

Universitatea "Alexandru Ioan Cuza" din Iași¹

118-1 / 2016

FIȘA DE EVIDENȚĂ Nr.....					
a rezultatelor activităților de cercetare-dezvoltare					
TABEL NR. 1 ²					
DENUMIREA PROIECTULUI	Design de material, preparare, proprietati si modelare de structuri multifunctionale oxidice pentru microelectronica si noi aplicatii in stocare de energie			CATEGORIA DE PROIECT: PN-II-ID-PCE	
CONTRACT DE FINANȚARE	NR 270 DATA 5.10.2011	DURATA CONTRACT	60 LUNI	ACRONIM PROGRAM	MULTIFOX
VALOAREA PROIECTULUI (INCLUDE ȘI ALTE SURSE)	1.500.000 LEI	VALOAREA CONTRACTULUI DE FINANȚARE (BUGET DE STAT)		1.500.000 LEI	
REZULTATELE CERCETĂRII APARȚIN	1 Universitatea Alexandru Ioan Cuza din Iași. ³ 2		CONFORM ART. 65 DIN CONTRACTUL NR. 270 DATA 5.10.2011		

1) DENUMIRE REZULTAT ⁴				
2) CATEGORIA REZULTATULUI (conform art. 74, O.G. 57/2002)	Rezultat final	Rezultate ⁵ intermediare	CARACTERISTICI ALE REZULTATULUI FINAL	
2.1 documentații, studii, lucrări	81	<input type="checkbox"/>	Diseminarea rezultatelor obținute în cadrul proiectului (prezentari conferințe)	[1] <u>L. Mitoseriu</u> , Size and interface effects in nanostructured dense ferroelectric ceramics, The 9 th Students Meeting & 2nd ESR COST MP0904 Workshop Novi Sad, Serbia, 16-18 November 2011 (invited) [2] <u>L.P. Curecheriu</u> , <u>L. Mitoseriu</u> , Dc-electric-field dependence of dielectric constant in ferroelectric systems, The 9 th Students Meeting & 2nd ESR COST MP0904 Workshop Novi Sad, Serbia, 16-18 November 2011 (oral) [3] <u>L. Padurariu</u> , <u>M. Alexe</u> , <u>L. Mitoseriu</u> , Simulation of cross-talk phenomena in ferroelectric nanocapacitor system, 3rd COST MP0904 Workshop Vilnius, Lituania, 23 April 2012 (poster) [4] <u>L. Curecheriu</u> , <u>L. Padurariu</u> , <u>L. Mitoseriu</u> , <u>M.T. Buscaglia</u> , <u>V. Buscaglia</u> , <u>P. Nanni</u> , Grain size and interface effects in
2.2 planuri, scheme	<input type="checkbox"/>	<input type="checkbox"/>		
2.3 tehnologii	<input type="checkbox"/>	<input type="checkbox"/>		
2.4 procedee, metode	<input type="checkbox"/>	<input type="checkbox"/>		
2.5 produse informatice	<input type="checkbox"/>	<input type="checkbox"/>		
2.6 rețete, formule	<input type="checkbox"/>	<input type="checkbox"/>		
2.7 obiecte fizice / produse	<input type="checkbox"/>	<input type="checkbox"/>		
2.8 brevet invenție / altele asemenea	<input type="checkbox"/>	<input type="checkbox"/>		
3) STADIUL DE DEZVOLTARE	3.1 soluție/ model conceptual	<input type="checkbox"/>		
	3.2 model experimental/ funcțional	<input type="checkbox"/>		
	3.3 prototip	<input type="checkbox"/>		
	3.4 instalație pilot sau echivalent	<input type="checkbox"/>		

¹ denumirea persoanei juridice executante (persoană juridică executantă este considerată persoana juridică care a obținut rezultatele cercetării, în mod nemijlocit, conform art. 74 alin. (3) din O.G. nr. 57/2002)

² se completează o singură dată, la 30 de zile de la data aprobării raportului de activitate al proiectului de cercetare-dezvoltare

³ se completează denumirea partenerilor la proiectul de cercetare-dezvoltare care au contribuit la obținerea rezultatului

⁴ se trece denumirea rezultatului cercetării (nu se trece denumirea proiectului)

⁵ se trec rezultatele cercetării din etapele intermediare ale proiectului de cercetare-dezvoltare care pot fi utilizate / valorificate independent de includerea în rezultatul final

	3.5 altele	x		
4) DOMENIUL DE CERCETARE	4.1 tehnologiile societății informaționale	<input type="checkbox"/>		
	4.2 energie	<input type="checkbox"/>		
	4.3 mediu	<input type="checkbox"/>		
	4.4 sănătate	<input type="checkbox"/>		
	4.5 agricultură, securitatea și siguranța alimentară	<input type="checkbox"/>		
	4.6 biotehnologii	<input type="checkbox"/>		
	4.7 materiale, procese și produse inovative	x		
	4.8 spațiu și securitate	<input type="checkbox"/>		
	4.9 cercetări socio-economice și umaniste	<input type="checkbox"/>		
5) DOMENII DE APLICABILITATE ⁶			72 ; <input type="checkbox"/> <input type="checkbox"/> ; <input type="checkbox"/> <input type="checkbox"/>	<p>nanostructured ferroelectric ceramics, 3rd COST MP0904 Workshop Vilnius, Lituania, 23 April 2012 (poster)</p> <p>[5] <u>L.P. Curecheriu</u>, <u>L. Padurariu</u>, <u>L. Mitoseriu</u> and V. Buscaglia, A new approach for tailoring tunability and permittivity values by using grain size reduction at nanoscale, Electroceramics XIII Twente, Holland, 24-27 June 2012 (oral)</p> <p>[6] <u>F. Gheorghiu</u>, <u>L. Curecheriu</u>, A. Ianculescu, V. Musteata, <u>L. Mitoseriu</u>, New aspects concerning the tunability and dielectric anomalies of BiFeO₃ ceramics, Electroceramics XIII Twente, Holland, 24-27 June 2012 (oral)</p> <p>[7] <u>L. Mitoseriu</u>, <u>L. Curecheriu</u>, <u>L. Padurariu</u>, C. Harnagea, V. Buscaglia, New insights on grain size and interface effects in nanostructured ferroelectric ceramics, Electroceramics XII Twente, Holland, 24-27 June 2012 (oral)</p> <p>[8] <u>N. Horchidan</u>, M. Deluca, L. Stoleriu, <u>L.P. Curecheriu</u>, A.C. Ianculescu, C. Galassi, <u>L. Mitoseriu</u>, High-field dielectric properties and Raman spectroscopic investigation of the ferroelectric-relaxor crossover in BaSn_xTi_{1-x}O₃ ceramics, Electroceramics XIII Twente, Holland, 24-27 June 2012 (oral)</p> <p>[9] S.B. Balmus, <u>C. Ciomaga</u>, <u>N. Horchidan</u>, <u>L. Curecheriu</u>, <u>L. Mitoseriu</u>, Ceramic samples's resonances analysis in high frequency impedance spectroscopy methods, Electroceramics XIII Twente, Holland, 24-27 June 2012 (poster)</p> <p>[10] Z.V. Mocanu, <u>M. Airimioaei</u>, A.R. Iordan, M.N. Palamaru, <u>L. Curecheriu</u>, <u>L. Mitoseriu</u>, Dielectric properties and conductivity mechanisms of Mg_xNi_{1-x}Fe₂O₄ spinel ceramics, Electroceramics XIII Twente, Holland, 24-27 June 2012 (poster)</p> <p>[11] <u>N. Horchidan</u>, A.C. Ianculescu, <u>L.P. Curecheriu</u>, <u>L. Mitoseriu</u>, Influence of microstructural characteristics on the dielectric and nonlinear properties of BaSn_xTi_{1-x}O₃ ceramics, Electroceramics XIII Twente, Holland, 24-27 June 2012 (poster)</p> <p>[12] Z.V. Mocanu, <u>L. Curecheriu</u>, M. Deluca, V. Buscaglia, M. Van Bael, A. Hardy, <u>L. Mitoseriu</u>, Ferroelectric-relaxor crossover in Ce-doped BaTiO₃ ceramics, Electroceramics XIII Twente, Holland, 24-27 June 2012 (poster)</p> <p>[13] <u>F. Gheorghiu</u>, R. Apetrei, M. Dobromir, A. Ianculescu, D. Luca, <u>L. Mitoseriu</u>, Investigation of Co-doped PZT films deposited by rf-magnetron sputtering, Electroceramics XIII Twente, Holland, 24-27 June 2012 (poster)</p> <p>[14] <u>L. Mitoseriu</u>, <u>L. Curecheriu</u>, Al. Stancu, V. Buscaglia, Reactions in Fe₂O₃@BaTiO₃ core-shell structure towards new</p>

