *RSC Advances* 10, 11244-11256 (2020). – Q₁
doi: 10.1039/D0RA01841D

10. M. M. N. Ansari, S. Khan and N. Ahmad, Structural, electrical transport and magnetic properties of Nd³⁺ substituted Mn–Cu nanoferrites, *Journal of Alloys and Compounds* 831, 154778 (2020). – Q₁ doi: 10.1016/j.jallcom.2020.154778
11. H. Etemadi, P. G. Plieger, Magnetic Fluid Hyperthermia Based on Magnetic Nanoparticles: Physical Characteristics, Historical Perspective, Clinical Trials, Technological Challenges, and Recent Advances, *Advanced Therapeutics* 3(11), 2000061 (2020). – Q₄ doi: 10.1002/adtp.202000061
12. G Niraula, C. Wu, X. Yu, S. Malik, D. S. Verma, R. Yang, B. Zhao, S. Ding, W. Zhang and S. K. Sharma, The Curie temperature: a key playmaker in self-regulated temperature hyperthermia, *Journal of Materials Chemistry B*, Pub Date: 2023-11-13 (2023). – Q₁ doi. 10.1039/D3TB01437A

11(11). I. Apostolova and J. M. Wesselinowa, Composition dependence of the coercivity in magnetic nanoparticles suitable for magnetic hyperthermia, phys. stat. sol. (b) 246, 1925 (2009).

1. Z. Hedayatnasab, F. Abnisa, W.M.A.W. Daud, Review on magnetic nanoparticles for magnetic nanofluid hyperthermia application, *Materials&Design* 123, 174-196 (2017). – Q₁ doi: 10.1016/j.matdes.2017.03.036
2. D. S. Verma, G. Niraula, C. Wu, X. Yu, S. Malik, D. S. Verma, R. Yang, B. Zhao, S. Ding, W. Zhang and S. K. Sharma, The Curie temperature: a key playmaker in self-regulated temperature hyperthermia, *Journal of Materials Chemistry B*, Pub Date: 2023-11-13 (2023). – Q₁ doi. 10.1039/D3TB01437A
3. M. Chauhan, S. M. Basu, M. Qasima and J. Giri, Polypropylene sulphide coating on magnetic nanoparticles as a novel platform for excellent biocompatible, stimuli-responsive smart magnetic nanocarriers for cancer therapeutics, *Nanoscale* 15, 7384 (2023). – Q₁ doi: 10.1039/D2NR05218K

12(14). A. T. Apostolov, I. N. Apostolova and J. M. Wesselinowa, MO.Fe₂O₃ Nanoparticles for Self Controlled Magnetic Hyperthermia, J. Appl. Phys. 109, 083939 (2011).

1. A. Kumar, S. Keshri, D. Kabiraj, Influence of annealing temperature on nanostructured thin films of tungsten trioxide, *Materials Science in Semiconductor Processing* 17, 43 (2014). – Q₂ doi: 10.1016/j.mssp.2013.07.018
2. I. M. Obaidat, B. Issa and Y. Haik, Magnetic Properties of Magnetic Nanoparticles for Efficient Hyperthermia, *Nanomaterials* 5, 63-89 (2015). – Q₁ doi: 10.3390/nano5010063
3. N. Lee, D. Yoo, D. Ling, M. H. Cho, T. Hyeon and J. Cheon, Iron Oxide Based Nanoparticles for Multimodal Imaging and Magnetoresponsive Therapy, *Chemical Reviews* 115(19), 10637-10689 (2015). – Q₁ doi: 10.1021/acs.chemrev.5b00112
4. S. Kalyani, J. Sangeetha, J. Philip, Microwave Assisted Synthesis of Ferrite Nanoparticles: Effect of Reaction Temperature on Particle Size and Magnetic Properties, *Journal of Nanoscience and Nanotechnology* 15, 5768 (2015). – Q₃ doi: 10.1166/jnn.2015.10274
5. M. Ebrahimi, On the temperature control in self-controlling hyperthermia therapy, *Journal of Magnetism and Magnetic Materials* 416, 134 (2016). – Q₂ doi: 10.1016/j.jmmm.2016.04.095
6. Z. Hedayatnasab, F. Abnisa, W. M. A. W. Daud, Review on magnetic nanoparticles for magnetic nanofluid hyperthermia application, *Materials & Design* 123, 174 (2017). – Q₁ doi: 10.1016/j.matdes.2017.03.036

7. M. Nedyalkova, B. Donkova, J. Romanova, G. Tzvetkov, V. Simeonov, Iron oxide nanoparticles – In vivo/in vitro biomedical applications and in silico studies, *Advances in Colloid and Interface Science* 249, 192 (2017). – Q₁ doi: 10.1016/j.cis.2017.05.003
8. Y. Tang, R. C. C. Flesch, T. Jin, Numerical analysis of temperature field improvement with nanoparticles designed to achieve critical power dissipation in magnetic hyperthermia, *Journal of Applied Physics* 122, 034702 (2017). – Q₂ doi: 10.1063/1.4994309
9. S. Anjum, R. Tufail, K. Rashid, R. Zia, S. Riaz, Effect of cobalt doping on crystallinity, stability, magnetic and optical properties of magnetic iron oxide nano-particles, *Journal of Magnetism and Magnetic Materials* 432, 198 (2017). – Q₂ doi: 10.1016/j.jmmm.2017.02.006
10. H. Das, A. Inukai, N. Debnath, T. Kawaguchi, N. Sakamoto, S.M. Hoque, H. Aono, K. Shinozaki, H. Suzuki, N. Wakiya, Influence of crystallite size on the magnetic and heat generation properties of $\text{La}_{0.77}\text{Sr}_{0.23}\text{MnO}_3$ nanoparticles for hyperthermia applications, *Journal of Physics and Chemistry of Solids* 112, 179 (2018). – Q₂ doi: 10.1016/j.jpcs.2017.09.030
11. P. Iranmanesh, H. Saravani and A. Rezvani, Synthesis, characterization, antibacterial activity and VSM investigation of Fe_3O_4 – NiCr_2O_4 nano oxide obtained from a new oxalato-bridged complex, *Chemical Papers* 72, 487 (2018). – Q₃ doi: 10.1007/s11696-017-0301-x
12. M. N. Bensenane, A. R. Senoudi, R. Benmouna and F. Ould-Kaddour, Analytical modeling of hyperthermia using magnetic nanoparticles, *European Physical Journal - Applied Physics* 81, 30901 (2018). – Q₄ (Web of science) doi: 10.1051/epjap/2018170423
13. S. V. Jadhav, P. S. Shewale, B. C. Shin, G. D. Kim, A. A. Rokade, S. S. Park, R. A. Bohara, Y. S. Yu, Study of structural and magnetic properties and heat induction of gadolinium-substituted manganese zinc ferrite nanoparticles for *in vitro* magnetic fluid hyperthermia, *Journal of Colloid and Interface Science* 541, 192 (2019). – Q₁ doi: 10.1016/j.jcis.2019.01.063
14. S. S. Hayek, Synthesis and Characterization of CeGdZn-Ferrite Nanoparticles as Magnetic Hyperthermia Application Agents, *Advances in Materials Science and Engineering*, Volume 2019, Article ID 4868506, 8 pages (2019). – Q₂ doi: 10.1155/2019/4868506
15. Y. Tang, T. Jin, R. C. C. Flesch, Effect of mass transfer and diffusion of nanofluid on the thermal ablation of malignant cells during magnetic hyperthermia, *Applied Mathematical Modelling* 83, 122-135 (2020). – Q₂ doi: 10.1016/j.apm.2020.02.010
16. G. Niraula, C. Wu, X. Yu, S. Malik, D. S. Verma, R. Yang, B. Zhao, S. Ding, W. Zhang and S. K. Sharma, The Curie temperature: a key playmaker in self-regulated temperature hyperthermia, *Journal of Materials Chemistry B*, Pub Date: 2023-11-13 (2023). – Q₁ doi: 10.1039/D3TB01437A
17. S. M. I. Mohamed, E. K. Güner, M. Yılmaz and A. El Nemr, Removal of Cr⁶⁺ ions and mordant violet 40 dye from liquid media using *Pterocladia capillacea* red algae derived activated carbon-iron oxides, *Scientific Reports* 13, 18306 (2023). – Q₁ doi: 10.1038/s41598-023-45464-x
18. A. Bhardwaj, K. Parekh, N. Jain, Optimization of magnetic fluid hyperthermia protocols for the elimination of breast cancer cells MCF7 using Mn-Zn ferrite ferrofluid, *Journal of Materials Science: Materials in Medicine* 34(3), 11 (2023). – Q₂ doi: 10.1007/s10856-023-06715-5
19. I. Kondrashkova, K. D. Martinson, V. I. Popkov, The effect of Ho-doping on the synthesis, structure and magnetic characteristics of ZnFe_2O_4 -based nanopowders, *Journal of Magnetism and Magnetic Materials* 582, 170970 (2023). – Q₂ doi: 10.1016/j.jmmm.2023.170970
20. H. H. Patel, K. Parekh, L. F. Gamarra, J. B. Mamani, A. da H. Alves and A. M. F. Neto, In vitro evaluation of magnetic fluid hyperthermia therapy on breast cancer cells using monodispersed $\text{Mn}_{0.5}\text{Zn}_{0.5}\text{Fe}_2\text{O}_4$ nanoflowers, *Journal of Magnetism and Magnetic Materials* 587(6), 171275 (2023). – Q₂ doi: 10.1016/j.jmmm.2023.171275

21. D. S. Verma, G. Niraula, C. Wu, X. Yu, S. Malik, D. S. Verma, R. Yang, B. Zhao, S. Ding, W. Zhang and S. K. Sharma, The Curie temperature: a key playmaker in self-regulated temperature hyperthermia, *Journal of Materials Chemistry B*, Pub Date: 2023-11-13 (2023). – Q₁ doi: 10.1039/D3TB01437A

13(15). J. M. Wesselinowa, A. T. Apostolov, I. N. Apostolova and S. G. Bahooosh, Critical exponents of multiferroic hexagonal RMnO₃, Bulg. J. Phys. 38, 420 (2011).

1. Y. Liu, L.-J. Zhai, H.-Y. Wang, Theoretical study of mutual control mechanism between magnetization and polarization in multiferroic materials, *Chinese Physics B* 24, 037510 (2015). – Q₂ doi: 10.1088/1674-1056/24/3/037510

2. R. Singh and M. K. Nandy, A long-range model with energy–spin coupling and critical properties of hexagonal antiferromagnetic manganites, *Journal of Statistical Mechanics: Theory and Experiment* 023206 (2018). – Q₃ doi: 10.1088/1742-5468/aaa8ed

14(16). A. T. Apostolov, I. N. Apostolova and J. M. Wesselinowa, Temperature and layer number dependence of the G and 2D phonon energy and damping in graphene, J. Phys.: Condens. Matter 24, 235401 (2012).

1. T. G. A. Verhagen, K. Drogowska, M. Kalbac and J. Vejpravova, Temperature-induced strain and doping in monolayer and bilayer isotopically labeled graphene, *Physical Review B* 92, 125437 (2015). – Q₁ doi: 10.1103/PhysRevB.92.125437

2. S. Tian, Y. Yang, Z. Liu, C. Wang, R. Pan, C. Gu, J. Li, Temperature-dependent Raman investigation on suspended graphene: Contribution from thermal expansion coefficient mismatch between graphene and substrate, *Carbon* 104, 27 (2016). – Q₁ doi: 10.1016/j.carbon.2016.03.046

3. E. Swatsitang, A. Karaphun, S. Phokha, T. Putjuso, Investigation of structural, morphological, optical, and magnetic properties of Sm-doped LaFeO₃ nanopowders prepared by sol-gel method, *Journal of Sol-Gel Science and Technology* 81(2), 483 (2017). – Q₂ doi: 10.1007/s10971-016-4212-z

4. A. Politano, Spectroscopic Investigations of Phonons in Epitaxial Graphene, *Critical Reviews in Solid State and Materials Sciences* 42, 99 (2017). – Q₁ doi: 10.1080/10408436.2016.1138852

5. T. Verhagen, V. Vales, O. Frank, M. Kalbac, J. Vejpravova, Temperature-induced strain release via rugae on the nanometer and micrometer scale in graphene monolayer, *Carbon* 119, 483 (2017). – Q₁ doi: 10.1016/j.carbon.2017.04.041

6. Y.-R. Lee, J.-X. Huang, J.-C. Lin and J.-R. Lee, Study of the Substrate-Induced Strain of the As-Grown Graphene on Cu(100) Using Temperature-Dependent Raman Spectroscopy: Estimating the Mode-Gruneisen Parameter with Temperature, *Journal of Physical Chemistry C* 121(49), 27427–27436 (2017). – Q₁ doi: 10.1021/acs.jpcc.7b08170

7. M. S. Tivanov, E. A. Kolesov, O. V. Korolik, A. M. Saad, I. V. Komissarov, Effect of the Substrate on Phonon Properties of Graphene Estimated by Raman Spectroscopy, *Journal of Low Temperature Physics* 190, 20 (2018). – Q₂ doi: 10.1007/s10909-017-1807-x

8. C. Ferrante, A. Virga, L. Benfatto, M. Martinati, D. De Fazio, U. Sassi, C. Fasolato, A. K. Ott, P. Postorino, D. Yoon, G. Cerullo, F. Mauri, A. C. Ferrari & T. Scopigno, Raman spectroscopy of graphene under ultrafast laser excitation, *Nature Communications* 9, 308 (2018). – Q₁ doi: 10.1038/s41467-017-02508-x

9. G. Anagnostopoulos, E. Treossi , J. Parthenios, K. Papagelis , V. Palermo and C. Galiotis, An Evaluation of Graphene as a Multi-Functional Heating Element for Biomedical Applications, *Journal of Biomedical Nanotechnology* 14, 86 (2018). – Q₂ doi: 10.1166/jbn.2018.2472
10. X. Ma, C. Jia, Z. Ding, Y. Sun and J. Xiao, Temperature effect of the bound magnetopolaron on the bandgap in monolayer graphene, *Superlattices and Microstructures* 123, 30 (2018). – Q₂ doi: 10.1016/j.spmi.2017.12.031
11. Z.- H. Ding, Y.- B. Gen, C.- H. Jia, J.- L. Xia, Temperature Effect on the First Excited State Energy and Average Phonon Number of Bound Magnetopolarons in Monolayer Graphene, *Journal of Electronic Materials* 48, 4997 (2019). – Q₂ doi: 10.1007/s11664-019-07294-4
12. R. A. Arias-Niquepa, J. J. Prías-Barragán, H. Ariza-Calderón, M. E. Rodríguez-García, Activated Carbon Obtained from Bamboo: Synthesis, Morphological, Vibrational, and Electrical Properties and Possible Temperature Sensor, *Physika Status Solidi A* 216, 1800422 (2019). – Q₂ doi: 10.1002/pssa.201800422
13. E. A. Kolesov, M. S. Tivanov, O. V. Korolik, O. O. Kapitanova, H. D. Cho, T. W. Kang, G. N. Panin, Phonon anharmonicities in supported graphene, *Carbon* 141, 190 (2019). – Q₁ doi: 10.1016/j.carbon.2018.09.020
14. I. Efthimiopoulos, S. Mayanna, E. Stavrou, A. Torode and Y. Wang, Extracting the Anharmonic Properties of the G-Band in Graphene Nanoplatelets, *The Journal of Physical Chemistry C* 124, 4835–4842 (2020). – Q₁ doi: 10.1021/acs.jpcc.9b10875
15. M. Yang, L. Wang, X. Qiao, Yi Liu, Y. Liu, Y. Shi, H. Wu, B. Liang, X. Li and X. Zhao, Temperature Dependence of G and D' Phonons in Monolayer to Few-Layer Graphene with Vacancies, *Nanoscale Research Letters* 15(1), 189 (2020). – Q₁ doi: 10.1186/s11671-020-03414-w
16. P. N. Thang, L. X. Hung, D. N. Thuan, N. H. Yen, N. T. T. Hien, V. T. H. Hanh, N. C. Khang, J. Laverdant and P. T. Nga, Temperature-dependent Raman investigation and photoluminescence of graphene quantum dots with and without nitrogen-doping, *Journal of Materials Science* 56, 4979 (2021). – Q₁ doi: 10.1007/s10853-020-05578-3
17. Y.-H. Sun, M.-X. Huang, D.-C. Guan, G.-L. Zhang, J.-L. Wei, J.-M. Nan, F.-Y. Yi, Influence of the Sn(Fe)–C bonds content in SnFe₂O₄ reduced graphene oxide composites on the electrochemical behavior of lithium-ion batteries, *Journal of Alloys and Compounds* 854, 157297 (2021). – Q₁ doi: 10.1016/j.jallcom.2020.157297
18. Y. Liu, Y. Shi, W. Zhou, W. Shi, W. Dang, and B. Liang, The split-up of G band and 2D band in temperature-dependent Raman spectra of suspended graphene, *Optics & Laser Technology* 139, 106960 (2021). – Q₁ doi: 10.1016/j.optlastec.2021.106960
19. G. A. Mc Quade, A. S. Plaut, A. Usher, J. Martin, The thermal expansion coefficient of monolayer, bilayer, and trilayer graphene derived from the strain induced by cooling to cryogenic temperatures, *Applied Physics Letters* 118(20), 203101 (2021). – Q₁ doi: 10.1063/5.0035391
20. M. Endo, H. Uchiyama, Y. Ohno, J. Hirotani, Temperature dependence of Raman shift in defective single-walled carbon nanotubes, *Applied Physics Express* 15, 025001 (2022). – Q₂ doi: 10.35848/1882-0786/ac4678
21. S.-Q. Hu, H. Zhao, C. Lian, X.-B. Liu, M.-Xue Guan, S. Meng, Tracking photocarrier-enhanced electron-phonon coupling in nonequilibrium, *npj Quantum Materials* 7, Article number: 14 (2022). – Q₁ doi: 10.1038/s41535-021-00421-7

