

Rezultatele activității de Cercetare Dezvoltare

7.1. Lucrări științifice/tehnice publicate în reviste de specialitate cotate ISI

7.2. Factor de impact cumulat al lucrarilor cotate ISI:

7.3. Citări în reviste de specialitate cotate ISI:

7.4. Brevete de invenție (solicitate/acodate)

7.1. Lucrări științifice/tehnice publicate în reviste de specialitate cotate ISI (titlul, revista, autori)

1. **"6.3 GHz Film Bulk Acoustic Resonator Structures Based on a Gallium Nitride/Silicon Thin Membrane"**, Alexandru Müller, Dan Neculoiu, George Konstantinidis, Antonis Stavriniadis, Dan Vasilache, Alina Cismaru, Mihai Danila, Mircea Dragoman, George Deligeorgis and Katerina Tsagaraki, **IEEE Electron Devices Letters**, Vol 30, pp. 799–801, 2009, (impact factor 3.049).
2. **"AlN on Silicon Based Surface Acoustic Wave Resonators Operating at 5 GHz"**, D. Neculoiu, A. Müller, G. Deligeorgis, A. Dinescu, A. Stavriniadis, D. Vasilache, A. Cismaru, G. E. Stan and G. Konstantinidis, **Electronics Letters** **45**, pp. 1196–1197, 2009, (impact factor 1.140).
3. **"Current Oscillations in a Wide Graphene Sheet"**, M. Dragoman, D. Dragoman, G. Deligeorgis, G. Konstantinidis, D. Neculoiu, A. Cismaru and R. Plana, **Journal Applied Physics** **106**, 044312, 2009 (impact factor 2.201).
4. **"GaN Membrane-Supported UV Photodetectors Manufactured Using Nanolithographic Processes"**, A. Muller, G. Konstantinidis, M. Dragoman, D. Neculoiu, A. Dinescu, M. Andrulidaki, M. Kayambaki, A. Stavriniadis, D. Vasilache, C. Buiculescu, I. Petrini, A. Kostopoulos, D. Dascalu, **Microelectronics Journal**, 40, pp. 319–321 2009 (impact factor 0.859).
5. **"Graphene-Based Quantum Electronics"**, M. Dragoman, D. Dragoman, **Progress in Quantum Electronics**, **33**, 2009, pp. 165–214 (impact factor 4.750).
6. **"Growth Dynamics of Pulsed-Laser-Deposited AlN Thin Films"**, S. Bakalova, A. Szekeres, A. Cziraki, S. Grigorescu, G. Socol, E. Axente, C. Ristoscu, I. N. Mihailescu, R. Gavrilă, **Journal of Optoelectronics and Advanced Materials**, **11(10)**, pp. 1170–1174, 2009 (impact factor 0.224).
7. **"Involvement of Cyan and Ester Groups in Surface Interactions of Aerosil - Cyanophenyl Alkyl Benzoate Systems With High Silica Density. Infrared Investigations"**, Ligia Frunza, Stefan Frunza, Irina Zgura, Traian Beica, Nicoleta Gheorghe, Paul Ganea, Daniel Stoenescu, Adrian Dinescu, Andreas Schönhals, **Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy**, 2009, doi:10.1016/j.saa.2009.12.029 (impact factor 1.510).
8. **"Metallic-Semiconductor Nanosystem Assembly for Miniaturized Fuel Cell Applications"**, Mihaela Miu, Mihai Danila, Teodora Ignat, Florea Craciunoiu, Irina Kleps, Monica Simion, Adina Bragaru, Adrian Dinescu, **Superlattices and Microstructures**, Vol. 46, pp. 291–296, 2009, (impact factor 1.211).
9. **"Microfluidic Device for Continuous Magnetophoretic Separation of White Blood Cells"**, Ciprian Iliescu, Guolin Xu, Elena Barbarini, Marioara Avram and Andrei Avram, **Microsystem Technologies**, Vol.15, pp.1157–1162, 2009, (impact factor 1.229).
10. **"Micromagnetic Simulations on Detection of Magnetic Labelled Biomolecules Using MR Sensors"**, Marius Volmer, Marioara Avram, **Journal of Magnetism and Magnetic Materials**, 321, pp.1683–1685, 2009, (impact factor 1.283).
11. **"Microring Resonators With Enhanced Tolerance to Fabrication Misalignments"**, Dimitris Alexandropoulos, Hercules Simos, Mihai Kusko, Dana Cristea, Dimitris Syvridis, Nikos A. Vainos, **Journal Optics A: Pure Applied Optics** **11**, 125401, 2009 (impact factor 1.742).
12. **"Microwave Propagation in Graphene"**, G. Deligeorgis, M. Dragoman, D. Neculoiu, D. Dragoman, G. Konstantinidis, A. Cismaru, and R. Plana, **Applied Physics Letters** **95**, 073107, 2009 (impact factor. 3.726).
13. **"Microwave Switches Based on Graphene"**, M. Dragoman, D. Dragoman, F. Cocetti, R. Plana, A.A. Muller, **Journal Applied Physics**, **105**, 054309, 2009 (impact factor 2.201).
14. **"Millimeter Wave Power Sensing Using Micro and Nanoelectromechanical Systems"**, D. Dragoman, M. Dragoman, R. Plana, **Journal Applied Physics** **105**, 014505, 2009 (impact factor 2.201).
15. **"Multiple Negative Differential Resistances in Crossed Carbon Nanotubes"**, M.Al. Ahmad, D. Dragoman, M. Dragoman, R. Plana, J-H. Ting, F.-Y Huang and T.-L Li, **Journal Applied Physics** **105**, 114303, 2009 (impact factor 2.201).