⁶ conform CAEN 2008, 2 cifre

functional properties, ISAF-ECAPD Aveiro, Portugal, 9-13 July 2012 (oral)

[15] F. Gheorghiu, L. Curecheriu, R. Tanasa, M.V. Pop, L. Mitoseriu, Comparison between the properties of pure BiFeO₃ ceramics prepared by single and two step sintering methods, ISAF-ECAPD Aveiro, Portugal, 9-13 July 2012 (oral)

[16] M. Pop, L. Stoleriu, G. Apachitei, L. Mitoseriu, C. Galassi, FORC analysis of the subswitching and polarization reversal process in PZT ceramics at morphotropic phase boundary, ISAF-ECAPD Aveiro, Portugal, 9-13 July 2012 (poster)

[17] Z.V. Mocanu, M. Airimioaei, A.R. Iordan, M.N. Palamaru, L.P. Curecheriu, L. Mitoseriu, Impedance spectroscopy and magnetic investigation of Mg_xNi_{1-x}Fe₂O₄ spinel ceramics, ISAF-ECAPD Aveiro, Portugal, 9-13 July 2012 (poster)

[18] N. Horchidan, A.C. Ianculescu, L.P. Curecheriu, L. Stoleriu, M. Deluca, C. Galassi, L. Mitoseriu, Combined approach to study the ferroelectric-relaxor crossover in BaTi_{1-x}Sn_xO₃ ceramics, ISAF-ECAPD Aveiro, Portugal, 9-13 July 2012 (poster)

[19] N. Horchidan, A.C. Ianculescu, L.P. Curecheriu, M.V. Pop, L. Mitoseriu, Preparation and functional properties of BaTi_{1-x}Sn_xO₃ ceramics, ISAF-ECAPD Aveiro, Portugal, 9-13 July 2012 (poster)

[20] F. Gheorghiu, R. Tanasa, C.G. Pastravanu, E. Popovici, V. Buscaglia, M.T. Buscaglia, P. Nanni, L. Mitoseriu, The hydrothermal synthesis characterization and functional properties of Bi₂Fe₄O₉ micro/nanostructures, ISAF-ECAPD Aveiro, Portugal, 9-13 July 2012 (poster)

[21] L.P. Curecheriu, A.M. Neagu, G. Apachitei, M.T. Buscaglia, G. Canu, L. Padurariu, M. Pop, L. Mitoseriu, V. Buscaglia, New magnetoelectric materials Ba₁₂Fe₂₈Ti₁₅O₈₄ intergrowth layered ferrite, ISAF-ECAPD Aveiro, Portugal, 9-13 July 2012 (poster)

[22] Z.V. Mocanu, L.P. Curecheriu, M. Deluca, V. Buscaglia, L. Mitoseriu, Preparation and properties of Ce-doped BaTiO₃ ceramics, ISAF-ECAPD Aveiro, Portugal, 9-13 July 2012 (poster)

[23] L. Padurariu, L. Curecheriu, V. Buscaglia, L. Mitoseriu, Modelling of the grain size effect on nonlinear properties in nanostructured ferroelectric ceramics, ISAF-ECAPD Aveiro, Portugal, 9-13 July 2012 (poster)

[24] L. Padurariu, L. Curecheriu, L. Mitoseriu, Tailoring dc-tunability properties by local field engineering in ferroelectric structures, The 9th International Conference on Physics of Advanced Materials (ICPAM-9) Iasi, Romania, 20-23 September

2012 (oral)

- [25] N. Horchidan, A.C. Ianculescu, M.V. Pop, L. Mitoseriu, Combined approach to study Sn doped BaTiO₃ ceramics, The 9th International Conference on Physics of Advanced Materials (ICPAM-9) Iasi, Romania, 20-23 September 2012 (poster)
- [26] M.V. Pop, L. Stoleriu, L. Mitoseriu, C. Galassi, FORC analysis, polarization reversal and sub-switching properties of morphotropic phase boundary PZT ceramics, The 9th International Conference on Physics of Advanced Materials (ICPAM-9) Iasi, Romania, 20-23 September 2012 (poster)
- [27] M.V. Pop, L. Stoleriu, N. Horchidan, L. Mitoseriu, Implementation of FORC measurements for ferroelectric ceramics: circuit design and numerical analysis, The 9th International Conference on Physics of Advanced Materials (ICPAM-9) Iasi, Romania, 20-23 September 2012 (poster)
- [28] Z.V. Mocanu, L.P. Curecheriu, C.E. Ciomaga, L. Mitoseriu, Investigation of the relaxor-ferroelectric crossover in Ce-doped BaTiO₃ ceramics by impedance spectroscopy, The 9th International Conference on Physics of Advanced Materials (ICPAM-9) Iasi, Romania, 20-23 September 2012 (poster)
- [29] Z.V. Mocanu, M. Airimioaei, C.E. Ciomaga, F. Tudorache, L.P. Curecheriu, L. Mitoseriu, Investigation of electrical properties of Mg_xNi_{1-x}Fe₂O₄ spinel ceramics and application, The 9th International Conference on Physics of Advanced Materials (ICPAM-9) Iasi, Romania, 20-23 September 2012 (poster)
- [30] A.M. Neagu, G. Apachitei, L. Curecheriu, Ageing of low field dielectric constant in Ce-doped BaTiO₃ based solid solution, The 9th International Conference on Physics of Advanced Materials (ICPAM-9) Iasi, Romania, 20-23 September 2012 (poster)
- [31] L. Mitoseriu, Ferroelectric switching characteristics described by FORC method, Joint Conf. COST Action MP0904 & 9th IEEE-ROMSC 2012 Iasi, Romania, 24-26 September 2012 (oral)
- [32] L. Padurariu, L. Curecheriu, V. Buscaglia, L. Mitoseriu, Modelling of the grain size effect on nonlinear dielectric properties in nanostructured ferroelectric ceramics, Joint Conf. COST Action MP0904 & 9th IEEE-ROMSC 2012 Iasi, Romania, 24-26 September 2012 (oral)
- [33] A. Neagu, A. Ianculescu, L. Mitoseriu, Preparation and functional characterization of a new single-phase multiferroic: Ba₁₂Fe₂₈Ti₁₅O₈₄, Joint Conf. COST Action MP0904 & 9th IEEE-ROMSC Iasi, Romania, 24-26 September 2012 (oral)
- [34] N. Horchidan, A.C. Ianculescu, L.P. Curecheriu, L. Stoleriu,

M.V. Pop, M. Deluca, L. Mitoseriu, High-field dielectric properties and Raman spectroscopic investigation of the ferroelectric-to-relaxor crossover in $\text{BaSn}_x\text{Ti}_{1-x}\text{O}_3$ ceramics, Joint Conf. COST Action MP0904 & 9th IEEE-ROMSC Iasi, Romania, 24-26 September 2012 (poster)

[35] Z.V. Mocanu, M. Airimioaei, C.E. Ciomaga, F. Tudorache, L.P. Curecheriu, L. Mitoseriu, Preparation, characterization of $\text{Mg}_x\text{Ni}_{1-x}\text{Fe}_2\text{O}_4$ ferrites and testing as humidity sensors, Joint Conf. COST Action MP0904 & 9th IEEE-ROMSC Iasi, Romania, 24-26 September 2012 (poster)

[36] F. Gheorghiu, L.P. Curecheriu, M. Calugăru, A.C. Ianculescu, L. Mitoseriu, Preparation and functional characterization of BiFeO_3 ceramics: a comparative study of the functional properties, Joint Conf. COST Action MP0904 & 9th IEEE-ROMSC Iasi, Romania, 24-26 September 2012 (poster)

[37] M.V. Pop, L. Stoleriu, L. Mitoseriu, FORC measurements for ferroelectric ceramics: circuit design & numerical analysis, Joint Conf. COST Action MP0904 & 9th IEEE-ROMSC Iasi, Romania, 24-26 September 2012 (poster)

[38] A.M. Neagu, V. Pascariu, C.E. Ciomaga, L. Mitoseriu, Preparation, structural and dielectric characterization of PZT/Carbon Nanotube composites by Spark Plasma Sintering, Joint Conf. COST Action MP0904 & 9th IEEE-ROMSC Iasi, Romania, 24-26 September 2012 (poster)

[39] S.B. Balmus, C.E. Ciomaga, N. Horchidan, I. Dumitru, L. Mitoseriu, Improvement of impedance spectroscopy methods. Sample's resonances analysis, Joint Conf. COST Action MP0904 & 9th IEEE-ROMSC Iasi, Romania, 24-26 September 2012 (poster)