22. Z. Han, X. Yang, S. E. Sullivan, T. Feng, L. Shi, W. Li, X. Ruan, Raman Linewidth Contributions from Four-Phonon and Electron-Phonon Interactions in Graphene, *Physical Review Letters* 128, 045901 (2022). – Q₁ doi:10.1103/PhysRevLett.128.045901
23. E. Bonaventura, D. S. Dhungana, C. Martella, C. Grazianetti, S. Macis, S. Lupi, E. Bonera and A. Molle, Optical and thermal responses of silicene in Xene heterostructures, *Nanoscale Horizons* 7, 924-930 (2022). – Q₁ doi: 10.1039/D2NH00219A
24. S. Biswal, S. Bhaskaram, G. Govindaraj, Magnetism and Raman Investigations of Hydrothermally Reduced Graphene Oxide-Incorporated α -Fe₂O₃ Nanocomposites: The Role of Temperature-Dependent Charge Transfer-Induced Interfacial Interactions, *Journal of Physical Chemistry C* 126(48), 20456 (2022). – Q₁ doi: 10.1021/acs.jpcc.2c05466
25. F. Lee, M. Tripathi, R. S. Salas, S. P. Ogilvie, A. A. Graf, Localised strain and doping of 2D materials, *Nanoscale* 15, 7227 (2023). – Q₁ doi: 10.1039/D2NR07252A
26. S. Gurung, N. Arun, A. P. Pathak, S. R. Nelamarri, A. Tripathi and A. Tiwari, Thermal and light-induced electrical properties in nanocomposites of reduced graphene oxide and silver nanoparticles, *Journal of Materials Science: Materials in Electronics* 34, Article number: 1108 (2023). – Q₂ doi: 10.1007/s10854-023-10481-z
27. S. Katsiaounis, N. Delikoukos, A. Michail, J. Parthenios, K. Papagelis, G phonon linewidth and phonon-phonon interaction in p-type doped CVD graphene crystals, *Carbon* 215, 118449 (2023). – Q₁ doi: 10.1016/j.carbon.2023.118449
- 15(17) S. G. Bahoosh, A. T. Apostolov, I. N. Apostolova and J. M. Wesselinowa, Theory of phonon properties in doped and undoped CuO nanoparticles, Phys. Lett. A 376, 2252 (2012).**
1. J. Jayaprakash, N. Srinivasan, P. Chandrasekaran and E. K. Girija, Synthesis and characterization of cluster of grapes like pure and Zinc-doped CuO nanoparticles by sol–gel method, *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy* 136, 1803 (2015). – Q₂ doi: 10.1016/j.saa.2014.10.087
 2. E. Swatsitang, A. Karaphun, S. Phokha, S. Hunpratub, T. Putjuso, Magnetic and optical properties of Cu_{1-x}Fe_xO nanosheets prepared by the hydrothermal method, *Journal of Sol-Gel Science and Technology* 83, 382 (2017). – Q₂ doi: 10.1007/s10971-017-4415-y
 3. S. Kuanr, S. Nayak and S. B. K. Moorthy, Ni dependent structural, optical and electrical properties of CuO nanostructures, *Materials Science in Semiconductor Processing* 71, 268 (2017). – Q₂ doi: 10.1016/j.mssp.2017.08.012
 4. E. Swatsitang, A. Karaphun, T. Putjuso, Influence of Fe:Co co-doping on the morphology, optical and magnetic properties of Cu_{1-(x+y)}Fe_xCo_yO nanostructures prepared by a hydrothermal method, *Physica B: Condensed Matter* 583, 412044 (2020). – Q₂ doi: 10.1016/j.physb.2020.412044
 5. M. H. Babu, J. Podder, B. C. Dev, M. Sharmin, p to n-type transition with wide blue shift optical band gap of spray synthesized Cd doped CuO thin films for optoelectronic device applications, *Surfaces and Interfaces* 19, 100459 (2020). – Q₂ doi: 10.1016/j.surfin.2020.100459
 6. A. Khalid, P. Ahmad, A. I. Alharthi, S. Muhammad, M. U. Khandaker, M. Rehman, Mohammad R. I. Faruque, I. Ud Din, M. A. Alotaibi, K. Alzimami and D. A. Bradley, Structural, Optical, and Antibacterial Efficacy of Pure and Zinc-Doped Copper Oxide Against Pathogenic Bacteria, *Nanomaterials*, 11(2), 451 (2021). – Q₁ doi: 10.3390/nano11020451

7. Md. M. H. Babu, J. Podder, R. R. Tofa and L. Ali, Effect of Co doping in tailoring the crystallite size, surface morphology and optical band gap of CuO thin films prepared via thermal spray pyrolysis, *Surfaces and Interfaces* 25, 101269 (2021). – Q₂ doi: 10.1016/j.surfin.2021.101269
8. S. P. Kamble, V. D. Mote, Optical and room-temperature ferromagnetic properties of Ni-doped CuO nanocrystals prepared via auto-combustion method, *Journal of Materials Science: Materials in Electronics* 32(5), 1 (2021). – Q₂ doi: 10.1007/s10854-020-05106-8

16(19). I. N. Apostolova, A. T. Apostolov, S. G. Bahooosh and J. M. Wesselinowa, Origin of ferromagnetism in transition metal doped BaTiO₃, *J. Appl. Phys.* 113, 203904 (2013).

1. D. P. Dutta, B. P. Mandal, E. Abdelhamid, R. Naik and A. K. Tyagi, Enhanced magneto-dielectric coupling in multiferroic Fe and Gd codoped PbTiO₃ nanorods synthesized *via* microwave assisted technique, *Dalton Transactions* 44, 11388 (2015). – Q₁ doi: 10.1039/C5DT00638D
2. L. Padilla-Campos, D. E. Diaz-Droguett, R. Lavín and S. Fuentes, Synthesis and structural analysis of Co-doped BaTiO₃, *Journal of Molecular Structure* 1099, 502 (2015). – Q₃ doi: 10.1016/j.molstruc.2015.07.012
3. M. Muralidharan, V. Anbarasu, A. E. Perumal and K. Sivakumar, Carrier mediated ferromagnetism in Cr doped SrTiO₃ compounds, *Journal of Materials Science: Materials in Electronics* 26, 6352 (2015). – Q₃ doi: 10.1007/s10854-015-3223-9
4. M. Muralidharan, V. Anbarasu, A. E. Perumal and K. Sivakumar, Band gap tailoring and enhanced ferromagnetism in Yb doped SrWo₄ scheelite structured system, *Journal of Materials Science: Materials in Electronics* 26, 6875 (2015). – Q₃ doi: 10.1007/s10854-015-3304-9
5. M. Muralidharan, V. Anbarasu, A. E. Perumal and K. Sivakumar, Studies on multifunctional behaviour of Cr doped SrWO₄ Compounds, *Journal of Materials Science: Materials in Electronics* 26, 6926 (2015). – Q₃ doi: 10.1007/s10854-015-3311-x
6. S. K. Das, B. K. Roul, Double hysteresis loop in BaTi_{1-x}Hf_xO₃ ferroelectric ceramics, *Journal of Materials Science: Materials in Electronics* 26, 5833 (2015). – Q₃ doi: 10.1007/s10854-015-3143-8
7. S. K. Das, B. K. Roul, Magnetic and ferroelectric properties of Zn and Mn co-doped BaTiO₃, *Chinise Physics* 24, 067702 (2015). – Q₃ doi: 10.1088/1674-1056/24/6/067702
8. S. K. Das and B. K. Roul, Influence of structural phase transition on magnetic and ferroelectric properties of BaTi_{1-x}Ni_xO₃ ceramics, *European Physical Journal Plus* 131, 145 (2016). – Q₂ doi: 10.1140/epjp/i2016-16145-0
9. J.-C. Yang, C.-Y. Kuo, H.-J. Liu, H.-C. Ding, C.-G. Duan, H.-J. Lin, Z. Hu, T.-W. Pi, L. H. Tjeng, C.-T. Chen, E. Arenholz, Q. He and Y.-H. Chu, Electrically enhanced magnetization in highly strained BiFeO₃ films, *NPG Asia Materials* 8(5), e269 (2016). – Q₁ doi: 10.1038/am.2016.55
10. S. Rajan, P. M. M. Gazzali and G. Chandrasekaran, Impact of Fe on structural modification and room temperature magnetic ordering in BaTiO₃, *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy* 171, 80 (2016). – Q₂ doi: 10.1016/j.saa.2016.07.037
11. K. C. Verma and R. K. Kotnala, Lattice Defects Induce Multiferroic Responses in Ce, La-Substituted BaFe_{0.01}Ti_{0.99}O₃ Nanostructures, *Journal of the American Ceramic Society* 99, 1601 (2016). – Q₁ doi: 10.1111/jace.14130
12. K. C. Verma and R. K. Kotnala, Multiferroic approach for Cr, Mn, Fe, Co, Ni, Cu substituted BaTiO₃ nanoparticles, *Materials Research Express* 3, 055006 (2016). – Q₃

doi: 10.1088/2053-1591/3/5/055006

13. A. Rani, J. Kolte, S. S. Vadla, P. Gopalan, Structural, electrical, magnetic and magnetoelectric properties of Fe doped BaTiO₃ ceramics, *Ceramics International* 42, 8010 (2016). – Q₁ doi: 10.1016/j.ceramint.2016.01.205
14. P. P. Khirade, S. D. Birajdar, A.V.Raut, K. M. Jadhav, Multiferroic iron doped BaTiO₃ nanoceramics synthesized by sol-gel auto combustion: Influence of iron on physical properties, *Ceramics International* 42, 12441 (2016). – Q₁ doi: 10.1016/j.ceramint.2016.05.021
15. A. Mansuri, A. Mishra, Structure Evolution of BaTiO₃ on Co Doping: X-ray diffraction and Raman study, *Journal of Physics Conference Series* 755, 012018 (2016). – Q₃ doi: 10.1088/1742-6596/755/1/012018
16. A. Albar and U. Schwingenschlögl, Magnetism in 3d transition metal doped SnO, *Journal of Materials Chemistry C* 4, 8947 (2016). – Q₁ doi: 10.1039/C6TC03530B
17. S. Rajan, P. M. M. Gazzali, G. Chandrasekaran, Impact of Fe on structural modification and room temperature magnetic ordering in BaTiO₃, *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy* 171, 80 (2017). – Q₂ doi: 10.1016/j.saa.2016.07.037
18. F. Gheorghiu, M. Simenas, Cr. E.Ciomaga, M. Airimioaei, V. Kalendra, J.Banys, M. Dobromir, S. Tascu, L. Mitoseriu, Preparation and structural characterization of Fe-doped BaTiO₃ diluted magnetic ceramics, *Ceramics International* 43(13), 9998 (2017). – Q₁ doi: 10.1016/j.ceramint.2017.05.013
19. W. Zhang, F. Hu, H. Zhang, J. Ouyang, Investigation of the electrical properties of RF sputtered BaTiO₃ films grown on various substrates, *Materials Research Bulletin* 95, 23 (2017). – Q₂ doi: 10.1016/j.materresbull.2017.07.012
20. R. Bujakiewicz-Koronska, L. Vasylechko, E. Markiewicz, D. M. Nalecz and A. Kalvane , X-ray and dielectric characterization of Co doped tetragonal BaTiO₃ ceramics, *Phase Transitions* 90, Issue1, 78 (2017). – Q₃ doi: 10.1080/01411594.2016.1252978
21. N. Goutaa, T. Lamcharfi, MF. Bouayad, F. Abdi, N. S. Echatoui and N. Hadi, Dielectric Anomalies of BaTi_{1-x}Fe_xO₃ Ceramics for x = 0.0 to 0.6 of Fe Doping Concentration, *Asian Journal of Chemistry* 29(10), 2143-2148 (2017). – Q₄ doi: 10.14233/ajchem.2017.20653
22. B. Deka, S. Ravi, Ferromagnetism in Fe-doped BaTiO₃ Ceramics, *Journal of Superconductivity and Novel Magnetism* 31, 1427 (2018). – Q₃ doi: 10.1007/s10948-017-4321-0
23. M. S. Alkathy and K.C. J. Raju, Onset of multiferroicity in nickel and lithium co-substituted barium titanate ceramics, *Journal of Magnetism and Magnetic Materials* 452, 40 (2018). – Q₂ doi: 10.1016/j.jmmm.2017.12.036
24. K. Shalini and N. V. Giridharan, Coexistence of electric polarization and magnetic ordering in acceptor doped potassium sodium niobate (KNN) ceramics, *Materials Research Express* 5, 119501 (2018). – Q₁ doi: 10.1088/2053-1591/aacf28
25. H. Gao, J. Tian, F. Tan, H. Zheng, W. Zhang, Tuning optical and magnetic properties of nanocrystalline BaTiO₃ films by Fe doping, *Applied Physics A* 124, 835 (2018). – Q₂ doi: 10.1007/s00339-018-2258-1
26. F. Gheorghiu, C. E. Ciomaga, M. Simenas, M. Airimioaei, S. Qiao, S. Tascu, V. Kalendra, J. Banys, O. G. Avadanei, L. Mitoseriu, Preparation and functional characterization of magnetoelectric Ba(Ti_{1-x}Fe_x)O_{3-x/2} ceramics. Application for a miniaturized resonator antenna, *Ceramics International* 44, 20862 (2018). – Q₁ doi: 10.1016/j.ceramint.2018.08.091

27. S. Pandey, O. Parkash and D. Kumar, Structural, Dielectric and Impedance Spectroscopic Studies on Fe Doped BaTiO₃, *Transactions of the Indian Ceramic Society* 77 (4), 209 (2018). – Q₃
doi: 10.1080/0371750X.2018.1526653
28. A. Mansuri, I. N. Bhattiy, I. N. Bhattiz, and A. Mishra, Investigation of structural phase evolution and dielectric response of Co-doped BaTiO₃, *Journal of Advanced Dielectrics* 8(4), 1850024 (2018). – Q₃ doi: 10.1142/S2010135X18500248
29. Md. A. Islam, Md. A. Momin, M. Nesa, Effect of Fe doping on the structural, optical and electronic properties of BaTiO₃: DFT based calculation, *Chinese Journal of Physics* 60, 731 (2019). – Q₂ doi: 10.1016/j.cjph.2019.06.013
30. S. Nazir and A. Tariq, Thermodynamics and multiferroicity in PbTiO₃, *Journal of Applied Physics* 125, 093905 (2019). – Q₂ doi: 10.1063/1.5049848
31. X.-H. Tian, J.-M. Zhang, Modulating the electronic and magnetic properties of the marcasite FeS₂ via transition metal atoms doping, *Journal of Materials Science: Materials in Electronics* 30, 5891 (2019). – Q₂ doi: 10.1007/s10854-019-00887-z
32. E. Padmini, K. Ramachandran, Investigation on versatile behaviour of Cd doped SrTiO₃ perovskite structured compounds, *Solid State Communications* 302, 113716 (2019). – Q₂
doi: 10.1016/j.ssc.2019.113716
33. D. Zheng, H. Deng, S. Si, Y. Pan, Q. Zhang, Y. Guo, P. Yang and J. Chu, Modified structural, optical, magnetic and ferroelectric properties in (1-x)BaTiO_{3-x}BaCo_{0.5}Nb_{0.5}O_{3-δ} ceramic, *Ceramics International* 46(5), 6073 (2019). – Q₁ doi:10.1016/j.ceramint.2019.11.068
34. N. Gouitaa, T. Lamcharfi, L. Bouayad, F. AbdI and M. N. Bennani, Structural and dielectric properties of Ba_{0.95}Bi_{0.05}Ti_{1-x}Fe_xO₃ceramics at x = 0.0, 0.1 and 0.2 prepared by solid state method, *Mediterranean Journal of Chemistry* 8(2), 220-227 (2019). – Q₄
doi: 10.13171/mjc8319050305ng
35. B. Gong, F. Huang, Y. Shao, L. Lei, L. Liu, J. Wang, S. Yan, X. Lu and J. Zhu, Multiferroic Properties and Magnetoelectric Coupling of Fe-Doped (Ba_{0.7}Ca_{0.3})TiO₃-Ba(Zr_{0.2}Ti_{0.8})O₃ Ceramics, *Physica Status Solidi A* 217, 1900826 (2020). – Q₂
doi: 10.1002/pssa.201900826
36. P. Pal, K. Rudrapal, S. Mahana, S. Yadav, K. Singh, D. Topwal, A. R. Chaudhuri, D. Choudhury, Origin and tuning of room-temperature multiferroicity in Fe doped BaTiO₃, *Physical Review B* 101, 064409 (2020). – Q₁ doi: 10.1103/PhysRevB.101.064409
37. M. Arshad, W. Khan, M. Abushad, M. Nadeem, S. Husain, A. Ansari, V. K .Chakradhary, Correlation between structure, dielectric and multiferroic properties of lead free Ni modified BaTiO₃ solid solution, *Ceramics International* 46(17), 27336-27351 (2020). – Q₁
doi: 10.1016/j.ceramint.2020.07.219
38. B. Poojitha, A. Kumar, A. Rathore and S. Saha, Correlations between the structural, magnetic, and ferroelectric properties of BaMO₃: M = Ti_{1-x}(Mn/Fe)_x compounds: A Raman study, *Journal of Alloys and Compounds* 846, 156362 (2020). – Q₁ 10.1016/j.jallcom.2020.156362
39. D. Singh, A. Dixit and P. S. Dobal, Ferroelectricity and ferromagnetism in Fe-doped barium titanate ceramics, *Ferroelectrics* 573(1), 63-75 (2021). – Q₄
doi: 10.1080/00150193.2021.1890464
40. A. A. Moez, Y. S. Kim and A. I. Ali, Investigation of structure, optical, nonlinear optical, dielectrical properties and electronic results of La_{0.01}Ba_{0.99}TiO₃, Sm_{0.5}Sr_{0.5}CoO₃ and

