



## Conf.dr. Mircea-Odin Apostu

**Domeniu de cercetare:** Obținerea și caracterizarea fizico-chimică a unor materiale cu proprietăți speciale

**Cursuri predate:** Termodinamică chimică, an I, trunchi comun;  
Biotehnologii și transport prin membrane, an III BT  
Chimia fizică a polimerilor biocompatibili, an I CPCF  
Transformări de fază în sisteme naturale, an II CMSA

### Lucrări ISI (selecție):

1. Trinckauf, J; Hanke, T; Zabolotnyy, V; Ritschel, T; Apostu, MO; Suryanarayanan, R; Revcolevschi, A; Koepernik, K; Kim, TK; von Zimmermann, M; Borisenko, SV; Knupfer, M; Buchner, B; Geck, J, Electronic Confinement and Ordering Instabilities in Colossal Magnetoresistive Bilayer Manganites, Source: PHYSICAL REVIEW LETTERS Volume: 108 Issue: 1 Article Number: 016403 DOI: 10.1103/PhysRevLett.108.016403 Published: JAN 4 2012
2. Tackett R, Lawes G, Suryanarayanan R, Apostu M, Revcolevschi A, The zero-field glassy ground state and field-induced ferromagnetic transition in  $(\text{La}_{0.4}\text{Pr}_{0.6})(\text{La}_{0.4}\text{Pr}_{0.6})_{1.2}\text{Sr}_{1.8}\text{Mn}_2\text{O}_7$ , Source: JOURNAL OF PHYSICS-CONDENSED MATTER Volume: 23 Issue: 15 Article Number: 156004 DOI: 10.1088/0953-8984/23/15/156004 Published: APR 20 2011
3. Behr, G; Loser, W; Wizent, N; Ribeiro, P; Apostu, MO; Souptel, D, “Influence of heat distribution and zone shape in the floating zone growth of selected oxide compounds”, Source: JOURNAL OF MATERIALS SCIENCE Volume: 45 Issue: 8 Special Issue: SI Pages: 2223-2227 DOI: 10.1007/s10853-009-4075-6 Published: APR 2010
4. Yamato, Y ; Matsukawa, M; Murano, Y; Suryanarayanan, R; Nimori, S; Apostu, M; Revcolevschi, A; Koyama, K; Kobayashi, N, “Colossal electroresistance and colossal magnetoresistive step in paramagnetic insulating phase of single crystalline bilayered manganite  $(\text{La}_{0.4}\text{Pr}_{0.6})(\text{La}_{0.4}\text{Pr}_{0.6})_{1.2}\text{Sr}_{1.8}\text{Mn}_2\text{O}_7$ ” Source: APPLIED PHYSICS LETTERS Volume: 94 Issue: 9 Article Number: 092507 DOI: 10.1063/1.3095598 Published: MAR 2 2009
5. Melnig, V., Apostu, M.-O., Foca, N., „Polymer-assisted synthesis of water-soluble PbSe quantum dots”, Journal of Nanoparticle Research 10 (SUPPL. 1), pp. 171-177 (2008).
6. G. Allodi, M. Bimbi, R. De Renzi, C. Baumann, M. Apostu, R. Suryanarayanan, A. Revcolevschi, „Magnetic order in the double-layer manganites  $(\text{La}_{1-z}\text{Pr}_z)\text{La}_{1.2}\text{Sr}_{1.8}\text{Mn}_2\text{O}_7$  : Intrinsic properties and role of intergrowth” Phys. Rev. B 78, 064420 (2008).