[40] L. Padurariu, M. Alexe, L. Mitoseriu, Simulation of cross-talk phenomena in ferroelectric nanocapacitor systems, Workshop on Nanoscale Phenomena in Ferroics and Multiferroics, Belfast, Ireland, 21 March 2013 (oral)

[41] F. Gheorghiu, L. Padurariu, Mihai V. Pop, C. Ciomaga, C. Capiani, C. Galassi, L. Mitoseriu, The role of porosity on the ferroelectric properties of PZTN ceramics: experiment and modeling, COST MP0904 Action „Recent advances in ferro/piezoelectric and multiferroic-based composites” Faenza, Italy, 22-23 April 2013 (poster)

[42] N. Horchidan, C. Galassi, M.V. Pop, H. Ursic, C. Capiani, B. Malic, L. Mitoseriu, Comparison between hard/soft PZT composite materials with different degree of mixing, COST MP0904 Action „Recent advances in ferro/piezoelectric and multiferroic-based composites”, Faenza, Italy, 22-23 April 2013

(oral)

[43] L. Padurariu, L. Curecheriu, M. Pop, C. Galassi, V. Buscaglia, L. Mitoseriu, The role of the local electric field inhomogeneity on the electrical properties of ferroelectric composites, COST MP0904 Action „Recent advances in ferro/piezoelectric and multiferroic-based composites”, Faenza, Italy, 22-23 April 2013

(oral)

[44] C.E. Ciomaga, A.M. Neagu, C. Galassi, L. Mitoseriu, Synthesis and functional properties of ferroelectric-carbon nanotube composites by Spark Plasma Sintering, COST MP0904 Action „Recent advances in ferro/piezoelectric and multiferroic-based composites”, Faenza, Italy, 22-23 April 2013 (oral)

[45] L.P. Curecheriu, V. Musteata, M.T. Buscaglia, V. Buscaglia, L. Mitoseriu, Influence of the lengthscale cation mixing degree on the dielectric and ferroelectric properties of $\text{BaZr}_x\text{Ti}_{1-x}\text{O}_3$ ceramics, COST MP0904 Action „Recent advances in ferro/piezoelectric and multiferroic-based composites”, Faenza, Italy, 22-23 April 2013 (oral)

[46] F. Gheorghiu, L. Curecheriu, V. Musteata, S. Feraru, C. Ciomaga, N. Lupu, M. N. Palamaru, L. Mitoseriu, The structural and functional properties of $\text{Sm}_2\text{NiMnO}_6$ double perovskite multiferroic ceramics prepared by sol-gel combustion method, COST SIMUFER Action MPO904 Workshop Advances in Ferroelectrics and Multiferroics, Prague, Czech Republic, Institute of Physics AS CR, 21 July 2013 (poster)

[47] N. Horchidan, H. Ursic, B. Malic, A. Ianculescu, M. Deluca, M.V. Pop, L. Padurariu, L. Mitoseriu, Ferroelectric-relaxor crossover in $\text{Ba}(\text{Sn}_x\text{Ti}_{1-x})\text{O}_3$ ceramics: study of properties at different lengthscales, COST SIMUFER Action MPO904 Workshop Advances in Ferroelectrics and Multiferroics, Prague, Czech Republic, Institute of Physics AS CR, 21 July 2013 (poster)

[48] L. Curecheriu, L. Stoleriu, C. Galassi, F. Fochi, L. Mitoseriu, Study of ferroelectric-antiferroelectric crossover in PLZT (x/90/10) ceramics, Joint IEEE, UFFC, EFTF and PFM Symposium, Prague, Czech Republic, 21-25 July 2013 (oral)

[49] C.E. Ciomaga, M.V. Pop, L. Padurariu, M. Airimioaei, C. Galassi, L. Mitoseriu, Effect of composition on functional properties of ferroelectric-ferrite composite systems, Joint IEEE, UFFC, EFTF and PFM Symposia, Prague, Czech Republic, 21-25 July 2013 (poster)

[50] C.E. Ciomaga and L. Mitoseriu, Synthesis and functional properties of ceramic composites: Experiment and modeling, IEEE- ROMSC Conference - 10th Edition Iasi, Romania, 2-3

September 2013 (invited)

[51] Z.V. Mocanu, L.P. Curecheriu, C.E. Ciomaga, L. Mitoseriu, Comparative study of the influence of sintering temperature on the functional properties of $BaCe_xTi_{1-x}O_3$ ceramics, IEEE - ROMSC Conference - 10th Edition 2-3 Iasi, Romania, September 2013 (poster)

[52] N. Horchidan, C. Galassi, C. Capiani, M.V. Pop, L. Padurariu, H. Ursic, B. Malic, L. Mitoseriu, Influence of different degree of mixing on dielectric properties of hard/soft PZT composite materials, IEEE - ROMSC Conference - 10th Edition Iasi, Romania, 2-3 September 2013 (oral)

[53] F. Gheorghiu, L.P. Curecheriu, A. Ianculescu, V. Musteata, L. Mitoseriu, Preparation and functional characterization of $BiFeO_3$ ceramics: a comparative study of the dielectric properties, IEEE - ROMSC Conference - 10th Edition, Iasi, Romania, 2-3 September 2013 (oral)

[54] M.V. Pop, N. Horchidan, L. Mitoseriu, Investigating New Application for Ferroelectric Materials, IEEE - ROMSC Conference - 10th Edition, Iasi, Romania, 2-3 September 2013 (poster)

[55] A.M. Neagu, C. Padurariu, L. P. Curecheriu, L. Mitoseriu, Impedance analysis and tunability of $BaTiO_3$ -chitosan composites: towards active dielectrics for flexible electronics, IEEE - ROMSC Conference - 10th Edition, Iasi, Romania, 2-3 September 2013 (poster)

[56] R. Stanculescu, I. Turcan, C. Galassi, L. Mitoseriu, Preparation and characterization of porous $Ba_{1-x}Sr_xTiO_3$ ceramics, IEEE - ROMSC Conference - 10th Edition, Iasi, Romania, 2-3 September 2013 (poster)

[57] F. Gheorghiu, L. Curecheriu, V. Musteata, S. Feraru, C. Ciomaga, N. Lupu, M.N. Palamaru, L. Mitoseriu, The structural, electrical and magnetic properties of Sm_2NiMnO_6 double perovskite multiferroic ceramics, 13th International Meeting on Ferroelectricity (IMF-13), Kraków, Poland, 2-6 September 2013 (poster)

[58] C.E. Ciomaga, L. Padurariu, L.P. Curecheriu, N. Lupu, C. Galassi, L. Mitoseriu, Electric and ferroelectric properties of ferroelectric-carbon nanotubes ceramic composites, 13th International Meeting on Ferroelectricity (IMF-13) Kraków, Poland, 2-6 September 2013 (poster)

[59] C.E. Ciomaga, M. Airimioaei, C. Galassi, L. Mitoseriu, Synthesis and functional characterization of $MnFe_2O_4$ -PZTN magnetoelectric composites, FEMS EUROMAT Sevilla, Spain, 8-13 September 2013 (oral)

- [60] L. Mitoseriu, Study of multiphase materials with ferroelectric and magnetic order, FEMS EUROMAT 2013, Sevilla, Spain, 8-13 September 2013 **(invited)**
- [61] L. Mitoseriu, Nanocomposite multifunctional oxides: tailoring properties by nanostructuring and local field engineering, Processes in isotopes and molecules international conference PIM, Cluj Napoca, Romania, 25-27 September 2013 **(plenary)**
- [62] L. Mitoseriu, Study of multiphase ceramics with ferroelectric and magnetic order: new functional properties driven by interface reactions, Workshop on Optical and Electrical Properties of Nanomagnets, Paris, France, 24-25 October 2013 **(oral)**
- [63] C.E. Ciomaga, L.P. Curecheriu, L. Padurariu, N. Lupu, I. Lisiecki, C. Galassi and L. Mitoseriu, Enhanced ferroelectric properties of ferroelectric-CNTs composite ceramics, Closing COST MP0904 SIMUFER Conference, Genova, Italia, 30 January-1 February 2014 **(poster)**
- [64] L. Padurariu, L. Curecheriu, V. Buscaglia, L. Mitoseriu, FEM Models for Describing Size Effects on the Dielectric Properties in Nanostructured Ferroelectric Ceramics, Closing Conference COST MP0904 - SIMUFER, CNR-IENI, 30 January-1 February 2014, Genoa, Italy **(poster)**-50% with Bilateral project Italy-Romania)
- [65] N. Horchidan, A. Ianculescu, H. Ursic, B. Malic, M. Deluca, M.V. Pop, L. Padurariu, L. Mitoseriu, Composition and size effects on the dielectric and ferroelectric properties of $BaSn_xTi_{1-x}O_3$ ceramics, Closing COST MP0904 SIMUFER Conference „Single-and multiphase ferroics and multiferroics with restricted geometries”, January 30th-February 1st, Genova, Italy, 2014 **(oral)**
- [66] C.E. Ciomaga, N. Lupu, I. Lisiecki, C. Galassi and L. Mitoseriu, Preparation, microstructure and functional properties of multi-walled carbon nanotubes in ferroelectric matrix composites, COST Action IC1208 “Integrating devices and materials: A challenge for new instrumentation in ICT IC1208 Joint 3rd Management Committee Meeting (MCM3) and Meetings of Working Groups WG1–WG4, Santarém (Portugal), 20-21 March 2014 **(oral)**
- [67] C.E. Ciomaga, S.B. Balmus, I. Dumitru, M. Airimioaei, C. Galassi, L. Mitoseriu, Impedance spectroscopy analysis at high frequencies of ferroelectric-ferrite ceramic composites, COST MP0904 Action Showcase, Electroceramics XIV, Bucharest, 17th of June 2014 **(poster)**