$\text{Sm}_{0.5}\text{Sr}_{0.5}\text{CoO}_3/\text{La}_{0.01}\text{Ba}_{0.99}\text{TiO}_3$ thin films grown on quartz substrates using pulsed laser deposition (PLD) technique, *Journal of Optics* 50, 330–340 (2021). – Q₁ doi: 10.1007/s12596-021-00703-0

41. G. Najwa, L. Taj-dine1, B. Lamfaddal1, A. Farid , M. Ounacer and M. Sajieddine, The Study of Structure and Transitional Phases in $\text{Ba}_{0.95}\text{Bi}_{0.05}\text{Ti}_{1-x}\text{Fe}_x\text{O}_3$ Ceramics Synthesized by Solid State Route, *Iranian Journal of Materials Science and Engineering* 18(2), June 2021 (2021). – Q₄ doi: 10.22068/ijmse.2058

42. D. Singh, A. Dixit and P. S. Dobal, Effect of Structural Changes on the Electrical Properties of Sol-gel derived Iron Doped Barium Titanate, *Journal of Physics Conference Series* 2070(1), 012054 (2021) – Q₄ doi: 10.1088/1742-6596/2070/1/012054

43. C. Behera, P. Patel, N. Pradhan, R. N. P. Choudhary, Studies of structural, dielectric and electrical characteristics of nickel-modified barium titanate for device applications, *Journal of Materials Science: Materials in Electronics* 33, 1657 (2022). – Q₂ doi: 10.1007/s10854-022-07709-9

44. A. Mubeen, A. Majid, Density Functional Theory Study on Magnetic character and Mn Crystal Field Split Levels in Mn-doped SnO Monolayer, *Journal of Superconductivity and Novel Magnetism* 35, 2975 (2022). – Q₃ doi: 10.1007/s10948-022-06355-w

45. B. Gao, S. Xu, Q. Xu, CO₂-Induced Exposure of the Intrinsic Magnetic Surface of BaTiO₃ to Give Room-Temperature Ferromagnetism, *Angewandte Chemie International Edition* 61(16) (2022). – Q₁ doi:10.1002/anie.202117084

46. F. Li, H. Zhang, H. Luo, M. Xing, L. Cao, C. Wu, Y. Zou, D. Jia, Y. Zhou, Y. Huang, and H. Ke, Dual-Channel Dielectric Tunability in Highly Textured BaTi_{0.99}Fe_{0.01}O_{3-δ} Ceramics With Micro-Twin Boundary, *Advanced Electronic Materials* 9, 2201243 (2023). – Q₁ doi: 10.1002/aelm.202201243

47. S. B. Bhoobash, N. Pradhan, C. Behera, Tuning electrical properties of BaTiO₃ with iron modification, *Ceramics International* 49(18),30076 (2023). – Q₁ doi: 10.1016/j.ceramint.2023.06.264

48. Y. J. Choi, S. W. Kim, T. L. Phan, B. W. Lee, D. S. Yang, Tetragonal-structural changes influenced the magnetic and ferroelectric properties of (Y, Fe)-codoped BaTiO₃ ceramics, *Current Applied Physics* 53, 39 (2023). – Q₂ doi: 10.1016/j.cap.2023.06.002

49. A. Mubeen, A. Majid, First principles investigation of 3d transition metal doped SnO monolayer based diluted magnetic semiconductors, *Journal of Magnetism and Magnetic Materials* 580, 170897 (2023). – Q₂ doi: 10.1016/j.jmmm.2023.170897

50. N. Gouitaa, F. Z. Ahjyaje, T. Lamcharfi, F. Abdi, M. Haddad, M. Sajieddine, M. Ounacer, Investigation of relaxor and diffuse dielectric phase transitions of $\text{Ba}_{1-x}\text{Bi}_x\text{Ti}_{0.8}\text{Fe}_0\text{O}_3$ materials, *Heliyon* 9, e16264 (2023). – Q₁ doi: 10.1016/j.heliyon.2023.e16264

51. S. Chaudhary, M. Chaudhary, S. Devi, S. Jindal, Dopant and milling time effect on impedance and electrical properties of perovskite ceramics, *Journal of Theoretical and Applied Physics* 17(2), 172322 (2023). – Q₃ doi: 10.57647/J.JTAP.2023.1702.22

52. A. Mubeen, A. Majid, M. Alkhedher, S. Haider and M. S. Akhtar, First principles investigations on electronic and magnetic properties of Fe: SnO monolayer, *Optical and Quantum Electronics* 55, 914 (2023). – Q₂ doi: 10.1007/s11082-023-05186-w

53. B. Gao, S. Xu and Q. Xu, CO₂-Induced Spin-Lattice Coupling for Strong Magnetoelectric Materials, *Advanced science* 202303692 (2023). – Q₁ doi: 10.1002/advs.202303692

54. A. Elkhou, L. B. Drissi, A. Kara and F. Z. Ramadan, TMs-doped SrRuO₃ perovskites: high Curie temperature ferromagnetic half-metals, *European Physical Journal Plus* 138, 764 (2023). – Q₂ doi: 10.1140/epjp/s13360-023-04393-4

55. F. Rafique, M. Ishfaq, S. A. Aldaghfag, M. Yaseen, M. Zahid, M. K. Butt, First principles insight into magnetic and optoelectronic properties of Ni doped KNbO₃ perovskite, Journal of Ovonic Research 19, 453 (2023). – Q₃ doi: 10.15251/JOR.2023.194.453
56. M. A. Rahman, Z. Hasan, J. Islam, D. K. Das, F. I. Chowdhury, M. U. Khandaker, H. M. Zabed, D. A. Bradley, H. Osman and Md. H. Ullah, Tailoring the Properties of Bulk BaTiO₃ Based Perovskites by Heteroatom-Doping towards Multifunctional Applications: A Review, ECS Journal of Solid State Science and Technology 12 103015 (2023). – Q₃ doi: 10.1149/2162-8777/ad00da
57. M. Arshad, W. Khan, M. Abushad, S. Mohanta, S. Husain, D. K. Shukla, A. Ansari, V. K. Chakradhary, Superior energy storage performance and excellent multiferroic properties of BaTi_{1-x}Gd_xO₃ (0 ≤ x ≤ 0.06) ceramics, Materials Research Bulletin 169, 112504 (2024). – Q₁ doi: 10.1016/j.materresbull.2023.112504
58. P. Maneesha, K. S. Samantaray, S. C. Baral, G. Brzykcy, I. Bhaumik, A. Mekki, A. K. Pathak, S. Sen, Effect of oxygen vacancies and cationic valence state on multiferroicity and magnetodielectric coupling in (1-x)BaTiO₃.(x)LaFeO₃ solid solution, Journal of Alloys and Compounds 971, 172587 (2024). – Q₁ doi: 10.1016/j.jallcom.2023.17258776.
59. A. Banerjee, A. Das, A. Saha, D. Das, S. Sarkar, Magnetic orderings in BaTi_{1-x}Fe_xO_{3-δ} (with x = 0.1), Journal of Alloys and Compounds 970, 172456 (2024). – Q₁ doi: 10.1016/j.jallcom.2023.172456
60. M. Arshad, M. Abushad, A. Ansari, V. K. Chakradhary, D. K. Shukla, S. Khan, S. Husain, W. Khan, Engineering room temperature multiferroicity and temperature dependent dielectric properties of Cr doped BaTiO₃ ceramics, Journal of Solid State Chemistry 329, 124436 (2024). – Q₂ doi: 10.1016/j.jssc.2023.124436

17(20). I. N. Apostolova, A. T. Apostolov and J. M. Wesselinowa, Spin-phonon interaction effects in pure and Fe doped antiferromagnetic Cr₂O₃ nanoparticles, Solid State Commun. 174, 1 (2013).

1. S. Shaukat, M. K. Rahman, U. Ilyasa, A. Latif, R. S. Rawat, Structural, morphological and optical changes in periodic fractal nanosymmetries of Ni doped chromium oxide ceramic nanostructures, Ceramics International 42, 4952 (2016). – Q₁ doi: 10.1016/j.ceramint.2015.11.175
2. A. K. Chaudhari, V. B. Sing, Improvement in different properties of the permalloy by nano-Cr₂O₃ incorporation, Journal of Applied Electrochemistry 47, Issue 9, 1009 (2017). – Q₂ doi: 10.1007/s10800-017-1095-9
3. S. Pandey, O. Parkash, D. Kumar, Structural, Dielectric and Impedance Spectroscopic Studies on Fe Doped BaTiO₃, Transactions of the Indian Ceramic Society 77(4), 209 (2018). – Q₃ doi: 10.1080/0371750X.2018.1526653
4. D. Rehani, M. Saxena, S. R. Dhakate and S. N. Sharma, 3% Fe₂O₃: Cr₂O₃- an excellent magneto-opto-electrically active nanomaterial, Applied Physics A 127, Article number: 126 (2021). – Q₂ doi: 10.1007/s00339-020-04255-1
5. R. kumar Rajagopal, R. Raj, V. Adyam, Experimental observation of spin-phonon coupling in Cr₂O₃ and Fe₂O₃ solid solution and bandgap engineering, Materials Science and Engineering B 286, 116084 (2022). – Q₂ doi: 10.1016/j.mseb.2022.116084

18(21). I. N. Apostolova, A. T. Apostolov, S. G. Bahooosh, J. M. Wesselinowa and S. Trimer, Multiferroism in the dielectric function of CuO, Physica Status Solidi - Rapid Research Letters, 7 1001-1004 (2013).

1. H. Jacobsen, S. M. Gaw, A. J. Princep, E. Hamilton, S. Tóth, R. A. Ewings, M. Enderle, E. M. Hétroy Wheeler, D. Prabhakaran, and A. T. Boothroyd, Spin dynamics and exchange

interactions in CuO measured by neutron scattering, Physical Review B – Condensed Matter and Materials Physics 97, 144401 (2018). – Q₁ doi: 10.1103/PhysRevB.97.144401

2. N. Quresh, E. Ressouche, A. Mukhin, M. Gospodinov and V. Skumryev, Proof of the elusive high-temperature incommensurate phase in CuO by spherical neutron polarimetry, Science Advances, Vol. 6, no. 7, eaay 7661 (2020). – Q₁ doi: 10.1126/sciadv.aay7661

19(24). A. T. Apostolov, I. N. Apostolova and J. M. Wesselinowa, Ferrimagnetic nanoparticles for self-controlled magnrtic hyperthermia, Eur. Phys. J. B 86 483 (2013).

1. M. Azhari, N. Benayad, M. Mouhib, Phase diagram of the ferrimagnetic mixed-spin Blume-Capel model with four-spin and next-nearest neighbor interactions, Journal of Physics: Conference Series 758, 012004 (2016). – Q₃ doi: 10.1088/1742-6596/758/1/012004

2. M. Azhari, N. Benayad, M. Mouhib, Continuum of compensation points in the mixed spin Ising ferrimagnet with four-spin interaction and next-nearest neighbor coupling, Phase Transitions 90, 485 (2017). – Q₃ doi: 10.1080/01411594.2016.1227985

3. C. O. Ehi-Eromosele, B. I. Ita and E. E. J. Iweala, Synthesis, Magneto-structural Properties and Colloidal Stability Studies of Ni_{0.3}Zn_{0.7}Fe₂O₄ Nanoparticles Coated with Pluronic P123 Block Copolymer for Potential Biomedical Applications, Iranian Journal of Science and Technology, Transactions A: Science 42, 209 (2018). – Q₄ doi: 10.1007/s40995-018-0486-z

4. W. Zhang, C. Wu and S. R. P. Silva, Proposed use of self-regulating temperature nanoparticles for cancer therapy, Expert Review of Anticancer Therapy 18(8), 723 (2018). – Q₂ doi: 10.1080/14737140.2018.1483242

5. W. Zhang, X. Yu, H. Li, D. Dong, X. Zuo, C.-wei Wu, Magnetic nanoparticles with low Curie temperature and high heating efficiency for self-regulating temperature hyperthermia, Journal of Magnetism and Magnetic Materials 489, 165382 (2019). – Q₂ doi: <https://doi.org/10.1016/j.jmmm.2019.165382>

6. H. Tripathi, G. C. Pandey, A. Dubey, S. K. Shaw, N. K. Prasad, S. P. Singh and C. Rath, Superparamagnetic Manganese Ferrite and Strontium Bioactive Glass Nanocomposites: Enhanced Biocompatibility and Antimicrobial Properties for Hyperthermia Application, Advanced engineering materials 23, 2000275 (2021). – Q₁ doi: 10.1002/adem.202000275

7. L. Farzin, R. Saber, S. Sadjadi, E. Mohagheghpour, A. Sheini, Nanomaterials-based hyperthermia: A literature review from concept to applications in chemistry and biomedicine, Journal of Thermal Biology 104, 103201 (2022). – Q₃ doi: 10.1016/j.jtherbio.2022.103201

8. A. Bhardwaj, K. Parekh and N. Jain, Optimization of magnetic fluid hyperthermia protocols for the elimination of breast cancer cells MCF₇ using Mn-Zn ferrite ferrofluid, Journal of Materials Science: Materials in Medicine 34, 11 (2023). – Q₂ doi: 10.1007/s10856-023-06715-5

9. G. Niraula, C. Wu, X. Yu, S. Malik, D. S. Verma, R. Yang, B. Zhao, S. Ding, W. Zhang and S. K. Sharma, The Curie temperature: a key playmaker in self-regulated temperature hyperthermia, Journal of Materials Chemistry B, Pub Date: 2023-11-13 (2023). – Q₁ doi. 10.1039/D3TB01437A

10. H. Patel, K. Parekh, L. F. Gamarra, J. B. Mamani, A. da H. Alves, A. M. F. Neto, In vitro evaluation of magnetic fluid hyperthermia therapy on breast cancer cells using monodispersed Mn_{0.5}Zn_{0.5}Fe₂O₄ nanoflowers, Journal of Magnetism and Magnetic Materials 587, 171275 (2023). – Q₂ doi: 10.1016/j.jmmm.2023.171275

11. A. K. Yadav, H. Tripathi, A. Bastia, P. Singh, A. K. Dubey, N. S. Anuraag, N. K. Prasad, C. Rath, Synergistic effect of CoFe₂O₄–85S nano bio-glass composites for hyperthermia and controlled drug delivery, Materialia 32, 101884 (2023). – Q₁ doi: 10.1016/j.mtla.2023.101884

20(26). I. N. Apostolova, A. T. Apostolov, S. G. Bahoush and J. M. Wesselinowa, Room temperature ferromagnetism and phonon properties of pure and doped TiO₂ nanoparticles, J. Magn. Magn. Mater. 353, 99 (2014).