16. "Nanostructured Au/Si Substrate for Organic Molecule SERS Detection", Teodora Ignat, Roberto Munoz, Kleps Irina, Isabel Obieta, Miu Mihaela, Monica Simion, Mircea Iovu, **Superlattices and Microstructures**, Vol. 46, pp. 451–460, 2009 (impact factor 1.211).
17. "Porous Silicon Used as Support for Protein Microarray", M. Simion, L. Ruta, C. Mihailescu, I. Kleps, A. Bragaru, M. Miu, T. Ignat, Ion Baci, **Superlattices and Microstructures**, Vol. 46, pp. 69–76 2009 (impact factor 1.211).
18. "Real-Time Detection of Deoxyribonucleic Acid Based Via Negative Differential Conductance Signature", D. Dragoman and M. Dragoman, **Physcal Review E** **80** ,022901, 2009 (impact factor 2.508).
19. "Recent Advances In NADH Electrochemical Sensing Design", A. Radoi, D. Compagnone, **Bioelectrochemistry**, 76, pp. 126–134, 2009, (impact factor 2.444).
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21. "Study of the Micro- and Nanostructured Silicon for Biosensing and Medical Applications", Irina Kleps, Mihaela Miu, Monica Simion, Teodora Ignat, Adina Bragaru, Florea Craciunoiu, and Mihai Danila, **Journal Biomedical Nanotechnology(JBN)** 5, pp. 300–309, 2009, (impact factor 0.989).
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23. "The Low Cost Multicrystalline Silicon Solar Cells", S. Burtescu, C. Parvulescu, F. Babarada, E. Manea, **Materials Science and Engineering B**, Vol. 165, pp.190–193, 2009 (impact factor 1.577).
24. "Writing Simple RF Electronic Devices on Paper With Carbon Nanotube Ink", M. Dragoman, E. Flahaut, D. Dragoman, M.Al. Ahmad, R. Plana, **Nanotechnology** **20**, 375203, 2009 (impact factor 3.446).
25. „Characterization of Self-Assembled Monolayers (SAMs) on Silicon Substrate Comparative With Polymer Substrate For Escherichia Coli O157:H7 Detection”, Carmen Moldovan, Carmen Mihailescu, Dana Stan, Lavinia Ruta, Rodica Iosub, Raluca Gavrila, Munizer Purica, Schiopu Vasilica, **Applied Surface Science**, 255, pp. 8953–8959, 2009 (impact factor 1.576).
26. „Optical microsensor with TCO electrodes for microposition detection applications”, Elena Budianu, Raluca Muller, Munizer Purica, Laura Eftime, Rousos Skarvelakis, George Kiriakidis, **Thin Solid Films**, Vol. 518, 1057, 2009 (impact factor 1.884).
27. „Physico-chemical and Structural Characterization of Corn Starch Modified by Combined Electron Beam with Microwave Treatment”, Nemtanu MR, Brasoveanu M, Martin D, Manaila E, Iovu H, Dinescu A, **Materiale Plastice**, Vol. 46, Issue 4, pp. 413-418, Published: DEC 2009 (impact factor 0.404).