- [68] C.E. Ciomaga, M. Airimioaei, G. Stoian, I. Lisiecki, M. Deluca, C. Galassi, L. Mitoseriu, Structural, microstructural and electrical properties of CNTs ceramic composites, Electroceramics XIV, Bucharest, Romania, 16-20 June, 2014 (oral)
- [69] N. Horchidan, A. Ianculescu, H. Ursic, B. Malic, M. Deluca, M.V. Pop, L. Padurariu, L. Mitoseriu, "Functional properties of Ba(Sn_xTi_{1-x})O₃ ceramics with different microstructures", International Conference Electroceramics XIV June 16-20, Bucuresti, Romania 2014 (oral)
- [70] L. Padurariu, L. Curecheriu, V. Buscaglia, L. Mitoseriu, Modeling the size effects on the dielectric properties in nanostructured ferroelectric ceramics, COST MP0904 Action Showcase, Bucharest, Romania, 17 June 2014 (oral)
- [71] C.E. Ciomaga, M. Airimioaei, G. Stoian, M. Deluca, C. Galassi, L. Mitoseriu, Effect of reoxidation annealing on electrical properties in ceramic composites, European Conference on Application of Polar Dielectrics 2014, Vilnius, Lithuania, July 7-2014 (poster)
- [72] I.V. Ciuchi, F. Craciun, L. Mitoseriu, C. Galassi, Dielectric Properties of La³⁺ doped PZT Ceramics across the antiferroelectric/ferroelectric phase boundary, PIEZO 2015, Maribor, 25-28 January 2015 (oral)
- [73] L. Padurariu, L. Mitoseriu, V. Buscaglia, C. Galassi, P. Vilarinho, Tailoring properties by local field engineering in ferroelectric-based composites, MP1308 COST Action "Towards oxide-based electronics TO-BE", Spring TO-Be Meeting, Aveiro, 30 March-2 April 2015 (poster)
- [74] L. Padurariu, L. Curecheriu, V. Buscaglia, C. Galassi, L. Mitoseriu, Local field engineering for tailoring electrical properties in ferroelectric-based composites, The 8th International Conference in Advanced Materials ROCAM 2015, Bucharest, July 2015 (invited)
- [75] V. A. Lukacs, M. Airimioaei, C. E. Ciomaga, S. Tascu, L. Mitoseriu, Synthesis And Properties Of 1-D Nickel Oxide Structures Produced By Using Natural Fibers As Bio-Templates, 10th International Symposium on Hysteresis Modeling and Micromagnetics, Iasi, Romania, 18-20 Mai 2015 (poster)
- [76] N. Horchidan, A. Ianculescu, M. Deluca, L. Curecheriu, L. Padurariu, A combined micro/macro analysis of the influence of microstructure on functional properties of perovskite oxide ceramics, 13th European Meeting on Ferroelectricity, Porto, Portugalia, 28 iunie-3 iulie 2015 (poster)

		<p>[77] R. Stanculescu, <u>N. Horchidan</u>, <u>C. E. Ciomaga</u>, C. Galassi, <u>L. Mitoseriu</u>, Low and high field dielectric investigations of BT-based ferroelectric ceramics with different degrees of porosity, 13th European Meeting of Ferroelectricity, Porto, Portugal, 28 iunie - 3 iulie 2015 (poster)</p> <p>[78] <u>N. Horchidan</u>, A. Ianculescu, <u>L. Mitoseriu</u>, A combined analysis of functional properties of perovskite oxide ceramics, The 8th International Conference on Advanced Materials: ROCAM, Bucuresti, Romania, 7-10 Iulie 2015 (oral)</p> <p>[79] <u>F. Gheorghiu</u>, <u>L. Curecheriu</u>, A. Ianculescu, M. Calugaru, O. Oprea, <u>L. Mitoseriu</u>, Tunable dielectric characteristics of the Mn-doped BiFeO₃ multiferroic ceramics, 13th European Meeting on Ferroelectricity, Porto, Portugalia, 28 iunie-3 iulie 2015 (poster)</p> <p>[80] I. Turcan, R.E. Stanculescu, <u>C.E. Ciomaga</u>, <u>N. Horchidan</u>, C. Galassi, <u>L. Mitoseriu</u>, Investigation of BaSrTiO₃ porous ceramics, The Eleventh Conference for Young Scientists in Ceramics Workshop for Early Stage Researchers of the COST IC1208 Action, Novi Sad, Serbia, 21-24 Octombrie 2015 (oral)</p> <p>[81] I.V.Ciuchi, J.E. Guerrier, C. Chung, <u>L. Mitoseriu</u>, J.L. Jones, C.Galassi, Diffuse Phase transitions and Curie Weiss behavior of (Pb1-xLax)(Zr0.90Ti0.10)1-x/4O3(0.02 ≤ x ≤ 0.04) ceramics, 1st Research Triangle Nanotechnology Network Research Symposium, Raleigh, US, 2016 (oral)</p>
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6) CARACTERUL INOVATIV	6.1 produs nou	<input type="checkbox"/> ⁷
	6.2 produs modernizat	<input type="checkbox"/>	
	6.3 tehnologie nouă	<input type="checkbox"/>	
	6.4 tehnologie modernizată	<input type="checkbox"/>	
	6.5 serviciu nou	<input type="checkbox"/>	
	6.6 serviciu modernizat	<input type="checkbox"/>	
	6.7 altele	x	

INFORMAȚII PRIVIND PROPRIETATEA INTELECTUALĂ		
documentație tehnico-economică	<input type="checkbox"/>	
cerere înregistrare brevet de invenție	<input type="checkbox"/>	nr. data
brevet de invenție înregistrate (național, european, internațional)	<input type="checkbox"/>	nr. data
cerere înregistrare modele și desene industriale protejate	<input type="checkbox"/>	nr. data
modele și desene industriale protejate înregistrate (național, european, internațional)	<input type="checkbox"/>	nr. data
cerere înregistrare marcă înregistrată	<input type="checkbox"/>	nr. data

⁷ justificare (se explică, în maximum 100 caractere, în ce constă noutatea)

mărci înregistrate (național, european, internațional)	<input type="checkbox"/>	nr. data
cerere înregistrare copyright	<input type="checkbox"/>	nr. data
înregistrare copyright (național, european, internațional)	<input type="checkbox"/>	nr. data
cerere înregistrare: rețele, indicații geografice, specii vegetale și animale, etc.	<input type="checkbox"/>	nr. data
înregistrare: rețele, indicații geografice, specii vegetale și animale, etc. (național, european, internațional)	<input type="checkbox"/>	nr. data

TABEL NR. 2⁸

7) VALORIFICAREA REZULTATELOR CERCETĂRII								
8) DENUMIREA REZULTATULUI DE CERCETARE								
NR CRT.	VALOAREA DE LA CARE ÎNCEPE NEGOCIEREA	PROCES VERBAL ¹¹ NR./DATA	MOD DE VALORIFICARE ¹²	ACTUL ¹³ PRIN CARE S-A REALIZAT VALORIFICAREA	VALOAREA NEGOCIATĂ ¹⁴	BENEFICIAR ¹⁵	IMPACT ¹⁶	PERSOANE AUTORIZATE ¹⁷
0	1	2	3	5	6	7	8	9
1	NA		Comunicări științifice la conferințe naționale/internaționale		NA	Universitatea Alexandru Ioan Cuza din Iași		Prof.univ.dr. Liliana Mitoșeriu
2								
3								

Director de proiect,
Prof.univ.dr. Liliana Mitoșeriu



⁸ se completează în termen de 10 zile de la data finalizării activităților de valorificare a rezultatului cercetării

⁹ se actualizează pentru fiecare acțiune de valorificare a rezultatului cercetării

¹⁰ se va trece denumirea rezultatului final sau, după caz, a rezultatului(lor) intermediar(e)

¹¹ se vor trece numărul și data la care a fost încheiat procesul verbal al comisiei constituite la nivelul persoanei juridice executante care a stabilit valoarea de la care începe negocierea și se precizează codul procedurii specifice, aprobată la nivelul organului cu atribuții de conducere (ex. consiliul de administrație), în baza căreia se realizează valorificarea rezultatelor obținute în urma activităților de cercetare-dezvoltare, cu respectarea reglementărilor legale în vigoare;

¹² vânzare produs/tehnologie; furnizare servicii; închiriere, concesiune, preluare în producția proprie, transmitere cu titlu gratuit; transfer drepturi de proprietate intelectuală;

¹³ se va trece nr. și data semnării actului (ex. contract) prin care s-a realizat valorificarea rezultatului cercetării;

¹⁴ valoarea rezultatelor cercetării este stabilită la prețul negociat între părți.