1. K. Sakthiraj, K. Balachandrakumar, Influence of Ti addition on the room temperature ferromagnetism of tin oxide (SnO₂) nanocrystal, Journal of Magnetism and Magnetic Materials 395, 205 (2015). – Q₂ doi: 10.1016/j.jmmm.2015.07.083

2. R. Singh, P. Kumari, P. D. Chavan and S. Datta, Synthesis of solvothermal derived TiO₂ nanocrystals supported on ground nano egg shell waste and its utilization for the photocatalytic dye degradation, Optical Materials 73, 377 (2017). – Q₂ doi: 10.1016/j.optmat.2017.08.040

3. I. G. Morozov, S. Sathasivam, O. V. Belousova, I. V. Shishkovsky and M. V. Kuznetcov, Room temperature ferromagnetism in mixed-phase titania nanoparticles produced by the levitation–jet generator, Journal of Materials Science: Materials in Electronics 29, 3304 (2018). – Q₂ doi: 10.1007/s10854-017-8266-7

4. I. N. Nithyaa, M. Muralidharan, and N.V. Jaya, Structural, optical and magnetic properties of Gd/TiO₂-reduced graphene oxide nanocomposites, Journal of Materials Science: Materials in Electronics 31, 15118-15128 (2020). – Q₂ doi: 10.1007/s10854-020-04077-0

5. S. Ramya, S. Vijayakumar, E. Vidhya, N. A. Bukhari, A. A. Hatamleh, M. Nilavukkarasi, S. Vijayakumar, T. H. Pham, TiO₂ nanoparticles derived from egg shell waste: Eco synthesis, characterization, biological and photocatalytic applications, Environmental Research 214(1), 113829 (2022). – Q₁ doi: 10.1016/j.envres.2022.113829

21(27). I. N. Apostolova, Dielectric and phonon properties of the multiferroic ferrimagnet Cu₂OSeO₃, J. Appl. Phys. 115, 064103 (2014).

1. Y. Liu, L.-J. Zhai and H.-Y. Wang, heoretical study of mutual control mechanism between magnetization and polarization in multiferroic materials, Chinese Physics B 24, 037510 (2015). – Q₂ doi: 10.1088/1674-1056/24/3/037510

22(28). A. T. Apostolov, I. N. Apostolova and J. M. Wesselinowa, The magnetoelectric effect in thin films of ferromagnetic semiconductor La₂NiMnO₆, Physica Status Solidi (b) 251 1219 - 1224 (2014).

1. S. A. Khandy, S. Yousuf, D. C. Gupta, Structural, Magneto-electronic, Mechanical, and Thermophysical Properties of Double Perovskite Ba₂ZnReO₆, Physica Status Solidi B 256, 1800625 (2019). – Q₂ doi: 10.1002/pssb.201800625

2. H. Gan, C. Wang and Q. Shen, Enhanced magnetic properties of La₂Mg_xNi_{1-x}MnO₆ bulks prepared at a low temperature, Ceramics International 46(7), 8995 (2020). – Q₁ doi: 10.1016/j.ceramint.2019.12.146

3. M. Kumar, B. Prajapati, A. Singh, S. Kumar, A. Kumar, S. Mittal and Aditya, Structural, optical and magneto-electric coupling analysis in ‘Y’ doped double perovskite La₂NiMnO₆ nanoparticles, Chemical Physics 532, 110688 (2020). – Q₃ doi: 10.1016/j.chemphys.2020.110688

23(29). A. T. Apostolov, I. N. Apostolova and J. M. Wesselinowa, Dielectric constant of multiferroic pure and doped CuO nanoparticles, Solid State Commun. 192, 71 (2014).

1. J. K. Sharma, M. S. Akhtar, S. Ameen, P. Srivastava and G. Singh, Green synthesis of CuO nanoparticles with leaf extract of Calotropis gigantea and its dye-sensitized solar cells applications, *Journal of Alloys and Compounds* 632, 321 (2015). – Q₁ doi: 10.1016/j.jallcom.2015.01.172
 2. P. K. Samanta, Advanced Science, Weak Quantum Confinement and Associated Energy Levels of CuO Nanoparticles, *Engineering and Medicine* 7, 811 (2015). – Q₃ doi: 10.1166/asem.2015.1763
 3. S. S. Batsanov, On the size-effect in the dielectric permittivity of solids, *Journal of Physics and Chemistry Solids* 91, 90 (2016). – Q₂ doi: 10.1016/j.jpcs.2015.12.001
 4. N. Zaim, A. Zaim and M. Kerouad, The phase diagrams of a spin 1/2 core and a spin 1 shell nanoparticle with a disordered interface, *Superlattices Microstructures* 100, 490 (2016). – Q₂ doi: 10.1016/j.spmi.2016.10.003
 5. R. Dobrucka, Antioxidant and Catalytic Activity of Biosynthesized CuO Nanoparticles Using Extract of Galeopsidis herba, *Journal of Inorganic and Organometallic Polymers and Materials* 28, 812 (2018). – Q₂ doi: 10.1007/s10904-017-0750-2
 6. A. A. Dubrovskiy, D. A. Balaev, A. A. Krasikov, S. Yakushkin, V. Kirillov and O. Martyanov, Magnetodielectric Effect in a Metamaterial Consisting of Xerogel with Embedded ϵ -Fe₂O₃ Iron Oxide Nanoparticles, *Solid State Communications* 289, 27 (2019). – Q₂ doi: 10.1016/j.ssc.2018.11.020
 7. H. Siddiqui, M. R. Parra, P. Pandey, M.S. Qureshi and F. Z. Haque, Performance evaluation of optimized leaf-shaped two-dimension (2D) potassium doped CuO nanostructures with enhanced structural, optical and electronic properties, *Ceramics International* 46(12), 20404 (2020). – Q₁ doi: 10.1016/j.ceramint.2020.05.131
 8. K. S. Siddiqi, A. Husen, Current status of plant metabolite-based fabrication of copper/copper oxide nanoparticles and their applications: a review, *Biomaterials Research* 24, article number: 11 (2020). – Q₁ doi: 10.1186/s40824-020-00188-1
- 24(33). S. G. Bahoosh, A. T. Apostolov, I. N. Apostolova, S. Trimper and J. M. Wesselinowa, Theoretical study of the multiferroic properties in M-doped (M=Co,Cr,Mg) ZnO thin films, J. Magn. Magn. Mater. 373, 40 (2015). doi: 10.1016/j.jmmm.2014.02.011**
1. X. Si, Y. Liu, X. Wu, W. Lei, J. Lin, T. Gao and L. Zheng, Al–Mg co-doping effect on optical and magnetic properties of ZnO nanopowders, *Physics Letters A* 379, 1445 (2015). – Q₂ doi: 10.1016/j.physleta.2015.03.025
 2. N. E. Souza, P. N. Portes, F. Sato, D. M. Silva, L. F. Cótica, I. A. Santos, E. A. G. Pineda, A. A. W. Hechenleitner and M. A. C. de Melo, Ferroic behavior induced by oxygen vacancies in Mn-doped ZnO compounds, *Integrated Ferroelectrics* 174, 63 (2016). – Q₄ doi: 10.1080/10584587.2016.1192411
 3. X. Lu, Y. Liu, X. Si, Y. Shen, W. Yu, W. Wang, X. Luo and T. Zhou, Temperature-dependence on the structural, optical, and magnetic properties of Al-doped ZnO nanoparticles, *Optical Materials* 62, 335 (2016). – Q₂ doi: 10.1016/j.optmat.2016.09.037
 4. Y. Lee and S. Lee, Large memory window and tenacious data retention in (0001) ZnO:Cr ferroelectric memristive device prepared on (111) Pt layer, *Journal of Alloys and Compounds* 727, 304-310 (2017). – Q₁ doi: 10.1016/j.jallcom.2017.08.138
 5. N. Zaim, M. Tarnaoui, M. Kerouad, A. Zaim, Quantum Monte Carlo simulation study of the hysteresis properties of a ferrimagnetic thin film, *Applied Physics A* 125, 856 (2019). – Q₂ doi: 10.1007/s00339-019-3151-2

25(34). I. N. Apostolova, A. T. Apostolov, S. G. Bahoosh, S. Trimper and J. M. Wesselinowa, Origin of multiferroism in the charge frustrated LuFe₂O₄ compound, Phys. Lett. A 379, 743-746 (2015). doi: 10.1016/j.physleta.2014.12.043

1. R. C. Rai, J. Hinz, G. X. A. Petronilo, F. Sun, H. Zeng, M. L. Nakarmi and P. R. Niraula, Signature of structural distortion in optical spectra of YFe₂O₄ thin film, AIP Advances 6, 025021 (2016). – Q₁ doi: 10.1063/1.4942753

2. M. Salami, O. Mirzaee, A. H. Raouf and A. K. Moghadam, Structural, morphological and magnetic parameters investigation of multiferroic (1-x)Bi₂Fe₄O_{9-x}CoFe₂O₄ nanocomposite ceramics, Ceramics International 43, 14701 (2017). – Q₁ doi: 10.1016/j.ceramint.2017.07.199

26(35). A. T. Apostolov, I. N. Apostolova, S. G. Bahoosh, S. Trimper, M. T. Georgieva and J. M. Wesselinowa, Multiferroic properties of S = 1/2 chain cuprates LiCuVO₄. Comparison with LiCu₂O₂, Modern Physics Letters B 29(17), 1550086 (2015).

doi: 10.1142/S0217984915500864

1. C. Rudowicz, K. Tadyszak and T. Ślusarski, Can the correspondence principle lead to improper relations between the uniaxial magnetic anisotropy constant K and the axial zero-field splitting parameter D for adatoms on surfaces?, Journal of Magnetism and Magnetic Materials 471, 89 (2019). – Q₂ doi: 10.1016/j.jmmm.2018.09.050

27(37). A. T. Apostolov, I. N. Apostolova and J. M. Wesselinowa, Microscopic approach to the magnetoelectric coupling in RCrO₃, Mod. Phys. Lett. B 29, 1550251 (2015).

doi: 10.1142/S0217984915502516

1. C. M. N. Kumar, Y. Xiao, H. S. Nair, J. Voigt, B. Schmitz, T. Chatterji, N. H. Jalarvo and Th. Brückel, Hyperfine and crystal field interactions in multiferroic HoCrO₃, Journal of Physics Condensed Matter 28(47), 476001 (2016). – Q₁ doi: 10.1088/0953-8984/28/47/476001

2. R. Bujakiewicz-Koronska, L. Vasylechko, E. Markiewicz, D. M. Nalecz and A. Kalvane, X-ray and dielectric characterization of Co doped tetragonal BaTiO₃ ceramics, Phase Transition 90(1), 78 (2017). – Q₃ doi: 10.1080/01411594.2016.1252978

3. S. Mahana, B. Rakshit, R. Basu, S. Dhara, B. Joseph, U. Manju, Local inversion symmetry breaking and spin-phonon coupling in the perovskite GdCrO₃, Physical Review B 96(10), 104106 (2017). – Q₁ doi: 10.1103/PhysRevB.96.104106

4. T. Chatterji, F. Demmel, N. Jalarvo, A. Podlesnyak, C. M. N. Kumar, Y. Xiao and T. Brückel, Quasielastic and low-energy inelastic neutron scattering study of HoCrO₃ by high resolution time-of-flight neutron spectroscopy, Journal of Physics: Condensed Matter 29(47), 475802 (2017). – Q₁ doi: 10.1088/1361-648X/aa9245

5. P. Prakash, R. Singh, S. K. Mishra, C. L. Prajapat, A. Kumar, A. Das, Coupling between Ho and Mn/Cr moments and its influence on the structural and magnetic properties of HoMn_{1-x}Cr_xO₃ (0 < x ≤ 1) compounds, Journal of Magnetism and Magnetic Materials 465, 70-80 (2018). – Q₂ doi: 10.1016/j.jmmm.2018.05.080

6. A. V. Sobolev, Wei Yi, A. A. Belik, I. S. Glazkova & I. A. Presniakov, Local Structure and Magnetic Hyperfine Interactions of ⁵⁷Fe Probe Nuclei in TlCr_{0.95}⁵⁷Fe_{0.05}O, Journal of Experimental and Theoretical Physics 133, 49–58 (2021). – Q₂ doi: 10.1134/S1063776121060157

7. G. Kadim, R. Masrour, J. Abderrahim, Magnetocaloric, electronic, magnetic, optical and thermoelectric properties in antiferromagnetic semiconductor GdCrO_3 : Monte Carlo simulation and density functional theory, *Journal of Crystal Growth* 581, 126509 (2022). – Q₂
doi: 10.1016/j.jcrysGro.2021.126509

8. H. Hu, Y. Su, C. Shi, G. Gong, J. Zhou and Y Wang, Influence of particle size on the magnetocaloric and dielectric properties of GdCrO_3 , *Journal of Materials Science: Materials in Electronics* 33, 12113 – 12125 (2022). – Q₂ doi: 10.1007/s10854-022-08171-3

28(38). A. T. Apostolov, I. N. Apostolova and J. M. Wesselinowa, Theory of magnetic field control on polarization in multiferroic $RCrO_3$ compounds, *Europ. Phys. Jour. B* 88, 328 (2015). doi: 10.1140/epjb/e2015-60649-4

1. L. M. Daniels, R. J. Kashtiban, D. Kepaptsoglou, Q. M. Ramasse, J. Sloan, R. I. Walton, Local A-Site Layering in Rare-Earth Orthochromite Perovskites by Solution Synthesis, *Chemistry - A European Journal* 22(51), 18362 (2016). – Q₁ doi:10.1002/ chem.201604766

2. M. Musa Saad H.-E and A. Elhag, Structural, magnetic, electronic and optical properties of cubic rare-earth vanadate perovskites PrVO_3 and NdVO_3 : insights from GGA potentials, *Indian Journal of Physics* 96(10), 2731 (2022). – Q₃ doi: 10.1007/s12648-021-02197-9

3. G. Kadim, R. Masrour, J. Abderrahim, Magnetocaloric, electronic, magnetic, optical and thermoelectric properties in antiferromagnetic semiconductor GdCrO_3 : Monte Carlo simulation and density functional theory, *Journal of Crystal Growth* 581, 126509 (2022). – Q₂
doi: 10.1016/j.jcrysGro.2021.126509

4. H. Jebari, H. Ouichou, I. Hamideddine, L. Boudad, N. Tahiri, A. El Mansouri, O. El Bounagui, M. Taibi, H. Ez-Zahraouy, First-principles calculations to investigate structural, electronic, optical, thermoelectric, magnetic, and magnetocaloric properties of the orthochromite EuCrO_3 , *Computational and Theoretical Chemistry* 1220, 113993 (2023). – Q₃ doi: 10.1016/j.comptc.2022.113993

29(40). A. T. Apostolov, I. N. Apostolova, S. Trimper and J. M. Wesselinowa, Magnetoelectric coupling and spin reorientation in BiFeO_3 , *Physical Status Solidi (b)* 254, 1600433 (2017). doi: 10.1002/pssb.201600433

1. J. Liu, L. Wang, M. Niu, R. Jiang, Y. Liu, D. Xu and C. Jin, Enhanced magnetoelectric coupling characteristics of Mn_2O_3 -modified BiFeO_3 -based ceramics, *Journal of Magnetism and Magnetic Materials* 527, 16777 (2021). – Q₂ doi: 10.1016/j.jmmm.2021.167777

2. S. O. Sayedaghaei, S. Prosandeev, S. Prokhorenko, Y. Nahas, C. Paillard, B. Xu, and L. Bellaiche, Domain-wall-induced electromagnons in multiferroics, *Physical Review Materials* 6, 034403 (2022). – Q₁ doi:10.1103/PhysRevMaterials.6.034403

30(44). A. T. Apostolov, I. N. Apostolova and J. M. Wesselinowa, Influence of spin- phonon interactions and spin-reorientation transitions on the phonon properties of $RCrO_3$, *Modern Physics Letters B* 31, 1750009 (2017). doi: 10.1142/S0217984917500099

1. P. K. Gupta, S. Ghosh, S. Kumari, A. Pal, S. Roy, R. Singh, P. Singh, R. K. Singh, A. K. Ghosh and S. Chatterjee, Spin phonon coupling and magneto-dielectric coupling in BiFeO_3 – TbMnO_3 composite, *Materials Research Express* 8, 086114 (2019). – Q₃
doi: 10.1088/2053-1591/ab2742

2. L. F. Mendivil, J. Alvarado-Rivera, G. Tavizón, E. Verdín, J. Arenas-Alatorre & A. Durán, Negative magnetization in the zero field-cooled and exchange-bias effect in Cu-doped PrCrO₃, Journal of Materials Science: Materials in Electronics 32, 24484–24495 (2021). – Q₂
doi: 10.1007/s10854-021-06926-y

3. Y. Zhu, K. Sun, S. Wu, P. Zhou, Y. Fu, J. Xia, H.-F. Li, A comprehensive review on the ferroelectric orthochromates: Synthesis, property, and application, Coordination Chemistry Reviews 475(1), 214873 (2022). – Q₁ doi: 10.1016/j.ccr.2022.214873