7. Cao, J; Rai, RC; Brown, S; Musfeldt, JL; Tackett, R; Lawes, G; Wang, YJ; Wei, X; Apostu, M; Suryanarayanan, R; Revcolevschi, A, „Title: Observation of 300 K high energy magnetodielectric contrast in the bilayer manganite  $(\text{La}_{0.4}\text{Pr}_{0.6})(1.2)\text{Sr}_{1.8}\text{Mn}_2\text{O}_7$ ”, APPLIED PHYSICS LETTERS 91 (2): Art No. 021913 (2007)
8. Matsukawa, M; Yamato, Y; Kumagai, T; Tamura, A; Suryanarayanan, R; Nimori, S; Apostu, M; Revcolevschi, A; Koyama, K; Kobayashi, N, „Steplike lattice deformation of single crystalline  $(\text{La}_{0.4}\text{Pr}_{0.6})(1.2)\text{Sr}_{1.8}\text{Mn}_2\text{O}_7$  bilayered manganite”, PHYSICAL REVIEW LETTERS 98 (26): Art No. 267204 (2007)
9. Cao, J; Haraldsen, JT; Rai, RC; Brown, S; Musfeldt, JL; Wang, YJ; Wei, X; Apostu, M; Suryanarayanan, R; Revcolevschi, A, „Magneto-optical investigation of the field-induced spin-glass-insulator to ferromagnetic-metal transition in the bilayer manganite  $(\text{La}_{0.4}\text{Pr}_{0.6})(1.2)\text{Sr}_{1.8}\text{Mn}_2\text{O}_7$ ”, PHYSICAL REVIEW B 74 Art No. 045113 (2006)
10. Apostu, MO; Melnig, V, „Tunable temperature behaviour of water-soluble polyamidhydroxyurethane”, JOURNAL OF OPTOELECTRONICS AND ADVANCED MATERIALS 8 (3):1044-1047 (2006)
11. Behr, G; Loser, W; Apostu, MO; Gruner, W; Hucker, M; Schramm, L; Souptel, D; Teresiak, A; Werner, J, „Floating zone growth of CuO under elevated oxygen pressure and its relevance for the crystal growth of cuprates”, CRYSTAL RESEARCH AND TECHNOLOGY 40 (1-2):21-25 Art No. 10.1002 (2005)
12. Matsukawa, M; Chiba, M; Kikuchi, E; Suryanarayanan, R; Apostu, M; Nimori, S; Sugimoto, K; Kobayashi, N, „Effect of suppression of local distortion on the magnetic, electrical, and thermal transport properties of the Cr-substituted bilayer manganite  $\text{LaSr}_2\text{Mn}_2\text{O}_7$ ”, PHYSICAL REVIEW B 72 (22): Art No. 224422 (2005)
13. Melnig, V; Apostu, MO; Tura, V; Ciobanu, C, „Optimization of polyurethane membranes - Morphology and structure studies” JOURNAL OF MEMBRANE SCIENCE 267 (1-2):58-67 Art No. 10.1016 (2005)
14. Moussa, F; Hennion, M; Wang, F; Gukasov, A; Suryanarayanan, R; Apostu, M; Revcolevschi, A, „Field-induced ferromagnetic metallic state in the bilayer manganite  $(\text{La}_{0.4}\text{Pr}_{0.6})(1.2)\text{Sr}_{1.8}\text{Mn}_2\text{O}_7$ , probed by neutron scattering”, PHYSICAL REVIEW LETTERS 93 (10): Art No. 107202 (2004)
15. Matsukawa, M; Kikuchi, E; Yoshizawa, M; Apostu, M; Suryanarayanan, R; Revcolevschi, A; Kobayashi, N, „Thermal transport of Cr-doped double-layered  $\text{LaSr}_2\text{Mn}_2\text{O}_7$ ”, PHYSICA B-CODENSED MATTER 329900-901 Art No. 10.1016 Part 2 (2003)
16. Wang, F; Gukasov, A; Moussa, F; Hennion, M; Apostu, M; Suryanarayanan, R; Revcolevschi, A, „Field-induced ferromagnetic metallic state of bilayer manganite  $(\text{La}_{0.4}\text{Pr}_{0.6})(1.2)\text{Sr}_{1.8}\text{Mn}_2\text{O}_7$ : A polarized neutron diffraction study”, PHYSICAL REVIEW LETTERS 91 (4): Art No. 047204 (2003)



17. Wagner, P; Gordon, I; Moshchalkov, VV; Bruynseraede, Y; Apostu, M; Suryanarayanan, R; Revcolevschi, A, „Spin-dependent hopping in the paramagnetic state of the bilayer manganite (La<sub>0.4</sub>Pr<sub>0.6</sub>)(1.2)Sr<sub>1.8</sub>Mn<sub>2</sub>O<sub>7</sub>”, EUROPHYSICS LETTERS 58 (2):285-291 (2002)
18. Apostu, M; Suryanarayanan, R; Revcolevschi, A; Ogasawara, H; Matsukawa, M; Yoshizawa, M; Kobayashi, N, „First-order field-induced transition, magnetoresistance, and giant magnetostriction in single crystals of (La<sub>0.4</sub>Pr<sub>0.6</sub>)(1.2)Sr<sub>1.8</sub>Mn<sub>2</sub>O<sub>7</sub>”, PHYSICAL REVIEW B 64 (1): Art No. 012407 (2001)
19. Gordon, I; Wagner, P; Moshchalkov, VV; Bruynseraede, Y; Apostu, M; Suryanarayanan, R; Revcolevschi, A, „Temperature dependent memory effects in the bilayer manganite (La<sub>0.4</sub>Pr<sub>0.6</sub>)(1.2)Sr<sub>1.8</sub>Mn<sub>2</sub>O<sub>7</sub>”, PHYSICAL REVIEW B 64 (9): Art No. 092408 (2001)
20. Vasil'ev, A; Voloshok, T; Apostu, M; Suryanarayanan, R; Revcolevschi, A „Spin-reorientation transition at isoelectronic substitution in double-layer manganites (La<sub>1-z</sub>Pr<sub>z</sub>)(1.2)Sr<sub>1.8</sub>Mn<sub>2</sub>O<sub>7</sub>”, JETP LETTERS 73 (11):630-632 (2001)
21. Ogasawara, H; Matsukawa, M; Hatakeyama, S; Yoshizawa, M; Apostu, M; Suryanarayanan, R; Dhahlenne, G; Revcolevschi, A; Itoh, K; Kobayashi, N, „Anomalous lattice distortion in Pr-substituted double-layered perovskite manganite La<sub>1.2</sub>Sr<sub>1.8</sub>Mn<sub>2</sub>O<sub>7</sub> single crystals”, JOURNAL OF THE PHYSICAL SOCIETY OF JAPAN 69 (5):1274-1277 (2000)
22. Patanjali, PV; Theule, P; Zhai, Z; Hakim, N; Sridhar, S; Suryanarayanan, R; Apostu, M; Dhahlenne, G; Revcolevschi, A, „High-frequency magnetoimpedance of double perovskite La<sub>1.2</sub>Sr<sub>1.8</sub>Mn<sub>2</sub>O<sub>7</sub>: Secondary transitions at high temperatures”, PHYSICAL REVIEW B 60 (13):9268-9271 (1999)