¹⁵ se completează denumirea beneficiarului care preia rezultatul cercetării (date de contact operator economic, adresă, oraș, județ, telefon, fax, e-mail, website)

¹⁶ se vor completa efectele (economice, sociale, de mediu) obținute la beneficiar asociate aplicării rezultatelor cercetării, anual, pentru o perioadă de 5 ani

¹⁷ numele și semnătura persoanei autorizate să completeze fișa de evidență și al persoanei din cadrul compartimentului financiar-contabil responsabil cu verificarea datelor.

Universitatea "Alexandru Ioan Cuza" din Iași¹

1182/2016

FIȘA DE EVIDENȚĂ Nr..... a rezultatelor activităților de cercetare-dezvoltare						TABEL NR. 1 ²
DENUMIREA PROIECTULUI	Design de material, preparare, proprietati si modelare de structuri multifunctionale oxidice pentru microelectronica si noi aplicatii in stocare de energie			CATEGORIA DE PROIECT: PN-II-ID-PCE		
CONTRACT DE FINANȚARE	NR 270 DATA 5.10.2011	DURATA CONTRACT	60 LUNI	ACRONIM PROGRAM	MULTIFOX	
VALOAREA PROIECTULUI (INCLUDE ȘI ALTE SURSE)	1.500.000 LEI	VALOAREA CONTRACTULUI DE FINANȚARE (BUGET DE STAT)		1.500.000 LEI		
REZULTATELE CERCETĂRII APARTIN	1 Universitatea Alexandru Ioan Cuza din Iași. ³ 2		CONFORM ART. 65 DIN CONTRACTUL NR. 270 DATA 5.10.2011			

1) DENUMIRE REZULTAT ⁴	Nanoscale Ferroelectrics and Multiferroics, Editura John Wiley & Sons Ltd (2016) Editori: Miguel Alguero, J. Marty Gregg, Liliana Mitoseriu (cap. 15) <i>Nanostructured barium titanate ceramics: intrinsic vs. extrinsic size effects</i> , autori: Liliana Mitoseriu, Lavinia P. Curecheriu pag. 473-501				
2) CATEGORIA REZULTATULUI (conform art. 74, O.G. 57/2002)	Rezultat final	Rezultate ⁵ intermediare	CARACTERISTICI ALE REZULTATULUI FINAL		
2.1 documentații, studii, lucrări	1	<input type="checkbox"/>	The presented chapter shows a compressive presentation of the size effects (intrinsic vs. extrinsic) investigation in nanostructured barium titanate ceramics.		
2.2 planuri, scheme	<input type="checkbox"/>	<input type="checkbox"/>			
2.3 tehnologii	<input type="checkbox"/>	<input type="checkbox"/>			
2.4 procedee, metode	<input type="checkbox"/>	<input type="checkbox"/>			
2.5 produse informatice	<input type="checkbox"/>	<input type="checkbox"/>			
2.6 rețete, formule	<input type="checkbox"/>	<input type="checkbox"/>			
2.7 obiecte fizice / produse	<input type="checkbox"/>	<input type="checkbox"/>			
2.8 brevet invenție / altele asemenea	<input type="checkbox"/>	<input type="checkbox"/>			
3) STADIUL DE DEZVOLTARE	3.1 soluție/ model conceptual	<input type="checkbox"/>	<div style="text-align: center;"> <p>15</p> <p>Nanostructured Barium Titanate Ceramics: Intrinsic versus Extrinsic Size Effects</p> <p><small>Liliana Mitoseriu and Lavinia P. Curecheriu</small></p> <p><small>Publicat în: Ferroelectrics and Related Materials, Springer</small></p> </div>		
	3.2 model experimental/	<input type="checkbox"/>			

¹ denumirea persoanei juridice executante (persoană juridică executantă este considerată persoana juridică care a obținut rezultatele cercetării, în mod nemijlocit, conform art. 74 alin. (3) din O.G. nr. 57/2002)

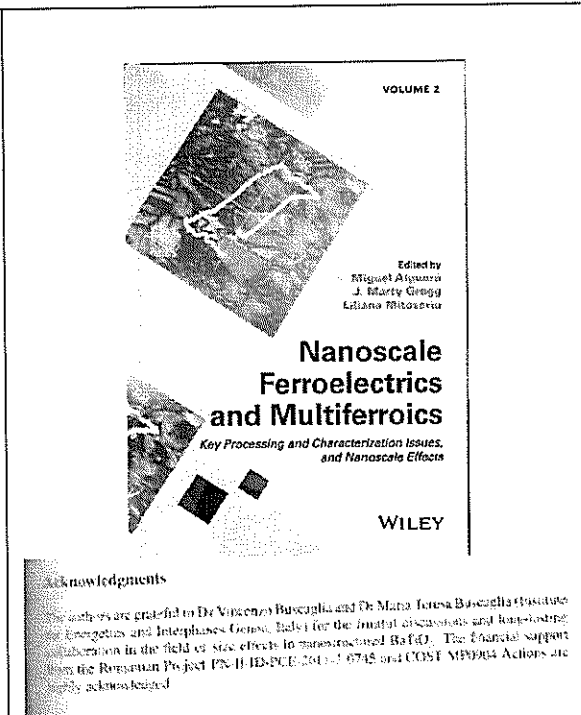
² se completează o singură dată, la 30 de zile de la data aprobării raportului de activitate al proiectului de cercetare-dezvoltare

³ se completează denumirea partenerilor la proiectul de cercetare-dezvoltare care au contribuit la obținerea rezultatului

⁴ se trece denumirea rezultatului cercetării (nu se trece denumirea proiectului)

⁵ se trec rezultatele cercetării din etapele intermediare ale proiectului de cercetare-dezvoltare care pot fi utilizate / valorificate independent de includerea în rezultatul final

4) DOMENIUL DE CERCETARE	funcțional		
	3.3 prototip	<input type="checkbox"/>	
	3.4 instalație pilot sau echivalent	<input type="checkbox"/>	
	3.5 altele	x	
	4.1 tehnologiile societății informaționale	<input type="checkbox"/>	
	4.2 energie	<input type="checkbox"/>	
	4.3 mediu	<input type="checkbox"/>	
	4.4 sănătate	<input type="checkbox"/>	
	4.5 agricultură, securitatea și siguranța alimentară	<input type="checkbox"/>	
	4.6 biotehnologii	<input type="checkbox"/>	
5) DOMENII DE APLICABILITATE ⁶	72 ; <input type="checkbox"/> <input type="checkbox"/> ; <input type="checkbox"/> <input type="checkbox"/>		
	6.1 produs nou	<input type="checkbox"/>	
	6.2 produs modernizat	<input type="checkbox"/>	
	6.3 tehnologie nouă	<input type="checkbox"/>	
	6.4 tehnologie modernizată	<input type="checkbox"/>	
	6.5 serviciu nou	<input type="checkbox"/>	
	6.6 serviciu modernizat	<input type="checkbox"/>	
6) CARACTERUL INOVATIV	6.7 altele	x	
 ⁷		
	INFORMAȚII PRIVIND PROPRIETATEA INTELECTUALĂ		
	documentație tehnico-economică	<input type="checkbox"/>	
	cerere înregistrare brevet de invenție	<input type="checkbox"/>	nr. data
	brevet de invenție înregistrate (național, european, internațional)	<input type="checkbox"/>	nr. data
	cerere înregistrare modele și desene industriale protejate	<input type="checkbox"/>	nr. data
modele și desene industriale protejate înregistrate (național, european, internațional)	<input type="checkbox"/>	nr. data	