4. S. Das, R. K. Dokala, B. Weise, R. Medwal, R. S. Rawat, P. K. Mishra and S. Thota, Effect of Ce substitution on the local magnetic ordering and phonon instabilities in antiferromagnetic DyCrO₃ perovskites, Journal of Physics: Condensed Matter 34, 345803 (2022). – Q₂
doi: 10.1088/1361-648X/ac711f

5. Y. Zhu, K. Sun, S. Wu, P. Zhou, Y. Fu, J. Xia, H.-F. Li, A comprehensive review on the ferroelectric orthochromates: Synthesis, property, and application, Coordination Chemistry Reviews 475, 214873 (2023). – Q₁ doi: 10.1016/j.ccr.2022.214873

31(47). A. T. Apostolov, I. N. Apostolova, Microscopic Approach to the Magnetoelectric Coupling in RCrO₃ (R = Y, La, Lu and Eu) Compounds, International Advanced Research Journal in Science, Engineering and Technology (IARJSET) 4, Issue 6, 157 (2017).
doi: 10.17148/IARJSET.2017.4629

1. A. K. Zvezdin, Z. Gareeva and X. M. Chen, Multiferroic order parameters in rhombic antiferromagnets RCrO₃, Journal of Physics: Condensed Matter 33(38) 385801 (2021). – Q₁
doi: 10.1088/1361-648X/ac0dd6

2. A. V. Sobolev, W. Yi, A. A. Belik, I. S. Glazkova, I. A. Presniakov, Local Structure and Magnetic Hyperfine Interactions of ⁵⁷Fe Probe Nuclei in TlCr_{0.9557}Fe_{0.050}, Journal of Experimental and Theoretical Physics 133(1), 49-58 (2021). – Q₂ doi: 10.1134/S1063776121060157

32(48). A. T. Apostolov , I. N. Apostolova, S. Trimper and J. M. Wesselinowa, Room temperature ferromagnetism in pure and ion doped SnO₂ nanoparticles, Modern Physics Letters B 31 1750351 (2017). doi: 10.1142/S0217984917503511

1. J. Kim, S. Song, Y. Choi, D. Lee, H. Kim, H.-S. Lee, J.-S. Bae, S. Park, Room temperature ferromagnetism from magnetic ion free binary oxide film, Journal of Magnetism and Magnetic Materials 497, 165970 (2020). – Q₂ doi: 10.1016/j.jmmm.2019.165970

2. Iu. G. Morozov, O. V. Belousova, C. Blanco-Andujar, D. Ortega, M. V. Kuznetsov, Structural, optical, magnetic, and XPS properties of SnO_x nanoparticles, Solid State Sciences 126, 106854 (2022). – Q₂ doi: 10.1016/j.solidstatesciences.2022.106854

3. S. Das, R. K. Dokala, B. Weise, R. Medwal, R. S. Rawat, P. K. Mishra, S. Thota, Effect of Ce substitution on the local magnetic ordering and phonon instabilities in antiferromagnetic DyCrO₃ perovskites, Journal of Physics Condensed Matter 34, 345803 (2022). – Q₂
doi: 10.1088/1361-648X/ac711f

4. M. V. Kuznetsov, A. V. Safonov, Structural, optical, XPS, and magnetic properties of Sn–O nanoparticles, Materials Chemistry and Physics 302, 127739 (2023). – Q₁
doi: 10.1016/j.matchemphys.2023.127739

33(49). A. T. Apostolov, I. N. Apostolova, S. Trimper and J. M. Wesselinowa, Dielectric properties of multiferroic CuCrO₂, European Physical Journal B 90, 236 (2017).
doi: 10.1140/epjb/e2017-80461-4

1. M. A. Madre, M. A. Torres, J. A. Gomez, J. C. Diez and A. Sotelo, Effect of alkaline earth dopant on density, mechanical, and electrical properties of Cu_{0.97}AE_{0.03}CrO₂ (AE = Mg, Ca, Sr, and Ba) delafossite oxide, Journal of the Australian Ceramic Society 55, 257 (2019). – Q₃
doi: 10.1007/s41779-018-0230-3

2. P. Pokhriyal, A. Bhakar, M. N. Singh, H. Srivastava, P. Rajput, P. Sagdeo, A. Srivastava, N. P. Lalla, A. K. Sinha and A. Sagdeo, Possibility of relaxor-type ferroelectricity in delafossite CuCrO₂ near room temperature, Solid State Sciences 112, 109509 (2021). – Q₂
doi: 10.1016/j.solidstatesciences.2020.106509

3. C. Cheng, Y. Xie, P. Chen, Y. Yu, S. Huang, Y. Li and C. Wang, Colossal dielectric permittivity in CuCrO₂ ceramics, Chinese Journal of Physics 77, 2811-2817 (2022). – Q₂
doi: 10.1016/j.cjph.2022.04.008

34(52). A. T. Apostolov, I. N. Apostolova and J. M. Wesselinowa, La_{1-x}Sr_xMnO₃ nanoparticles for magnetic hyperthermia, Physica Status Solidi B 255, 1700587 (2018).
doi: 10.1002/pssb.201700587

1. B. R. Dahal, K. Schroeder, M. M. Allyn, R. J. Tackett, Y. Huh and P. Kharel, Near-room-temperature magnetocaloric properties of La_{1-x}Sr_xMnO₃ (x = 0.11, 0.17, and 0.19) nanoparticles, Materials Research Express 5 (10), 106103 (2018). – Q₁ doi: 10.1088/2053-1591/aadabd

2. G. Kandasamy, Recent advancements in manganite perovskites and spinel ferrite-based magnetic nanoparticles for biomedical theranostic applications, Nanotechnology 30(50), 502001 (2019). – Q₁ doi: 10.1088/1361-6528/ab3f17

3. A. S. Khan, M. F. Nasir, M. T. Khan, A. Murtaza, M. A. Hamayun, Study of structural, magnetic and radio frequency heating aptitudes of pure and (Fe-III) doped manganite (La_{1-x}Sr_xMnO₃) and their incorporation with Sodium Poly-Styrene Sulfonate (PSS) for magnetic hyperthermia applications, Physica B: Condensed Matter 600, 412627 (2021). – Q₂
doi: 10.1016/j.physb.2020.412627

4. S. Tyagi, P. C. Rout, U. Lüders, U. Eckern and U. Schwingenschlögl, (LaCrO₃)_m/SrCrO₃ superlattices as transparent p-type semiconductors with finite magnetization, Nanoscale Advances 5, 1714 (2023). – Q₁ doi: 10.1039/D2NA00656A

5. R. J. Caraballo-Vivas, E. C. S. Santos, C. L. Valente-Rodrigues, N. R. Checca and F. Garcia, Tuning between composition and nanoparticle size of manganites for self-regulated magnetic hyperthermia applications, Journal of Physics D: Applied Physics 56, 255001 (2023). – Q₂ doi: 10.1088/1361-6463/accc9

6. Y. Gao, B. Jiang, X. Shi, J. He, W. Si-ma, C. Huang, L. Li, D. Tang, A-site vacancy induced electronic engineering of perovskite for synergistic modulation of redox activity and magnetocaloric effect, Nano Energy 117, 108912 (2023). – Q₁ doi: 10.1016/j.nanoen.2023.108912

35(53). A. T. Apostolov, I. N. Apostolova and J. M. Wesselinowa, A comparative study of the magnetization in transition metal ion doped CeO₂, TiO₂ and SnO₂ nanoparticles, Physica E: Low-dimensional Systems and Nanostructures 99, 202 (2018).
doi: 10.1016/j.physe.2018.02.007

1. C. M. Magdalane, K. Kanimozhi, M. V. Arularasu, G. Ramalingam, K. Kaviyarasu, Self-cleaning mechanism of synthesized $\text{SnO}_2/\text{TiO}_2$ nanostructure for photocatalytic activity application for waste water treatment, *Surfaces and Interfaces* 17, 100346 (2019). – Q₂
doi: 10.1016/j.surfin.2019.100346
 2. V. R. Patel, R. N. Somaiya, S. Kansara, D. Singh, N. Prajapati, Y. Sonvane, P. B. Thakor, S. K. Gupta, Structural and electrical properties of CeO_2 monolayers using first-principles calculations, *Solid State Communications* 307, 113801 (2020). – Q₂
doi: 10.1016/j.ssc.2019.113801
 3. C. Maria Magdalane, K. Kaviyarasu, M. V. Arularasu, K. Kanimozhi, G. Ramalingam, Structural and morphological properties of Co_3O_4 nanostructures: Investigation of low temperature oxidation for photocatalytic application for waste water treatment, *Surfaces and Interfaces* 17, 100369 (2019). – Q₂ doi: 10.1016/j.surfin.2019.100369
 4. H. P. Quiroz, E. F. Galíndez, A. Dussan, A. Cardona-Rodriguez and J. G. Ramirez, Super-exchange interaction model in DMOs: Co doped TiO_2 thin films, *Journal of Materials Science* 56, 581–591(2021). – Q₁ doi: 10.1007/s10853-020-05282-2
 5. A. M. M. Navarro, C. E. R. Torres, L. Errico, K. Nomura, The role of impurities and oxygen vacancies in the magnetic response of $\text{Fe}_x\text{Co}_y\text{Sn}_{1-x-y}\text{O}_2$. Experimental and *ab initio* study, *Materials Chemistry and Physics* 257, 123822 (2021). – Q₂ doi: 10.1016/j.matchemphys.2020.123822
 6. A. R. Jimenez, D. Nuñez, N. Rojas, Y. Ramirez and M. Acevedo, Effect of Fe–N Codoping on the Optical Properties of TiO_2 for Use in Photoelectrolysis of Water, *ACS Omega* 6, 4932 (2021). – Q₁
doi: 10.1021/acsomega.0c05981
 7. S. N. Naidi, F. Khan, A. L. Tan, M. H. Harunsani, Y.-M. Kim and M. M. Khan, Photoantioxidant and antibiofilm studies of green synthesized Sn-doped CeO_2 nanoparticles using aqueous leaf extracts of *Pometia pinnata*, *New Journal of Chemistry* 45, 7816–7829 (2021). – Q₁
doi: 10.1039/D1NJ00416F
 8. H. H. M. Chanduví, A. M. M. Navarro, V. Bilovol and A. G. Rebaza, Structural, Electronic, Magnetic, and Hyperfine Properties of V-doped SnO_2 ($\text{Sn}_{1-x}\text{V}_x\text{O}_2$, x: 0, 0.042, 0.084, and 0.125). A DFT-Based Study, *The Journal of Physical Chemistry C* 125 (21), 11702 (2021). – Q₁
doi:10.1021/acs.jpcc.1c02285
 9. S. N. Naidi, F. Khan, M. H. Harunsani, A. L. Tan, Y.-M. Kim and M. M. Khan, Effect of Zr doping on photoantioxidant and antibiofilm properties of CeO_2 NPs fabricated using aqueous leaf extract of *Pometia pinnata*, *Bioprocess and Biosystems Engineering* 45, 279–295 (2022). – Q₂
doi: 10.1007/s00449-021-02656-x
 10. H.-C. Chien, B.-Y. Wu, P.-K. Hsu, Y.-C. Chen, J.-M. Song, A. Gloter, S.-Y. Chen, Tunable fluorescence and magnetic properties of ceria- organic core- shell hollow structures, *Applied Surface Science* 597, 153685 (2022). – Q₁ doi: 10.1016/j.apsusc.2022.153685
- 36(54). A.T.Apostolov, I.N.Apostolova and J.M.Wesselinowa, Theoretical study of room temperature ferromagnetism and band gap energy of pure and ion doped In_2O_3 nanoparticles, *Journal of Magnetism and Magnetic Materials* 456, 263 (2018).**
doi: 10.1016/j.jmmm.2018.02.045

1. X. Sun, X. Fu, T. You, Q. Zhang, L. Xu, X. Zhou, H. Yuan, K. Liu, Investigation of Photoelectrochemical Water Splitting for Mn-Doped In_2O_3 Film, *Electronic Materials Letters* 14, 733 (2018). – Q₂ doi: 10.1007/s13391-018-0080-8
 2. S. C. S. Lemos, E. Nossol, J. L. Ferrari, E. O. Gomes, J. Andres, L. Gracia, I. Sorribes, R. C. Lim, Joint Theoretical and Experimental Study on the La Doping Process in In_2O_3 : Phase Transition and Electrocatalytic Activity, *Inorganic Chemistry* 58(17), 11738 (2019). – Q₁ doi: 10.1021/acs.inorgchem.9b01728
 3. I. Sorribes, S. C. S. Lemos, S. Martín, A. Mayoral, R. C. Lima and J. Andrés, Palladium doping of In_2O_3 towards a general and selective catalytic hydrogenation of amides to amines and alcohols, *Catalysis Science & Technology* 9, 6965 (2019). – Q₁ doi: 10.1039/c9cy02128k
 4. D. Zhu, Y. Xu, X. Wang, J. Sui, Q. Liu, C. Song, J. Yu, J. Wu, Y. Long, Preparation of indium oxide by electrospinning and its electromagnetic properties at low temperature, *Journal of Magnetism and Magnetic Materials* 501, 1666489 (2020). – Q₂ doi: 10.1016/j.jmmm.2020.1666489
 5. M. Dong, P. Xing, H. Cao, Annealing temperature dependent ferromagnetism in $(\text{In}_{0.95}\text{Fe}_{0.05})_2\text{O}_3$ nanoparticles, *Solid State Communications* 327, 114192 (2021). – Q₃ doi: 10.1016/j.ssc.2021.114192
 6. M. Awad, M. Rabia, Optimal temperature and Mn content for enhancing optical properties and inducing room temperature ferromagnetism of Mn doped In_2O_3 nanocubes, *Applied Physics A* 128, 225 (2022). – Q₂ doi: 10.1007/s00339-022-05343-0
 7. A. M. Abd El-Rahman, S. H. Mohamed, M. T. Khan, M. Awad, A. Ibrahim, Synthesis and optical characterizations of pure In_2O_3 and mixed $\text{Mn}_2\text{O}_3-\text{In}_2\text{O}_3$ nanomaterials on fluorine-doped tin oxide substrates, *Applied Physics A* 129, 17 (2023). – Q₁ doi: 10.1007/s00339-022-06268-4
 8. M. Mishra, M. P. K. Sahoo, L. K. Pradhan, A.K. Pattanaik, Dielectric and room temperature ferromagnetism in vacuum annealed $\text{Bi}(\text{Zn}_{0.5}\text{Zr}_{0.5})\text{O}_3$ modified PbTiO_3 ceramics, *Ceramics International* 49(22), Part B, 36669 (2023). – Q₁ doi: 10.1016/j.ceramint.2023.08.350
- 37(55). A. T. Apostolov, I. N. Apostolova and J. M. Wesselinowa, Theoretical study of the phonon properties of pure and ion doped CeO_2 nanoparticles, Solid State Communications 279, 17 (2018). doi: 10.1016/j.ssc.2018.05.007**
1. M. Coduri, S. Checchia, M. Longhi, D. Ceresoli and M. Scavini, Rare Earth Doped Ceria: The Complex Connection Between Structure and Properties, *Frontiers in Chemistry* 6, 526 (2018). – Q₁ doi: 10.3389/fchem.2018.00526
 2. R. Schmitt, A. Nenning, O. Kraynis, R. Korobko, A. I. Frenkel, I. Lubomirsky, S. M. Haile and J. L. M. Rupp, A review of defect structure and chemistry in ceria and its solid solutions, *Chemical Society Reviews* 49, 554-592 (2020). – Q₁ doi: 10.1039/C9CS00588A
 3. X. Wang, M. Li and Z. Wu, In situ spectroscopic insights into the redox and acid-base properties of ceria catalysts, *Chinese Journal of Catalysis* 42(12), 2122-2140 (2021). – Q₁ doi: 10.1016/S1872-2067(21)63806-8
- 38(56). A. T. Apostolov, I. N. Apostolova and J. M. Wesselinowa, Size and doping dependence of the phonon properties of SnO_2 nanopartocles, Modern Physics Letter B 32, 1850250 (2018). doi: 10.1142/S0217984918502500**

1. J. Kim, S. Song, Y. Choi, D. Lee, H. Kim, H.-S. Lee, J.-S. Bae, S. Park, Room temperature ferromagnetism from magnetic ion free binary oxide film, *Journal of Magnetism and Magnetic Materials* 497, 165970 (2020). – Q₂ doi: 10.1016/j.jmmm.2019.165970
2. N. J. Shivaramu, B. N. Lakshminarasappa, E. Coetsee, R. E. Kroon, H. C. Swart, Structural, thermoluminescence and optical properties of Nd³⁺ doped Y₂O₃ nanophosphor for dosimeter and optoelectronics applications, *Materials Research Bulletin* 161, 112153 (2023). – Q₁ doi: 10.1016/j.materresbull.2023.112153

39(57). A. T. Apostolov, I. N. Apostolova and J. M. Wesselinowa, Magnetic properties of rare earth-doped SnO₂, TiO₂ and CeO₂ nanoparticles, Physica Status Solidi B 255, 1800179 (2018). doi: 10.1002/pssb.201800179

1. V. S. Jahnvi, S. K. Triparty and A.V.N. R. Rao, Study of the Structural, Optical, Dielectric and Magnetic Properties of Copper-Doped SnO₂ Nanoparticles, *Journal of electronic materials* 49, 3540 (2020). – Q₂ doi: 10.1007/s11664-020-08028-7

2. M. Dave, S. Kumar, B. Dalela, P. A. Alvi, S. S. Sharma, D. M. Phase, M. Gupta, S. Kumar, S. Dalela, Interplay of structural, optical, and magnetic properties of Ce_{1-x}Nd_xO_{2-δ} nanoparticles with electronic structure probed using X-ray absorption spectroscopy 180, 109537 (2020). – Q₂ doi: 10.1016/j.vacuum.2020.109537

3. N. Nithya, M. Muralidharan and N. V. Jaya, Structural, optical and magnetic properties of Gd/TiO₂-reduced graphene oxide nanocomposites, *Journal of Materials Science: Materials in Electronics* 31, 15118–15128 (2020). – Q₂ doi: 10.1007/s10854-020-04077-0

4. M. Yehia, S. L. Mohamed and S. M. Ismail, Structure, Magnetic and Optical Characterization of Sn_{1-x}La_xO₂ Nanoparticles, *Journal of Electronic Materials* 50, 5796-5809 (2021). – Q₃ doi: 10.1007/s11664-021-09085-2

5. N. Shukla, P. Chetri & G. A. Ahmed, Structural, optical and magnetic study of Eu²⁺ doped SnO₂ nanosystems: an experimental and DFT based investigation, *Journal of Materials Science* 56(3), 1-15 (2021). – Q₁ doi: 10.1007/s10853-021-06586-7

6. D. Rehani, M. Saxena, P. R. Solanki and S. N. Sharma, Transition Metal and Rare-Earth Metal Doping in SnO₂ Nanoparticles, *Journal of Superconductivity and Novel Magnetism* 35, 2573 (2022). – Q₃ doi: 10.1007/s10948-022-06283-9

7. L. L. Afremov, Y. V. Kirienko, A. A. Petrov, A. K. Chepak, Size-Effect's Influence on the Magnetic Phase Transitions in the Nanomagnetics, *Journal of Superconductivity and Novel Magnetism* 36, 587 (2023). – Q₃ doi: 10.1007/s10948-022-06482-4

40(59). A.T.Apostolov, I.N.Apostolova and J.M.Wesselinowa, Ferroelectricity in the multiferroic delafossite CuFeO₂ induced by ion doping or magnetic field, Solid State Communications 292, 11 (2019). doi: 10.1016/j.ssc.2019.01.014

1. J. Chakraborty, I. Dasgupta, First principles study of electronic structure, magnetism and ferroelectric properties of rhombohedral AgFeO₂, *Journal of Magnetism and Magnetic Materials* 487, 165296 (2019). – Q₂ doi: 10.1016/j.jmmm.2019.165296

2. D. Xiong, H. Gao, Y. Deng, Y. Qi, Z. Du, X. Zeng and H. Li, Impact of Mg doping on the optical and electrical properties of p-type CuMnO₂ ultrathin nanosheets, *Journal of Materials Science: Materials in Electronics* 31, 5452-5461 (2020). – Q₂ doi: 10.1007/s10854-020-03108-0

3. M. Xu, H. Dai, T. Li1, K. Peng, J. Chen, Z. Chen, Y. Xue, X. Cao and B. Wang, Effect of Transition Metal Ion Doping on the Microstructure, Defect Evolution, and Magnetic and Magnetocaloric Properties of CuFeO₂ Ceramics, *Journal of Superconductivity and Novel Magnetism* 33, 2881-2890 (2020). – Q₃ doi: 10.1007/s10948-020-05550-x
4. T. Omi, Y. Watanabe, N. Abe, H. Sagayama, A. Nakao, K. Munakata, Y. Tokunaga and T.-h. Arima, Antiferromagnetic-to-ferrimagnetic phase transition with large electric-polarization change in a frustrated polar magnet CaBaCo₄O₇, *Physical Review B* 103, 184412 (2021). – Q₁ doi: 10.1103/PhysRevB.103.184412
5. H. F. Jiang, H. J. Xu, P. Wang, P. Fu, P. D. Pan, S. P. Sun, Vacancies effect on structural, electronic and mechanical properties of delafossite CuAlO₂, *Physica B: Condensed Matter* 616, 413122 (2021). – Q₂ doi: 10.1016/j.physb.2021.413122
6. D. Luo, J. Yuan, J. Zhou, M. Zou, R. Xi, Y. Qin, Q. Shen, S. Hu, J. Xu, M. Nie, D. Xu and B. Wu, Synthesis of samarium doped ferrite and its enhanced photocatalytic degradation of perfluoroctanoic acid (PFOA), *Optical Materials* 122 (B), 111636 (2021). – Q₂ doi: 10.1016/j.optmat.2021.111636
7. L. Mao, S. Mohan, S. K. Gupta, Y. Mao, Multifunctional delafossite CuFeO₂ as water splitting catalyst and rhodamine B sensor, *Materials Chemistry and Physics* 278, 125643 (2022). – Q₂ doi: 10.1016/j.matchemphys.2021.125643
8. I. G. Tkachuk, I. G. Orletskii, V. I. Ivanov, A. V. Zaslonkin, Z. D. Kovalyuk, Photosensitive CuFeO₂/n-InSe Heterojunctions, *Journal of Nano- and Electronic Physics* 14(4):04016-1-04016-5 (2022). – Q₄ doi: 10.21272/jnep.14(4).04016
- 41(60). A. T. Apostolov, I. N. Apostolova and J. M. Wesselinowa, Specific absorption rate in Zn-doted ferrites for self-controlled magnetic hyperthermia, European Physical Journal B** 92, 58 (2019). doi: 10.1140/epjb/e2019-90567-2
1. M. S. A. Darwish, H. Kim, H. Lee, C. Ryu, J. Y. Lee and J. Yoon, Synthesis of Magnetic Ferrite Nanoparticles with High Hyperthermia Performance via a Controlled Co-Precipitation Method, *Nanomaterials* 9, 1176 (2019). – Q₁ doi:10.3390/nano9081176
2. Y. Hadadian, A. P. Ramos and T. Z. Pavan, Role of zinc substitution in magnetic hyperthermia properties of magnetite nanoparticles: interplay between intrinsic properties and dipolar interactions, *Scientific Reports* 9, Article number: 18048 (2019). – Q₁ doi: 10.1038/s41598-019-54250-7
3. S. M. Fotukian, A. Barati, M. Soleymani and A. M. Alizadeh, Solvothermal synthesis of CuFe₂O₄ and Fe₃O₄ nanoparticles with high heating efficiency for magnetic hyperthermia application, *Journal of Alloys and Compounds* 816, 152548 (2020). – Q₁ doi: 10.1016/j.jallcom.2019.152548
4. P. Chandrasekharan, Z. W. Tay, D. Hensley, X. Y. Zhou, B. KL Fung, C. Colson, Y. Lu, B. D. Fellows, Q. Huynh, C. Saayujya, E. Yu, R. Orendorff, B. Zheng, P. Goodwill, C. Rinaldi and S. Conolly, Using magnetic particle imaging systems to localize and guide magnetic hyperthermia treatment: tracers, hardware, and future medical applications, *Theranostics* 10(7), 2965 (2020). –Q₁ doi: 10.7150/thno.40858
5. T. N. Pham, T. Q. Huy, A.-T. Le, Spinel ferrite (AFe₂O₄)-based heterostructured designs for lithium-ion battery, environmental monitoring, and biomedical applications, *RSC Advances* 10(52), 31622-31661 (2020). – Q₁ doi: 10.1039/D0RA05133K

6. X. Yu, S. Ding, R. Yang, C. Wu and W. Zhang, Research progress on magnetic nanoparticles for magnetic induction hyperthermia of malignant tumor, *Ceramics International*, 47(5), 5909 (2021). – Q₁ doi: 10.1016/j.ceramint.2020.11.049
7. E. Suharyadi, S. H. Pratiwi, I P. T. Indrayana, T. Kato, S. Iwata and K. Ohto, Effects of annealing temperature on microstructural, magnetic properties, and specific absorption rate of Zn-Ni ferrite nanoparticles, *Materials Research Express* 8(3), 036101 (2021). – Q₃ doi: 10.1088/2053-1591/abe986
8. P. J. Sugumaran, Y. Yang, Y. Wang, X. Liu and J. Ding, Influence of the Aspect Ratio of Iron Oxide Nanorods on Hysteresis-Loss-Mediated Magnetic Hyperthermia, *ACS Applied Bio Materials* 4(6), 4809 (2021). – Q₂ doi: 10.1021/acsabm.1c00040
9. B. I. Salem, O. M. Hemed, A. M. A. Henaish, N. Y. Mostafa and M. Mostafa, Modified copper zinc ferrite nanoparticles doped with Zr ions for hyperthermia applications, *Applied Physics A* 128, No. 264 (2022). – Q₂ doi: 10.1007/s00339-022-05396-1
10. X. Yu, R. Yang, C. W. Wu, Bo Liu and W. Zhang, The heating efficiency of magnetic nanoparticles under an alternating magnetic field, *Scientific Reports* 12(1), 16055 (2022). – Q₁ doi: 10.1038/s41598-022-20558-0
11. M. Zaim, N. Zaim, K. Mohamed, A. Zaim, Monte Carlo study of binary alloy ferromagnetic nanoparticle under time-dependent magnetic field, *Materials Today Communications* 33(4), 104643 (2022). – Q₂ doi: 10.1016/j.mtcomm.2022.104643
- 42(62). A. T. Apostolov, I. N. Apostolova and J. M. Wesselinowa, Phonon properties of delafossite multiferroic compound CuFeO₂. Comparison with CuCrO₂, Modern Physics Letters B** 33, 1950141 (2019). doi: 10.1142/S0217984919501410
1. C. Wang, Recent progress in thermoelectric materials, devices and applications, *Chinese Science Bulletin* 66(16), 2024-2032 (2021). – Q₂ doi: 10.1360/TB-2020-1560
- 43(63). A. Apostolov, I. Apostolova, J. Wesselinowa, Magnetic and dielectric properties of pure and ion doped RCrO₃ nanoparticles, European Physical Journal B** 92, 105 (2019). doi: 10.1140/epjb/e2019-100112-x
1. M. S. A. Darwish, H. Kim, H. Lee, C. Ryu, J. Y. Lee and J. Yoon, Engineering Core-Shell Structures of Magnetic Ferrite Nanoparticles for High Hyperthermia Performance, *Nanomaterials* 10, 991 (2020). – Q₁ doi: 10.3390/nano10050991
2. A. K. Zvezdin, Z. V. Gareeva and X. M, Chen, Multiferroic order parameters in rhombic antiferromagnets RCrO₃, *Journal of Physics: Condensed Matter* 33(38), 385801 (2021). – Q₁ doi: 10.1088/1361-648X/ac0dd6
3. M. Kurian and S. Thankachan, Structural diversity and applications of spinel ferrite core - Shell nanostructures - A review, *Open Ceramics* 8, 100179 (2021). – Q₂ doi: 10.1016/j.oceram.2021.100179
4. H. Hu, Y. Su, C. Shi, G. Gong, J. Zhou and Y Wang, Influence of particle size on the magnetocaloric and dielectric properties of GdCrO₃, *Journal of Materials Science: Materials in Electronics* 33, 12113 - 12125 (2022). – Q₂ doi: 10.1007/s10854-022-08171-3

5. O. Borang, S. Srinath, S. N. Kaul, Y. Sundarayya, Temperature assisted size dependent synthesis and magnetic properties of rare-earth chromium oxide nanoparticles, *Journal of Magnetism and Magnetic Materials* 562(22), 169807 (2022). – Q₂
doi: 10.1016/j.jmmm.2022.169807

6. Y. Zhu, K. Sun, S. Wu, P. Zhou, Y. Fu, J. Xia, H.-F Li, A comprehensive review on the ferroelectric orthochromates: Synthesis, property, and application, *Coordination Chemistry Reviews* 475(1), 214873 (2022). – Q₁ doi: 10.1016/j.ccr.2022.214873

7. K. Kanwar, S. Pradhan, S. Satapathy, Y. Bitla, N. Panwar, Structural, optical and dielectric investigations on RECr_{0.85}Mn_{0.15}O₃ (RE = Ho, Gd and Pr) nanoparticles, *Journal of Rare Earths*, Available online 1 March 2023 (2023). – Q₁ doi: 10.1016/j.jre.2023.02.024

8. H. Hu, Y. Su, G. Gong, K. Dong, Structural, magnetic and dielectric properties of Ga³⁺ substituted GdCrO₃, *Journal of Magnetism and Magnetic Materials* 587, 171349 (2023). – Q₂
doi: 10.1016/j.jmmm.2023.171349

44(64). A. T. Apostolov, I. N. Apostolova, S. Trimper and J. M. Wesselinowa, Origin of ferromagnetism in pure and ion doped pyrite FeS₂ nanoparticles, Physica Status Solidi 256(10), 1900201 (2019). doi: 10.1002/pssb.201900201

1. A. V. Okotrub, A. I. Chernov, A. N. Lavrov, O. A. Gurova, Y. V. Shubin, Y. N. Palyanov, Y. M. Borzdov, A. K. Zvezdin, E. Lähderanta, L. G. Bulusheva, O. V. Sedelnikova, Magnetic Properties of 1D Iron–Sulfur Compounds Formed Inside Single-Walled Carbon Nanotubes, *Physica Status Solidi (RRL) - Rapid Research Letters* 14(10), 2000291 (2021). – Q₃
doi: 10.1002/pssr.202000291

45(65). A. T. Apostolov, I. N. Apostolova, S. Trimper and J. M. Wesselinowa, Antiferroelectricity and weak ferromagnetism in rare earth doped multiferroic BiFeO₃, Solid State Communications 300, 113692 (2019). doi: 10.1016/j.ssc.2019.113692

1. J. Liu, M. Niu, L. Wang, G. Chen, D. Xu, Structure, ferroelectric and magnetic characteristics of SmFeO₃ and BaTiO₃ co-modified BiFeO₃ ceramics, *Journal of Materials Science: Materials in Electronics* 31, 3479–3491(2020). – Q₃ doi: 10.1007/s10854-020-02895-w

2. S. Khasbulatov, S. Kallaev, H. Gadjev, Z. Omarov, A. Bakmaev, I. Verbenko, A. Pavelko and L. Reznichenko, Thermophysical properties of BiFeO₃/REE multiferroics in a wide temperature range, *Journal of Advanced Dielectrics* 10, 2060019 (2020). – Q₃
doi: 10.1142/S2010135X2060019X

3. T. K. Lin, H. W. Chang, Y. H. Sung, C. R. Wang, D. H. Wei, C. S. Tu and W. C. Chang, Multiferroic properties of Bi_{0.95}R_{0.05}FeO₃ polycrystalline films on the glass substrates (R = La, Pr, Nd, Sm, and Ho), *Materials Letters* 276, 128216 (2020). – Q₂ doi: 10.1016/j.matlet.2020.128216

4. N. Zhang, J. Q. Ding, Y. P. Wang, X. N. Liu, Y. Q. Li, M. F. Liu, Z. M. Fu, Y. W. Yang, J. Su, G. L. Song, F. Yang, Y. Y. Guo and J.-M. Liu, Enhanced high temperature ferromagnetism in Bi_{1-x}R_xFeO₃ (R = Dy, Y) compounds, *Journal of Physics: Condensed Matter* 33(13), 135803 (2021). – Q₁ doi: 10.1088/1361-648X/abdb10

5. Y. Tian, F. Xue, L. Tang, W. Li, L. Jing and S. Li, Structural, impedance spectrum, and physical properties of Gd and Ti co-doped BiFeO₃ ceramics synthesized by spark plasma sintering, *Journal of Materials Science: Materials in Electronics* 32, 18825-18836 (2021). – Q₃
doi: 10.1007/s10854-021-06399-z