⁶ conform CAEN 2008, 2 cifre

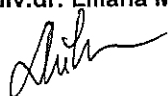
⁷ justificare (se explică, în maximum 100 caractere, în ce constă noutatea)

cerere înregistrare marcă înregistrată	<input type="checkbox"/>	nr. data
mărci înregistrate (național, european, internațional)	<input type="checkbox"/>	nr. data
cerere înregistrare copyright	<input type="checkbox"/>	nr. data
înregistrare copyright (național, european, internațional)	<input type="checkbox"/>	nr. data
cerere înregistrare: rețele, indicații geografice, specii vegetale și animale, etc.	<input type="checkbox"/>	nr. data
înregistrare: rețele, indicații geografice, specii vegetale și animale, etc. (național, european, internațional)	<input type="checkbox"/>	nr. data

TABEL NR. 2⁸

7) ⁹ VALORIFICAREA REZULTATELOR CERCETĂRII								
8) DENUMIREA REZULTATULUI DE CERCETARE ¹⁰								
NR. CRT.	VALOAREA DE LA CARE ÎNCEPE NEGOCIEREA	PROCES VERBAL ¹¹ NR./DATA	MOD DE VALORIFICARE ¹²	ACTUL ¹³ PRIN CARE S-A REALIZAT VALORIFICAREA	VALOAREA NEGOCIATĂ ¹⁴	BENEFICIAR ¹⁵	IMPACT ¹⁶	PERSOANE AUTORIZATE ¹⁷
0	1	2	3	5	6	7	8	9
1	NA		Capitol de carte		NA	Universitatea Alexandru Ioan Cuza din Iași		Prof.univ.dr. Liliana Mitoșeriu
2								
3								

Director de proiect,
Prof.univ.dr. Liliana Mitoșeriu



⁸ se completează în termen de 10 zile de la data finalizării activităților de valorificare a rezultatului cercetării

⁹ se actualizează pentru fiecare acțiune de valorificare a rezultatului cercetării

¹⁰ se va trece denumirea rezultatului final sau, după caz, a rezultatului(lor) intermediar(e)

¹¹ se vor trece numărul și data la care a fost încheiat procesul verbal al comisiei constituite la nivelul persoanei juridice executante care a stabilit valoarea de la care începe negocierea și se precizează codul procedurii specifice, aprobată la nivelul organului cu atribuții de conducere (ex. consiliul de administrație), în baza căreia se realizează valorificarea rezultatelor obținute în urma activităților de cercetare-dezvoltare, cu respectarea reglementărilor legale în vigoare;

¹² vânzare produs/tehnologie; furnizare servicii; închiriere, concesiune, preluare în producția proprie, transmitere cu titlu gratuit; transfer drepturi de proprietate intelectuală;

¹³ se va trece nr. și data semnării actului (ex. contract) prin care s-a realizat valorificarea rezultatului cercetării;

¹⁴ valoarea rezultatelor cercetării este stabilită la prețul negociat între părți.

¹⁵ se completează denumirea beneficiarului care preia rezultatul cercetării (date de contact operator economic, adresă, oraș, județ, telefon, fax, e-mail, website)

¹⁶ se vor completa efectele (economice, sociale, de mediu) obținute la beneficiar asociate aplicării rezultatelor cercetării, anual, pentru o perioadă de 5 ani

¹⁷ numele și semnătura persoanei autorizate să completeze fișa de evidență și al persoanei din cadrul compartimentului financiar-contabil responsabil cu verificarea datelor.

118-3 / 2016

FIȘA DE EVIDENȚĂ Nr..... a rezultatelor activităților de cercetare-dezvoltare						TABEL NR. 1 ²
DENUMIREA PROIECTULUI	Design de material, preparare, proprietati si modelare de structuri multifunctionale oxidice pentru microelectronica si noi aplicatii in stocare de energie			CATEGORIA DE PROIECT: PN-II-ID-PCE		
CONTRACT DE FINANȚARE	NR 270 DATA 5.10.2011	DURATA CONTRACT	60 LUNI	ACRONIM PROGRAM	MULTIFOX	
VALOAREA PROIECTULUI (INCLUDE ȘI ALTE SURSE)	1.500.000 LEI	VALOAREA CONTRACTULUI DE FINANȚARE (BUGET DE STAT)			1.500.000 LEI	
REZULTATELE CERCETĂRII APARTIN	1 Universitatea Alexandru Ioan Cuza din Iași. ³ 2			CONFORM ART. 65 DIN CONTRACTUL NR. 270 DATA 5.10.2011		

1) DENUMIRE REZULTAT ⁴	Rezultat final	Rezultate ⁵ intermediare	CARACTERISTICI ALE REZULTATULUI FINAL	
2) CATEGORIA REZULTATULUI (conform art. 74, O.G. 57/2002)				
2.1 documentații, studii, lucrări	25	<input type="checkbox"/>	Articole ISI: The nonlinear dielectric properties of BiFeO ₃ ceramics as a function of temperature were investigated. The present results demonstrate a high dielectric tunability in quite low range of the bias electric fields over a broad temperature interval around the room temperature. The nonlinear permittivity-field response results from multiple contributions, whose weights are different at various temperatures and in different field ranges.	APPLIED PHYSICS LETTERS 99, 172604 (2011) Non-linear dielectric properties of BiFeO ₃ ceramics Lavinia Curocheriu, ^{1,2*} Felicia Gheorghiu, ¹ Adalina Ianculescu ² and Liliana Mitosariu ^{1,2*} ¹ Department of Physics, A. I. Cuza University, 11 Blvd. Carol I, 700506 Iasi, Romania ² Department of Dielectric Materials Science and Engineering, Polytechnic University of Bucharest, 1-7 Gh. Politei, P.O. Box 12-134, 011061 Bucharest, Romania *Received 25 July 2011; accepted 27 September 2011; published online 26 October 2011
2.2 planuri, scheme	<input type="checkbox"/>	<input type="checkbox"/>		
2.3 tehnologii	<input type="checkbox"/>	<input type="checkbox"/>		
2.4 procedee, metode	<input type="checkbox"/>	<input type="checkbox"/>		
2.5 produse informatice	<input type="checkbox"/>	<input type="checkbox"/>		
2.6 rețete, formule	<input type="checkbox"/>	<input type="checkbox"/>		
2.7 obiecte fizice / produse	<input type="checkbox"/>	<input type="checkbox"/>		
2.8 brevet invenție / altele asemenea	<input type="checkbox"/>	<input type="checkbox"/>		
3) STADIUL DE DEZVOLTARE	3.1 soluție/ model conceptual	<input type="checkbox"/>		
	3.2 model experimental/ funcțional	<input type="checkbox"/>		
	3.3 prototip	<input type="checkbox"/>		
	3.4 instalație pilot sau echivalent	<input type="checkbox"/>		

¹ denumirea persoanei juridice executante (persoană juridică executantă este considerată persoana juridică care a obținut rezultatele cercetării, în mod nemijlocit, conform art. 74 alin. (3) din O.G. nr. 57/2002)

² se completează o singură dată, la 30 de zile de la data aprobării raportului de activitate al proiectului de cercetare-dezvoltare

³ se completează denumirea partenerilor la proiectul de cercetare-dezvoltare care au contribuit la obținerea rezultatului

⁴ se trece denumirea rezultatului cercetării (nu se trece denumirea proiectului)

⁵ se trec rezultatele cercetării din etapele intermediare ale proiectului de cercetare-dezvoltare care pot fi utilizate / valorificate independent de includerea în rezultatul final

	3.5 altele	x
4) DOMENIUL DE CERCETARE	4.1 tehnologiile societății informaționale	<input type="checkbox"/>
	4.2 energie	<input type="checkbox"/>
	4.3 mediu	<input type="checkbox"/>
	4.4 sănătate	<input type="checkbox"/>
	4.5 agricultură, securitatea și siguranța alimentară	<input type="checkbox"/>
	4.6 biotehnologii	<input type="checkbox"/>
	4.7 materiale, procese și produse inovative	x
	4.8 spațiu și securitate	<input type="checkbox"/>
	4.9 cercetări socio-economice și umaniste	<input type="checkbox"/>
5) DOMENII DE APLICABILITATE ⁶	72 ; <input type="checkbox"/> <input type="checkbox"/> ; <input type="checkbox"/> <input type="checkbox"/>	

In this study we reported for the first time the magnetic and dielectric properties of the quaternary layered ferrite Ba₁₂Fe₂₈Ti₁₅O₈₄.

Single phase and dense BaTi_{1-x}Zr_xO₃ (BTZ) ceramics (x = 0.10, 0.15 and 0.20) were obtained from nanopowders synthesised by a modified Pechini method. The evolution of Raman spectra and low-field dielectric properties against temperature indicated the occurrence of diffuse ferroelectric–paraelectric transitions. The evolution of first-order reversal curves (FORC) diagrams emphasised the crossover from the ferroelectric towards the relaxor state as the Zr content increased.

A systematic investigation of low-field dielectric properties, dielectric relaxation in a large frequency range including GHz, nonlinear properties P(E) and tunability of dense BaTiO₃ with grain size between 936 and 92 nm is presented.

BaSn_xTi_{1-x}O₃ ceramics (x=0, 0.05, 0.10, 0.15 and 0.20) were investigated by a combined approach: analysis of field-induced dielectric and ferroelectric properties (tunability, FORC diagram) and Raman spectroscopy.

REVIEWS: 10
 JOURNAL PAGES: 10
 E-PHY: 10
 JOURNAL PAGES: 10

Magnetic and dielectric properties of Ba₁₂Fe₂₈Ti₁₅O₈₄ layered ferrite ceramics

J. P. Curcheriu¹, M. T. Bucegla², A. C. Ianculescu¹, R. C. Fritza¹, I. V. Ciadul¹, A. Neagu¹, G. Apostol¹, A. Bassano², G. Cana², P. Postolache¹, L. Mitoseriu^{1,2} and V. Bucegla^{2*}

Available online at www.sciencedirect.com
 ScienceDirect
 Journal of the European Ceramic Society 33 (2012) 1151–1160
 www.elsevier.com/locate/jeurceramsoc

ELSEVIER

Investigation of the composition-dependent properties of BaTi_{1-x}Zr_xO₃ ceramics prepared by the modified Pechini method

Marco Deluca^{a,b}, Catalina A. Vasilescu^c, Adelina C. Ianculescu^{a,c}, Daniela C. Berger^a, Cristina E. Ciomaga^a, Lavinia P. Curcheriu^b, Laurentiu Stoleriu^b, Andreia Gujovic^a, Liliana Mitoseriu^{a,c}, Carmen Galassi^d

Journal of Applied Physics 111, 044102 (2012)

Grain Size-Dependent Properties of Dense Nanocrystalline Barium Titanate Ceramics

Lavinia Curcheriu,^{1,2} Dorin-Bogdan Băimăș,^{1,2} Maria Teresa Bucegla,³ Vincenzo Bucegla,^{2,4} Adelina Ianculescu,¹ and Liliana Mitoseriu^{1,2}

JOURNAL OF APPLIED PHYSICS 111, 044102 (2012)

High-field dielectric properties and Raman spectroscopic investigation of the ferroelectric-to-relaxor crossover in BaSn_xTi_{1-x}O₃ ceramics

Marco Deluca,^{1,2*} Laurentiu Stoleriu,² Lavinia Petronela Curcheriu,² Nadajda Horchidan,² Adelina Carmen Ianculescu,¹ Carmen Galassi,³ and Liliana Mitoseriu^{1,2}

⁶ conform CAEN 2008, 2 cifre

The role of the GS reduction on tunability of nanostructured BaTiO₃ ceramics was studied. When reducing GS to nanoscale, a decrease of permittivity and tunability and a tendency to linearization of permittivity vs field dependence, are observed. The model successfully explains the trends of experimentally observed tunability responses.

A method to control the permittivity and tunability in composite materials formed by conductive nanoparticles embedded in a flexible nonlinear dielectric matrix is proposed. The paper demonstrates the concept of engineered local fields in nanocomposites by using metallic nanoparticles as fillers in polymer matrix for tailoring the permittivity and tunability values.

BaCe_xTi_{1-x}O₃ (x=0.06, 0.10, 0.20) solid solutions were prepared via conventional solid-state reaction. A transformation from normal to relaxor ferroelectrics was observed by increasing Ce concentration. For low-Ce content, a substitution of Ce on both A and B site positions was proposed.

Bi₂Fe₄O₉ particles with different micro/nanostructures with a few particular morphologies (flower-like nanoplatelets, hierarchical microstructures, square platelets single crystals, etc.) obtained under specific hydrothermal synthesis conditions were investigated. The role of the processing parameters was investigated.

As result of the compositional gradient, a PZT-EPR permittivity graded thick film structure was realized,

Field-dependent permittivity in nanostructured BaTiO₃ ceramics: Modeling and experimental verification

Leontin Padurariu,^{1,*} Lavinia Curecheriu,¹ Vincenzo Buscaglia,² and Liliana Mitoseriu¹
¹Department of Physics, Alexandru Ioan Cuza University, 11 Bv. Carol I, 700506 Iasi, Romania
²Institute for Energetics & Interphases IENI-CNR, Via de Marini 6, Genova, I-16149, Italy
(Received 24 January 2012; revised manuscript received 3 May 2012; published 20 June 2012)

Tunable gold-chitosan nanocomposites by local field engineering

Ana Cazacu,^{1,2} Lavinia Curecheriu,^{1,3} Alexandra Neagu,¹ Leontin Padurariu,¹
Adnan Cornescu,³ Isabella Lisiecki,⁴ and Liliana Mitoseriu^{1,5}
¹Department of Physics, A.I. Cuza University, Bd. Carol I, No. 11, Iasi 700506, Romania
²Department of Chemical and Processing Engineering, University of Genova, via Doria, 5, I-10126 Genova, Italy
³Max-Planck-Institute of Quantum Optics, Am Coulombwall 1, D-85748 Garching, Germany
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Investigation of the ferroelectric-relaxor crossover in Ce-doped BaTiO₃ ceramics by impedance spectroscopy and Raman study

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Preparation of Bi₂Fe₄O₉ particles by hydrothermal synthesis and functional properties

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with effective permittivity dependent on the total PZT filler composition and on the compositional gradient along the thickness. The role of the PZT filler composition and of the composition gradient values on the effective dielectric properties was theoretically investigated by Finite Element Method.

In the present study, the electrical properties of BiFeO₃ ceramic specimens prepared by solid-state sintering method by using two thermal treatment strategies are comparatively investigated. The room temperature XRD pattern shows perovskite single-phase, in the limit of XRD accuracy, for BiFeO₃ ceramic prepared by single-step method. For two-step sintering method sample small amounts of secondary Bi₂Fe₄O₉ phases were identified. The most interesting feature is the conduction anomaly observed on the conductivity in the low-frequency range close to dc-conductivity.

In this study, we report for the first time on the Raman spectrum of BFT samples prepared with different methods. Raman spectra were recorded in dependence of temperature and a preliminary assignment of modes was attempted. Coupling the Raman results with previous magnetic studies allowed gaining more insight on the structural mechanism at play in correspondence of the main magnetic transition.

The preparation and properties of compositionally graded PbTiO₃ (PT) – epoxy resin (EPR) composite thick films are reported in this study. Various graded specimens were prepared using gravity casting method by embedding PT powders into the EPR matrix. The existence of a graded structure with two distinct phases, a good intermixing, some air pores, and different morphologies, was confirmed by scanning electron microscopy micrographs. Therefore, the compositionally graded PT–EPR composite thick films are suitable as adapting

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Review
Dielectric properties of PZT–epoxy composite thick films
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Preparation and functional characterization of BiFeO₃ ceramics: A comparative study of the dielectric properties
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Phase Transitions, 2013
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Raman spectroscopic study of layered quaternary ferrite Ba₁₂Fe₂₈Ti₁₆O₈₄
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Preparation and characterization of PbTiO₃–epoxy resin compositionally graded thick films
Vasilica Pascariu^{a,b*}, Ovidiu Avadaneu^a, Paul Gasner^c, Juliana Stoica^c, Andrea P. Reverberi^d and Liliana Mitoseriu^a

impedance materials for microwave applications.

Anisotropic porous $\text{Pb}(\text{Zr,Ti})\text{O}_3$ ceramics with various porosity degrees have been studied in order to determine the role of the pore shape and orientation on the low-field dielectric properties. Taking into consideration the shape and orientation of the pore inclusions, the dielectric properties of porous ceramics have been described by using adapted mixing rules models. The finite element method (FEM) was additionally used to simulate the dielectric response of the porous composites under various applied fields. The general case of Wiener bounds limited well the dielectric properties of anisotropic porous composites in case of parallel orientation. Among the theoretical approaches, FEM technique allowed to simulate the distribution of potential and electric field inside composites and provided a very good agreement between the computed permittivity values and experimental ones.

Permittivity, tunability, and ferroelectric properties can be tailored to meet specific requirements for applications by combining ferroelectric (BaTiO_3 -BT) and antiferroelectric ($\text{La}_{0.04}\text{Pb}_{0.96}\text{Ti}_{0.1}\text{Zr}_{0.9}\text{O}_3$ -PLZT) and by exploiting interdiffusion and grain size effects at nanoscale. The dielectric properties, dc-tunability, and $P(E)$ loops of ferroelectric-antiferroelectric nanostructured composites produced from mechanically mixed powders (PLZT-BT) and from core-shell particles (PLZT@BT) were comparatively analyzed. Interdiffusion accompanied by local composition gradients occurred during sintering of PLZT@BT composites and caused a thermally stable permittivity.