6. Y. Lin, Q. Jiang and H. Deng, Preparation of Y^{3+} and transition metal ions codoped-BiFeO₃ with enhanced magnetism and photocatalytic properties, *Journal of Solid State Chemistry* 303, 122450 (2021). – Q₂ doi: 10.1016/j.jssc.2021.122450
7. M. S. Habib, M. A. Rafiq, A. Ali, Q. K. Muhammad, A. Shuaib, A. Shahzad, S. Dar, M. M. Ali, Improved sintering and impedance studies of CuO-doped multiferroic (0.98Ba_{0.85}Ca_{0.15}) $(\text{Zr}_{0.1}\text{Ti}_{0.9})\cdot\text{O}_3$ 0.02BiFeO₃ ceramics, *Applied Physics A* 128, Article number: 238 (2022). – Q₂ doi: 10.1007/s00339-022-05370-x
8. F. Brahma, B. Mohanty, S. Bhattacharjee, R. L. Hota, R. K. Parida, B. N. Parida Multiferroic behaviour in ‘Bi’ doped solid solution SmFeO₃-BaTiO₃ perovskite system, *Ceramics International* 48(13), 18286-18293 (2022). – Q₁ doi: 10.1016/j.ceramint.2022.03.087
9. M. Moretti, N. Senin, In-process monitoring of part warpage in fused filament fabrication through the analysis of the repulsive force acting on the extruder, *Additive Manufacturing* 49, 102505 (2022). – Q₁ doi: 10.1016/j.addma.2021.102505
10. A. Low, S. Ghosh, S. Changdar, S. Routh, S. Purwar and T. Setti, Tuning of topological properties in the strongly correlated antiferromagnet Mn₃Sn via Fe doping, *Physical Review B* 106(14), 144429 (2022). – Q₁ doi: 10.1103/PhysRevB.106.144429
11. M. M. Arman, Novel multiferroic nanoparticles Sm_{1-x}Ho_xFeO₃ as a heavy metal Cr⁶⁺ ion removal from water, *Applied Physics A* 129, 400 (2023). – Q₂ doi: 10.1007/s00339-023-06666-2
12. S. Amaya, J. Perez, H. Colorado, A. Echavarria and F. A. Londoño, Bismuth ferrite-barium titanate system studies around morphotropic phase boundary, *Journal of Physics: Conference Series* 2516, 012002 (2023). – Q₄ doi: 10.1088/1742-6596/2516/1/012002

46(68). A. T. Apostolov, I. N. Apostolova and J. M. Wesselinowa, Antiferroelectricity in ZrO₂ and Ferroelectricity in Zr, Al, La Doped HfO₂ Nanoparticles Advances in Materials Physics and Chemistry, Advances in Materials Physics and Chemistry 10, 27-38 (2020). ISSN Online: 2162-5328 ISSN Print: 2162-531X doi: 10.4236/ampc.2019.102003

1. Y. Goh, J. Hwang and S. Jeon, Excellent Reliability and High-Speed Antiferroelectric HfZrO₂ Tunnel Junction by a High-Pressure Annealing Process and Built-In Bias Engineering, *ACS Applied Materials & Interfaces* 12(51), 57539–57546 (2020). – Q₁ doi: 10.1021/acsami.0c15091

47(69). A. T. Apostolov, I. N. Apostolova and J. M. Wesselinowa, Dielectric Properties in Transition Metal and Rare-Earth-Doped Multiferroic BaTiO₃ Nanoparticles, Physica Status Solidi 2000046 (2020). doi: 10.1002/pssb.202000046

1. A. P. Aslla-Quispe, R. H. Miwa, J. D. S. Guerra, Role of the rare-earth doping on the multiferroic properties of BaTiO₃: First-principles calculation, *Physica B: Condensed Matter* 615, 413107 (2021). – Q₂ doi: 10.1016/j.physb.2021.413107

2. S. Sasikumar, H. Fan, W. Wang, S. Subramanian, D. Sivaganesh and A. Karuppanan, Influence of Eu³⁺-doped BaTiO₃ phosphors on structural, optical and photoluminescence properties, *Journal of Materials Science: Materials in Electronics* 32(9), 12253 (2021). – Q₂ doi: 10.1007/s10854-021-05854-1

3. A. Jain, G. Wang, L. N. Shi, Recent Developments in BaTiO₃ Based Lead-free Materials for Energy Storage Applications, *Journal of Alloys and Compounds* 928, 167066 (2022). – Q₁ doi: 10.1016/j.jallcom.2022.167066

48(70). A. T. Apostolov, I. N. Apostolova and J. M. Wesselinowa, Magnetic field effect on the dielectric properties of rare earth doped multiferroic BiFeO₃, Journal of Magnetism and Magnetic Materials 513, 167101 (2020). doi: 10.1016/j.jmmm.2020.167101

1. S. Chen, J. Lu, B. Teng, Study on the influence of scale on the phase transition properties of nanoisland, Physica A: Statistical Mechanics and its Applications 593(3), 127004 (2022). – Q₁ doi: 10.1016/j.physa.2022.127004

2. M. Tariq, K. Chaudhary, A. Shaari, A. Jalil, R. Hussain, Ultralow Energy Switching with Spin Polarized Magneto-electric Properties of co-doped Cubic Phase BFO: A First-Principles Study, Chinese Journal of Physics 79, 211-224 (2022). – Q₂ doi: 10.1016/j.cjph.2022.08.021

3. A. S. Priya, D. Geetha, J. M. Siqueiros and Ş. Tălu, Tunable Optical and Multiferroic Properties of Zirconium and Dysprosium Substituted Bismuth Ferrite Thin Films, Molecules 27(21), 7565 (2022). – Q₂ doi: 10.3390/molecules27217565

4. Vijay, P. Godara, A. Kumar, R. M. Singh, Structural and magnetic analysis of pure and rare earth doped bismuth ferrites (BFO), Materials Today: Proceedings, Available online 28 March 2023 (2023). – Q₂ doi: 10.1016/j.matpr.2023.03.312

49(71). A. T. Apostolov, I. N. Apostolova and J. M. Wesselinowa, Co, Fe and Ni ion doped CeO₂ nanoparticles for application in magnetic hyperthermia, Journal: Physica E: Low-dimensional Systems and Nanostructures 124, 114364 (2020).

doi: 10.1016/j.physe.2020.114364

1. R. Marnadu, J. Chandrasekaran, T. D. Nguyen, J. H. Chang, K. Mohanraj, T. Alshahrani, M. Shkir and P. Kathirvel, A Facile Fabrication, Microstructural, Optical, Photoluminescence and Electrical Properties of Ni@CeO₂ Films and p-Si/n-NDC Diodes for Photodetection Application, Journal of Inorganic and Organometallic Polymers and Materials 31, 2280 (2021). – Q₂ doi: 10.1007/s10904-021-01965-8

2. R. An-hua, F. Xiu-qing , C. Xin-xin, L. Jin-ran and C. Hong-bing, Effect of Current Density on the Properties of Ni–CeO₂ Composite Coatings prepared using Magnetic Field-Assisted Jet Electrodeposition, International Journal of electrochemical science 16, Article ID: 210658 (2021). – Q₃ doi: 10.20964/2021.06.13

3. P. P. Ortega, B. Hangai, H. Moreno, L. S. R. Rocha, M. A. Ramírez, M. A. Ponce, E. Longo and A. Z. Simões, Tuning structural, optical, and gas sensing properties of ceria-based materials by rare-earth doping, Journal of Alloys and Compounds 888, 161517 (2021). – Q₁ doi: 10.1016/j.jallcom.2021.161517

4. S. Utara, S. Hunpratub, S. Pinitsoontorn, S. Phokha, Characterization and magnetic performance of pure CeO₂ nanoparticles via an ozonolysis reaction, Results in Physics 30, 104890 (2021). – Q₂ doi: 10.1016/j.rinp.2021.104890

5. P. Sangkhoaartyon, S. Sonsupap, S. Pinitsoontorn, S. Maensiri, Synthesis, Characterization, and Magnetic Properties of Metal-Doped CeO₂ Nanostructure Prepared by Egg-White Solution Method, Journal of Electronic Materials 51, 2369 - 2380 (2022). – Q₃ doi: 10.1007/s11664-022-09502-0

6. P. Ortega, R. A. C. Amoresi, M. D. Teodoro, E. Longo, M. A. Ponce, A. Z. Simões, Relationship among morphology, photoluminescence emission, and photocatalytic activity of Eu-

doped ceria nanostructures: A surface-type effect, Ceramics International 49(13), 21411 (2023). – Q₁ doi: 10.1016/j.ceramint.2023.03.270

7. S. Muduli, T. R. Sahoo, Influence of Fe doping on the dielectric properties of green synthesized cerium oxide nanoparticles using Acacia concinna fruit extract , Materials Today: Proceedings 74(4), 667 (2023). – Q₂ doi: 10.1016/j.matpr.2022.10.219

8. M. Isik, S. Delice, N. M. Gasanly, Temperature dependence of band gap of CeO₂ nanoparticle photocatalysts, Physica E: Low-dimensional Systems and Nanostructures 150, 115712 (2023). – Q₂ doi: 10.1016/j.physe.2023.115712

9. S. Muduli, T. R. Sahoo, Greener route for synthesis of cerium oxide and Fe-doped cerium oxide nanoparticles using acacia concinna fruit extract, International Journal of Materials Research 114(2), 133 (2023). – Q₃ doi: 10.1515/ijmr-2022-0106

50(72). I. N. Apostolova, A. T. Apostolov and J. M. Wesselinowa, Multiferroic properties of pure and transition metal doped LaFeO₃ nanoparticles, Physica Status Solidi B: Basic Solid State Physics 2000482 (2020). doi: 10.1002/pssb.202000482

1. L. I. Olivares-Lugo, F. S. -De Jesús, O. R. -González, C. A. Cortés-Escobedo. A. M. Bolarín-Miró, Evidence of magnetodielectric coupling in bismuth doped lanthanum ferrite obtained by high-energy ball milling, Physica B: Condensed Matter 643(7), 414190 (2022). – Q₂ doi: 10.1016/j.physb.2022.414190

2. Y.-w. Sun, W.-y. Long, Y.-x. Guo, R.-j. Wei, Y.-j. Wang, J. Zhang, S.-z. Hu, Degradation of pollutants by Bi-doped LaFeO₃/CQDs/CN Z-scheme heterojunction photocatalysts and mechanism study, Diamond and Related Materials 130, 109555 (2022). – Q₂ doi: 10.1016/j.diamond.2022.109555

3. A. Benali, E. M. Benali, B. M. G. Melo, A. Tozri, M. Bejar, E. Dhahri, M. P. F. Graça, M. A. Valente, Lin Peng, Jiangtao Wu and B. F. O. Costa, Significant improvement of dielectric, magnetic, and gas-sensing properties of the (La_{0.8}Ca_{0.2})_{0.6}Bi_{0.4}FeO₃ nanomaterial: particles size effects, Journal of Materials Science: Materials in Electronics 34, 45 (2023). – Q₂ doi: 10.1007/s10854-022-09408-x

51(73). I. N. Apostolova, A. T. Apostolov and J. M. Wesselinowa, Multiferroic and phonon properties of pure and ion doped CoCr₂O₄ -bulk and nanoparticles, Journal of Alloys and Compounds 852, 156885 (2021). doi:10.1016/j.jallcom.2020.156885

1. Z. K. Heiba, M. B. Mohamed, M. M. Ghannam, S. I. Ahmed, Influence of iron substitution on structural and dielectric properties of nano ZnMn₂O₄, Applied Physics A 127(6), 436 (2021). – Q₂ doi: 10.1007/s00339-021-04590-x

2. H. Kadhim, L. Ahmed, M. AL-Hachamii, Facile Synthesis of Spinel CoCr₂O₄ and Its Nanocomposite with ZrO₂: Employing in Photo-catalytic Decolorization of Fe (II)-(luminol-Tyrosine) Complex, Egyptian Journal of Chemistry 65(1), 481 (2022). – Q₂ doi: 10.21608/ejchem.2021.81251.4025

3. P. R. Sivarajani, A. Syed, A. M. Elgorban, A. H. Bahkali, R. Balakrishnaraja, R. S Varma and S. Khan, Fabrication of ternary nano-heterojunction via hierarchical deposition of α -Fe₂O₃ and β -La₂S₃ on cubic CoCr₂O₄ for enhanced photodegradation of doxycycline, Journal of Industrial and Engineering Chemistry 118, 407 (2023) – Q₁ doi: 10.1016/j.jiec.2022.11.025

4. I. Mondal, Y. Saha, P. Halder, D. Mondal, M. Kundu, D. Bhattacharya, P. K. Paul, B. K. Paul, A. Ghosh, S. Das, Synchronization of theoretical and experimental studies on the enriched optical and

dielectric properties of size modulated CoCr₂O₄ quantum dots, Solid State Sciences 146, 107342 (2023). – Q₂ doi: 10.1016/j.solidstatesciences.2023.107342

52(74). I. N. Apostolova, A. T. Apostolov and J. M. Wesselinowa, Differences in the multiferroic properties of AgCrS₂ and AgCrO₂, Solid State Communications 323, 114119 (2021). doi: 10.1016/j.ssc.2020.114119

1. H. Lu, C. Yin, R. Zhan, Y. Zhang, Y. Lv, M. Lu, J. Zhou, S. Yao, and Y. Chen, Growth and Thermal Conductivity Study of CuCr₂Se₄-CuCrSe₂ Hetero-Composite Crystals, Crystals 12(3), 433 (2022). – Q₂ doi: 10.3390/cryst12030433

2. D. Han, J. Qi, Y. Huang, Z. Wang, B. Li and Z. Zhang, Anisotropic magnetoelectric transport in AgCrSe₂ single crystals, Applied Physics Letters 121(18), 182405 (2022). – Q₁ doi: 10.1063/5.0120748

53(75). I. N. Apostolova, A. T. Apostolov and J. M. Wesselinowa, Microscopic theory of the specific absorption rate for self-controlled magnetic hyperthermia, Journal of Magnetism and Magnetic Materials 522, 167504 (2021). doi.org/10.1016/j.jmmm.2020.167504

1. R. G. Gontijo, A. B. Guimarães, Langevin Dynamic Simulations of Magnetic Hyperthermia in Rotating Fields, Journal of Magnetism and Magnetic Materials 565, 170171 (2022). – Q₂ doi: 10.1016/j.jmmm.2022.170171

2. M. Zaim, N. Zaim, M. Kerouad and A. Zaim, Monte Carlo study of binary alloy ferromagnetic nanoparticle under time-dependent magnetic field, Materials Today Communications 33, 104643 (2022). – Q₂ doi: 10.1016/j.mtcomm.2022.104643

54(77). I. N. Apostolova, A. T. Apostolov and J. M. Wesselinowa, Electric, dielectric and magnetic properties of Ga, Er and Zn ion doped Fe₂O₃ thin films, Physics Letters A 393, 127167 (2021). doi:10.1016/j.physleta.2021.127167

1. S. Kavunga, G. Fafilek, G. Luckeneder, E. D. Schachinger, K.-H. Stellnberger, J. Faderl, *In situ* study of selective manganese oxidation on low-alloyed steel using high-temperature cyclic voltammetry, Solid State Ionics 371, 115770 (2021). – Q₁ doi: 10.1016/j.ssi.2021.115770

2. W. Cao, Y. Li, G. Sun, J. Cao, Y. Wang, Hydrothermal synthesis of Zn-doped α-Fe₂O₃ nanocubes for selective detection of triethylamine, Vacuum 204, 111391 (2022). – Q₁ doi: 10.1016/j.vacuum.2022.111391

3. G. Vijayasri, R. N. Bhowmik, Effects of the variation of doping content and heat treatment condition on the dielectric properties of Ga doped α-Fe₂O₃ system: A promising low loss magnetoelectric-semiconductor, Journal of Physics and Chemistry of Solids 176, 111233 (2023). – Q₂ doi: 10.1016/j.jpcs.2023.111233

55(79). I. N. Apostolova, A. T. Apostolov and J. M. Wesselinowa, Room temperature ferromagnetism in multiferroic BaCoF₄ thin films due to surface, substrate and ion doping effects, Thin Solid Films 722, 138567 (2021). doi: 10.1016/j.tsf.2021.138567

1. I. Bychkov, S. Belim, I. Maltsev and V. Shavrov, Phase Transition and Magnetoelectric Effect in 2D Ferromagnetic Films on a Ferroelectric Substrate, Coatings 11(11), 1325 (2021). – Q₂ doi: 10.3390/coatings11111325

2. S. Belim, I. V. Tikhomirov, Composition of the Frenkel–Kontorova and Ising models for investigation the magnetic properties of a ferromagnetic monolayer on a stretching substrate, *Scientific Reports* 11, Art. Num. 21428 (2021). – Q₁ doi: 10.1038/s41598-021-00849-8
3. S. Belim, Investigation of Phase Transitions in Ferromagnetic Nanofilms on a Non-Magnetic Substrate by Computer Simulation, *Materials* 15(7), 2390 (2022). – Q₂ doi: 10.3390/ma15072390

56 (81). I. N. Apostolova, A. T. Apostolov, S. Trimper and J. M. Wesselinowa, Multiferroic Properties of Pure, Transition Metal, and Rare Earth–Doped BaFe₁₂O₁₉ Nanoparticles, *Physica Status Solidi B: Basic Solid State Physics* 258(7), 2100069 (2021).

doi: [10.1002/pssb.202100069](https://doi.org/10.1002/pssb.202100069)