Composite thick films BaTiO_3 -chitosan (1% and 10%) were prepared. Tunability showed a remarkable increase with increasing BaTiO_3 addition by comparison with pure chitosan. The presence of ferroelectric particles into the chitosan matrix plays a

Investigation of low field dielectric properties of anisotropic porous $\text{Pb}(\text{Zr,Ti})\text{O}_3$ ceramics: Experiment and modeling

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Design tunable materials: Ferroelectric-antiferroelectric composite with core-shell structure

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twofold role in increasing tunability: (i) increase the values of local fields in the polymer matrix by local field engineering, (ii) contribute with its own tunability to increase the field-variation of the effective permittivity. The present results show a simple approach for generating tunable flexible structures.

Ceramic composites based on yttrium iron garnet (YIG) and barium titanate (BT) were prepared by two sol-gel methods and a coprecipitation route. The impact of processing routes on dielectric and magnetic properties was investigated. X-ray diffraction (XRD) data combined with scanning electron microscopy (SEM) observations reveal the presence of both components and a good dispersion of YIG particles into the BT matrix. Ferrimagnetic behavior is observed in all composites, regardless of the preparation method. Ferroelectricity at room temperature was confirmed by Raman spectroscopy and dielectric measurements only in composites prepared by coprecipitation.

The paper presents a complex study of the effect of Mg substitution on the functional properties of Niferrite ceramics prepared by self-combustion sol-gel method.

The preparation, structural, microstructural, dielectric, and low temperature magnetic properties of $Mg_xNi_{1-x}Fe_2O_4$ ($x = 0, 0.17, 0.34, 0.50, 0.66, 0.83, 1$) ferrites synthesized by using a self-combustion sol-gel method is presented.

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Impedance analysis and tunability of BaTiO₃-chitosan composites: Towards active dielectrics for flexible electronics

Alexandra Maria Neagu^a, Lavinia Petronela Curocheriu^{a,*}, Ana Cazacu^b, Liliana Mitoseriu^{a,c}

Int. J. Appl. Ceram. Technol., 11 (2), 122–140 (2014)
DOI: 10.1016/j.iapct.2014.02.001

Characterization of Yttrium Iron Garnet/Barium Titanate Multiferroic Composites Prepared by Sol-Gel and Coprecipitation Methods

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J Mater Sci
DOI 10.1007/s10853-014-8013-0

Investigation of the functional properties of Mg_xNi_{1-x}Fe₂O₄ ceramics



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L. Curocheriu^a, F. Todorache^a, S. Tiescu^a,
A. R. Jordan^a, N. M. Palamaru^a, L. Mitoseriu^a

The behavior of three $x\text{BaTiO}_3-(1-x)\text{Ni}_0.5\text{Zn}_0.5\text{Fe}_2\text{O}_4$ composites ($x = 0.50, 0.60$ and 0.70 M ratios) were studied using the broadband dielectric spectroscopy methods in the broad frequency and temperature ranges. $x = 0.70$ composition clearly exhibits similar dielectric response to that of pure barium titanate, while the response of the composite with the highest concentration of nickel-zinc ferrite is largely influenced by the conductivity, especially at the highest temperatures and lowest frequencies.

The addition of small amounts (below 0.1 wt. %) of multi-walled carbon nanotubes (MWCNTs) to $\text{Pb}(\text{Zr}_{0.47}\text{Ti}_{0.53})\text{O}_3$ (PZT) ceramics prepared by spark plasma sintering is proposed as a method of tailoring the electrical properties, which are expected to be modified with respect to the pure PZT, both as result of the presence of 1-D conductive fillers in the ceramic product and via the microstructural modifications of ceramics induced during the sintering.

The results of dielectric and anelastic spectroscopy measurements, together with X-ray diffraction investigations are shown. A more precise phase diagram of $(\text{PLZT } x/90/10)$ in the compositional range around the AFE/FE phase boundary ($0 < x < 0.04$) was proposed.

A study of BTS solid solutions ($x = 0-0.20$) by a combined field-induced dielectric and ferroelectric analysis with Raman and PFM investigations was realized. The composition-induced modification of the structural phase transitions and ferroelectric-relaxor crossover induced by the increase of Sn addition was observed.

		<p>Perovskite $Pb_{1-x}La_x(Zr_{0.9}Ti_{0.1})_{1-x}/4O_3$ dense ceramics with compositions across the FE-AFE boundary ($x = 0.020, 0.030, 0.031, 0.032, 0.033, 0.035, 0.380, 0.040$ mol.%) were investigated. The effect of La^{3+} content on the structural, microstructural characteristics and room temperature functional properties was studied.</p> <p>Polarization switching behavior and energy storage performances of $(Pb_{1-x}La_x)(Zr_{0.9}Ti_{0.1})_{1-x}/4O_3$ (PLZT$_x/90/10$) ceramics with La compositions across the ferroelectric /antiferroelectric phase boundary, which show variable amount of antiferroelectric (AFE) orthorhombic and ferroelectric (FE) rhombohedral phases, were investigated.</p>	  <p>Available online at www.elsevier.com/locate/jalcom</p> <p>ScienceDirect</p> <p>Journal of Alloys and Compounds</p> <p>Multiscale study of ferroelectric-relaxor crossover in $BaSn_2Ti_{1-x}O_3$ ceramics</p> <p>N. Hrochidou^{a,*}, A.C. Ianculescu^{b,c,d}, C.A. Vasilescu^b, M. Deluca^b, V. Mustata^c, H. Ursic^{e,f}, R. Frunza^a, B. Matic^g, L. Mitoseanu^{h,i}</p> <p>Preparation and properties of La doped PZT 90/10 ceramics across the ferroelectric-antiferroelectric phase boundary</p> <p>I.V. Ciuchii^{a,*}, F. Crociua^a, L. Mitoseanu^a, C. Galassi^b</p> <p>Antiferroelectric to Ferroelectric Crossover and Energy Storage Properties of $(Pb_{1-x}La_x)(Zr_{0.9}Ti_{0.1})_{1-x}/4O_3$ ($0.02 \leq x \leq 0.04$) Ceramics</p>
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	6.6 serviciu modernizat	<input type="checkbox"/>
	6.7 altele	<input checked="" type="checkbox"/>

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TABEL NR. 2⁸

7) VALORIFICAREA REZULTATELOR CERCETĂRII								
8) DENUMIREA REZULTATULUI DE CERCETARE								
NR CRT.	VALOAREA DE LA CARE ÎNCEPE NEGOCIEREA	PROCES VERBAL ¹¹ NR./DATA	MOD DE VALORIFICARE ¹²	ACTUL ¹³ PRIN CARE S-A REALIZAT VALORIFICAREA	VALOAREA NEGOCIATĂ ¹⁴	BENEFICIAR ¹⁵	IMPACT ¹⁶	PERSOANE AUTORIZATE ¹⁷
0	1	2	3	5	6	7	8	9
1	NA		Publicații științifice		NA	Universitatea Alexandru Ioan Cuza din Iași		Prof.univ.dr. Liliana Mitoșeriu
2								
3								

Director de proiect,
Prof.univ.dr. Liliana Mitoșeriu



⁸ se completează în termen de 10 zile de la data finalizării activităților de valorificare a rezultatului cercetării

⁹ se actualizează pentru fiecare acțiune de valorificare a rezultatului cercetării

¹⁰ se va trece denumirea rezultatului final sau, după caz, a rezultatului(lor) intermediar(e)

¹¹ se vor trece numărul și data la care a fost încheiat procesul verbal al comisiei constituite la nivelul persoanei juridice executante care a stabilit valoarea de la care începe negocierea și se precizează codul procedurii specifice, aprobată la nivelul organului cu atribuții de conducere (ex. consiliul de administrație), în baza căreia se realizează valorificarea rezultatelor obținute în urma activităților de cercetare-dezvoltare, cu respectarea reglementărilor legale în vigoare;

¹² vânzare produs/tehnologie; furnizare servicii; închiriere, concesiune, preluare în producția proprie, transmitere cu titlu gratuit; transfer drepturi de proprietate intelectuală;

¹³ se va trece nr. și data semnării actului (ex. contract) prin care s-a realizat valorificarea rezultatului cercetării;

¹⁴ valoarea rezultatelor cercetării este stabilită la prețul negociat între părți.

¹⁵ se completează denumirea beneficiarului care preia rezultatul cercetării (date de contact operator economic, adresă, oraș, județ, telefon, fax, e-mail, website)

¹⁶ se vor completa efectele (economice, sociale, de mediu) obținute la beneficiar asociate aplicării rezultatelor cercetării, anual, pentru o perioadă de 5 ani

¹⁷ numele și semnătura persoanei autorizate să completeze fișa de evidență și al persoanei din cadrul compartimentului financiar-contabil responsabil cu verificarea datelor.