1. Q. Lv, S. Zhu, S. Feng, X. Liu, X. Kan and Y. Yujie, Application of Steinmetz Formula in M-Type Barium Ferrite, *Journal of Superconductivity and Novel Magnetism* 36, 1991 (2023). – Q₃ doi: 10.1007/s10948-023-06642-0

57(83). A. T. Apostolov, I. N. Apostolova, J. M. Wesselinowa, Multiferroic properties of the antiferroelectric-antiferromagnetic Cu₉O₂(SeO₃)₄C₁₆, *Physics Letters A* 407, 127480 (2021).

doi: [10.1016/j.physleta.2021.127480](https://doi.org/10.1016/j.physleta.2021.127480)

1. S. Chen, J. Lu, B. Teng, Study on the influence of scale on the phase transition properties of nanoisland, *Physica A: Statistical Mechanics and its Applications* 593(3), 127004 (2022). – Q₁ doi: 10.1016/j.physa.2022.127004

58(85). A. T. Apostolov, I. N. Apostolova, J. M. Wesselinowa, Multiferroic and phonon properties near the phase transitions of pure and ion doped Ca₃Mn₂O₇, *Phase Transitions* 94(10), 705–714 (2021). doi: [10.1080/01411594.2021.196600](https://doi.org/10.1080/01411594.2021.196600)

1. S. S. Santos, M. L. Marcondes, I. P. Miranda, P. M. Da Rocha Rodrigues, L. V. C. Assali, A. M L Lopes, H. Petrilli, J. P. Araujo, Spontaneous electric polarization and electric field gradient in hybrid improper ferroelectrics: Insights and correlations, *Journal of Materials Chemistry C* 9(22), 7005-7013 (2021). – Q₁ doi: 10.1039/D1TC00989C

2. J. Blasco, J. A. Rodriguez-Velamazán, J. L. García-Muñoz, V. Cuartero, S. Lafuerza and G. Subías, Structural and magnetic properties of Ca₃Mn_{2-x}Ru_xO₇ (0 < x ≤ 0.9), *Physical Review B* 106, 134403 (2022). – Q₁ doi: 10.1103/PhysRevB.106.134403

59(86). Angel Apostolov, Iliana Apostolova, Julia Wesselinowa, Multiferroic, phonon and optical properties of pure and ion doped YFeO₃ nanoparticles, *Nanomaterials* 11, 2731 (2021).

doi: [10.3390/nano11102731](https://doi.org/10.3390/nano11102731)

1. H. H. Kazem, L. M. Ahmed, M. M. Kareem, Facile Synthesis of Spinel CoCr₂O₄ and Its Nanocomposite with ZrO₂: Employing in Photo-catalytic Decolorization of Fe (II)- (luminol-Tyrosine) Complex, *Egyptian Journal of Chemistry* 65(1), 481-488 (2022). – Q₃ doi: 10.21608/EJCHEM.2021.81251.4025

2. H. Baqiah, M. M. A. Kechik, R. Al-Gaashani, A. A. Al-Zahrani, N. M. Al-Hada, N. Zhang, J. Liu, S. Xu, Effects of annealing temperature on the phase formation, optical, photoluminescence and magnetic properties of sol-gel YFeO₃ films, *Ceramics International* 49(1), 600-606 (2023). – Q₁ doi: 10.1016/j.ceramint.2022.09.028

3. A. Sasmal, S. Sen, J. A. Chelvane, A. Arockiarajan , PVDF based flexible magnetoelectric composites for capacitive energy storage, hybrid mechanical energy harvesting and self-powered magnetic field detection, *Polymer* 281, 126141 (2023). – Q₁ doi: 10.1016/j.polymer.2023.126141
4. D. Kumar, S. Yadav, C. B. Singh, R. S. Yadav, S. B. Rai, A. K. Singh, Impact of Sr²⁺ doping on the structural, dielectric, ferroelectric and optical properties of YFeO₃ perovskite phosphor, *Journal of Alloys and Compounds* 945, 169286 (2023). – Q₁
doi: 10.1016/j.jallcom.2023.169286
5. M. Nakhaei, M. A. L. Nobre, D. S. Khoshnoud, M. Bremholm, H. A. Khonakdar, Structural, magnetic and electrical properties of Y_{1-x}Sc_xFeO₃ (x= 0, 0.5 & 1) nanoparticles synthesized by the sol-gel method, *Ceramics International* 49(10), 15828 (2023). – Q₁
doi: 10.1016/j.ceramint.2023.01.177
6. N. Lin, F. Sheng, X. Chen, X. Hu, N. Zhuang, Epitaxy growth of pure phase CeFeO₃ thin films with high magneto-optical performance and strong vertical magnetic anisotropy, *Journal of Rare Earths* 41(8), 2018 (2023). – Q₁ doi: 10.1016/j.jre.2023.03.015
7. Ch. Venkatrao, D. R. S. Reddy and R. Bhimireddi, Optimization of better chelating agent to attain optimal physical properties of YFeO₃ nanomaterials obtained via sol-gel technique, *Journal of Materials Science: Materials in Electronics* 34, 302 (2023). – Q₂
doi: 10.1007/s10854-022-09691-8
8. H. Baqiah, M. M. A. Kechik, R. Al-Gaashani, A. A. Al-Zahrani, N. M. Al-Hada, N. Zhang, J. Liu, S. Xu, Effects of annealing temperature on the phase formation, optical, photoluminescence and magnetic properties of sol-gel YFeO₃ films, *Ceramics International* 49(1), 600 (2023). – Q₁
doi: 10.1016/j.ceramint.2022.09.028
9. K. Venkatadri, D. Zarena, Influence of ZnSnO₃ on Structural, Optical, and Magnetic Properties of YFeO₃ Nanomaterials Obtained Via Sol–Gel Technique, *Physica Status Solidi A* 220(21), 2300458 (2023). – Q₂ doi: 10.1002/pssa.202300458
10. X. Zhang, X. Liu, Y. Wang, B. Tong and J. Zhang, Study on Photocatalytic Activity of Cage-Like PAM/YMnO₃ Composite Photocatalyst, *Russian Journal of Physical Chemistry* 96(14), 3103 (2023). – Q₄ doi: 10.1134/S0036024423020310
11. K. Venkatadri and D. Zarena, Structural, Optical and Magnetic Properties of (1-x) YFeO_{3+(x)}Sr₂Bi₄Ti₅O₁₈ (where 0 ≤ x ≥ 0.005) Nanomaterials, *ECS Journal of Solid State Science and Technology* 12(11), 113015 (2023). – Q₃ doi: 10.1149/2162-8777/ad0dc1
12. S. A. Mohammed, D. R. S. Reddy, Enhancement in the Magnetic Properties of Yttrium Orthoferrite Materials by the Addition of BaO–Bi₂O₃ –B₂O₃ Glass Sintering Aid, *Physica Status Solidi (b)*, November 2023 (2023). – Q₃ doi: 10.1002/pssb.202300313
- 60(87). Iliana Apostolova, Angel Apostolov, J. M. Wesselinowa, Phonon and optical properties of transition metal and rare earth ion doped BaTiO₃, *Journal of Applied Physics* 130 (17), 175103 (2021). doi: 10.1063/5.0069464**
1. H. Al-Ghamdi, A. H. Almuqrin, H. Kassim, Effect of Gamma Irradiation on the Structural, Optical, Electrical, and Ferroelectric Characterizations of Bismuth-Modified Barium Titanate Ceramics, *Materials* 5(12), 4337 (2022). – Q₂ doi: 10.3390/ma15124337
 2. P. Maity, R. Kumar, S. N. Jha, D. Bhattacharyya, R. K. Singh, S. Chatterjee and A. K. Ghosh, Unraveling the physical properties of Mn-doped CdS diluted magnetic semiconductor

quantum dots for potential application in quantum spintronics, Journal of Materials Science: Materials in Electronics 33, 21822 – 21837 (2022). – Q₃ doi: 10.1007/s10854-022-08969-1

3. S. Chaudhary, M. Chaudhary, S. Devi, S. Jindal, Dopant and milling time effect on impedance and electrical properties of perovskite ceramics, Journal of Theoretical and Applied Physics 17(2), 172322 (2023). – Q₃ doi: 10.57647/J.JTAP.2023.1702.22

61(88). A. T. Apostolov, I. N. Apostolova, J. M. Wesselinowa, Substrate and doping effects on the multiferroic properties and the band gap of Bi₂FeCrO₆ thin films, Thin Solid Films 739, 138977 (2021). doi: 0.1016/j.tsf.2021.138977

1. W. Long, M. U. Hamza, M. N. Abdul-Fattah, A. M. Rheima, A. Fakhri, Preparation, photocatalytic and antibacterial studies on novel doped ferrite nanoparticles: Characterization and Mechanism evaluation, Colloids and Surfaces A Physicochemical and Engineering Aspects 650, 129468 (2022). – Q₂ doi:10.1016/j.colsurfa.2022.129468

2. X. Liu, J. Tu, H. Li, J. Tian, L. Zhang, Research progress of double perovskite ferroelectric thin films featured, Applied Physics Reviews 10, 021315 (2023). – Q₁ doi: 10.1063/5.0140507

62(90). A. T. Apostolov, I. N. Apostolova, J. M. Wesselinowa, Application of ion doped Y₃Fe₅O₁₂ nanoparticles for self-controlling magnetic hyperthermia, Physica Status Solidi B: Basic Solid State Physics 2100545 (2022). doi: 10.1002/pssb.202100545

1. R. Abbas, K. D. Martinson, T. Y. Kiseleva, G. P. Markov, P. Y. Tyapkin, V. I. Popkov, Effect of fuel type on the solution combustion synthesis, structure, and magnetic properties of YIG nanocrystals, Materials Today Communications 32, 103866 (2022). – Q₂ doi: 10.1016/j.mtcomm.2022.103866

2. T. Kiseleva, R. Abbas, K. Martinson, A. Komlev, E. Lazareva, P. Tyapkin, E. Solodov, V. Rusakov, A. Pyatakov, A. Tishin, N. Perov, E. Uyanga, D. Sangaa and V. Popkov, Size-Dependent Structural, Magnetic and Magnetothermal Properties of Y₃Fe₅O₁₂ Fine Particles Obtained by SCS, Nanomaterials 12(16), 2733 (2022). – Q₁ doi: 10.3390/nano12162733

3. X. Zuo, D. Zhang, J. Zhang, T. Fang, Oxygen vacancy enhanced magnetic heating efficiency of ferrite nanoparticles for self-regulating temperature hyperthermia, Ceramics International 49(22), Part B, 36885 (2023). – Q₁ doi: 10.1016/j.ceramint.2023.09.019

63(91). A. T. Apostolov, I. N. Apostolova, J. M. Wesselinowa, Size, external fields and ion doping effects on the multiferroic properties of hexagonal YMnO₃ nanoparticles, Materials Today Communications 30, 103123 (2022). doi: 10.1016/j.mtcomm.2022.103123

1. X. Zhang, X. Liu, Y. Wang, B. Tong and J. Zhang, Study on Photocatalytic Activity of Cage-Like PAM/YMnO₃ Composite Photocatalyst, Russian Journal of Physical Chemistry A 96, 3103 (2022). – Q₄ doi: 10.1134/S0036024423020310

64(98). A. T. Apostolov, I. N. Apostolova, J. M. Wesselinowa , Magnetic, electric and optical properties of ion doped CuCr₂O₄ nanoparticles, Magnetochemistry 8, 122 (2022). doi: 10.3390/magnetochemistry8100122

1. K. Yadagiri, Y. Anvay, D. Dinakar, N. Narasaiah, V.G. Sathe, K. Kumar, D. Haranath, Structural transformation and magnetic properties of Fe-substituted nano CuCr₂O₄ spinel structure, Ceramics International, Available online 23 November 2023 (2023). – Q₁

65(100). I. N. Apostolova, A. T. Apostolov, J. M. Wesselinowa, Size and ion doping effects on magnetic, optical and phonon properties of CuAlO₂, Magnetochemistry 8, 169 (2022).
doi: 10.3390/magnetochemistry8120169

1. C.-D. Constantinescu and L.-G. Petrescu, Magnetic Materials, Thin Films and Nanostructures, Magnetochemistry 9(5), 133 (2023). – Q₂ doi: 10.3390/magnetochemistry9050133

2. B. Dey, R. Narzary, S. N. Rout, M. Kar, S. Ravi, S. K. Srivastava, Room temperature ferromagnetism, optical band gap widening in Mg-doped ZnO compounds for spintronics applications, Ceramics International 49(2), 35860 (2023). – Q₁ doi: 10.1016/j.ceramint.2023.08.267

66(103). Iliana Apostolova, Angel Apostolov and Julia Wesselinowa, Magnetic, phonon and optical properties of transition metal and rare earth ion doped ZnS nanoparticles, Nanomaterials 13, 79 (2023). doi: 10.3390/nano13010079

1. M. S. Khan, B. Zou, S. Yao, Z. ul Haq, A.S Abdulla, W. Huang, B. Zheng, Suppression of ferromagnetism due to N co-doping in Cr(II)-doped ZnS nanowires and their optical properties: Insights from density-functional calculations, Journal of Magnetism and Magnetic Materials 582, 171013 (2023). – Q₂ doi: 10.1016/j.jmmm.2023.171013

2. M. Mohammadi, E. Pakizeh, Stability and electronic properties of novel non-planar ZnS nanosheets: First-principles calculations, Chinese Journal of Physics, Available online 6 September 2023 (2023). – Q₂ doi: 10.1016/j.cjph.2023.09.006

67(104). Iliana Apostolova, Angel Apostolov and Julia Wesselinowa, Band Gap Tuning in Transition Metal and Rare-Earth-Ion-Doped TiO₂, CeO₂, and SnO₂ Nanoparticles, Nanomaterials 13, 145 (2023). doi: 10.3390/nano13010145

1. F. Murakami, A. Takeo, B. Mitchell, V. Dierolf, Y. Fujiwara and M. Tonouchi, Enhanced luminescence efficiency in Eu-doped GaN superlattice structures revealed by terahertz emission spectroscopy, Communications Materials 4, 100 (2023). – Q₁ doi: 10.1038/s43246-023-00428-6

2. X. Yue, Q. Hua, W. Zhang, F. Tang, X. Wang, F. Luan, X. Zhuang, C. Tian, Facile electrochemiluminescence sensing platform based on Gd₂O₃:Eu³⁺ nanocrystals for organophosphorus pesticides detection in vegetable samples, Food Chemistry 438, 137985 (2024). – Q₁ doi: 10.1016/j.foodchem.2023.137985

68(107). A. T. Apostolov, I. N. Apostolova and J. M. Wesselinowa, Differences between the multiferroic properties of hexagonal and orthorhombic ion doped YFeO₃ nanoparticles, International Journal of Modern Physics B 37(21), 2350201 (13 pages) (2023).
doi: 10.1142/S0217979223502016

1. S. A. Mohammed, R. S. R. Dachuru, Effect of 0.5Li₂O–0.5K₂O–2B₂O₃ glass additive on optical and magnetic properties of YFeO₃ nanomaterials, Journal of Materials Science: Materials in Electronics 34, 2242 (2023). – Q₂ doi: 10.1007/s10854-023-11653-7

2. S. A. Mohammed, D. R. S. Reddy, Enhancement in the Magnetic Properties of Yttrium Orthoferrite Materials by the Addition of BaO–Bi₂O₃–B₂O₃ Glass Sintering Aid, Physica Status Solidi (b), November 2023 (2023). – Q₃ doi: 10.1002/pssb.202300313

69(108). Iliana Apostolova, Angel Apostolov and Julia Wesselinowa, Magnetic, optical and phonon properties of ion doped MgO nanoparticles. Application for magnetic hyperthermia, Materials 16, 2353 (2023). doi: 10.3390/ma16062353

1. Y. S. Itas, A. M. Danmadami, R. Razali and M. U. Khandaker, The potentials of Si-doped magnesium oxide nanotubes for decontamination of pollutants, *Physica Scripta* 98, 125946 (2023). – Q₂
doi: 10.1088/1402-4896/ad0941

70(110). Iliana Apostolova, Angel Apostolov and Julia Wesselinowa, Band gap energy of ion doped multiferroic NaFeO₂ nanoparticles, Physica Status Solidi (RRL) - Rapid Research Letters 2300159 (2023). doi: 10.1002/pssr.202300159

1. E. N. Sgourou, A. Daskalopulu, L. H. Tsoukalas, I. L. Goulatis, R. V. Vovk and A. Chroneos, Kinetics of Ions in Post-Lithium Batteries, *Applied Sciences* 13(17), 9619 (2023). – Q₂
doi: 10.3390/app13179619

2. X. Zhang, J. Yang and J. Wang, Enhanced Cr(VI) Photocatalysis Reduction by Layered N-doped TiO₂ Sheets from Template Free Solvothermal Method, First published: 15 September 2023, *ChemCatChem* 15(22) (2023). – Q₁ doi: 10.1002/cctc.202301007

януари 2024 г.

Изготвил:
/доц. д-р Илиана Апостолова/