7.2. Factor de impact cumulat al lucrarilor cotate ISI. 47.737

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1.	Title: <u>A hybrid ring coupler quasi-optical antenna-mixer</u> Author(s): Janin S, Sripimanwat K, Phongcharoenpanich C, et al.Source: AEU-INTERNATIONAL JOURNAL OF ELECTRONICS AND COMMUNICATIONS Volume: 63 Issue: 1 Pages: 36-45 Published: 2009	<u>A micromachined 38 GHz Schottky-diode uniplanar monolithic integrated quasi-optical mixer</u> Conference Information: IEEE RADIO FREQUENCY INTEGRATED CIRCUITS (RFIC) SYMPOSIUM, DIGEST OF PAPERS Pages: 531-534 Published: 2004 Author(s): <i>Neculoiu D, Bartolucci G, Konstantinidis G, Marcelli R, Petrini L, Dragoman M, Vasilache D, Muller A</i>
2.	Shah IA, Koekkoek AJJ, van Enckevort WJP, et al., <u>Influence of Additives on Alkaline Etching of Silicon(111)</u> , CRYSTAL GROWTH & DESIGN Volume: 9 Issue: 10 Pages: 4315-4323, OCT 2009	<u>Anisotropic etching of silicon in a complexant redox alkaline system</u> <i>Moldovan, C; Iosub, R; Dascalu, D, et al.,</i> , SENSORS AND ACTUATORS B-CHEMICAL , Volume: 58 Issue: 1-3 Pages: 438-449, 1999
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 5. RADIOFREQUENCY ELECTROMAGNETIC WAVE AND PARAMAGNETIC PARTICLE EFFECTS ON THE RED BLOOD CELLS Author(s): Nadejde C, Creanga DE, Goiceanu C.
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Author(s): Seyed-Dorraj MS, Daneshvar N, Aber S **GLOBAL NEST**

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Author(s): Bilgin V **JOURNAL OF ELECTRONIC MATERIALS** Volume: 38 Issue: 9 Pages: 1969-1978 Published: SEP 2009
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ZnO thin films on semiconductor substrate for large area photodetector applications

Authors: *Purica, M., Budianu, E.*, Rusu, E.

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7.4 Brevete de inventie (solicitate/acordate)

Cereri de brevete solicitate in 2009

	Titlul brevetului	Autori:	Nr Inregistrare OSIM/ data
1.	Material nanostructurat cu proprietati electrooptice	Gabriel Moagar-Poladian	A-00066/22.01.2009
2.	Senzor de camp electric	Gabriel Moagar-Poladian	A-00171/24.02.2009
3.	Structura de antena CRLH de microunde acordabila in frecventa prin varierea unui camp magnetic de polarizare	Gh. Ioan Sajin Florea Craciunoiu Muller Andrei Alina Cristina Bunea	A-00281/01.04.2009
4.	Metoda de acord controlat al frecventei de lucru a dispozitivelor de microunde cu celule CRLH (Composite RIGHT / Left Handed) prin polarizare magnetica ”.	Gh. Ioan Sajin Florea Craciunoiu Muller Andrei Alina Cristina Bunea	A-00282/01.04.2009
5.	Metoda pentru felierea plachetelor semiconductoare si dielectrice folosind radiatia laser.	Gabriel Moagar-Poladian	A-00404/27.05.2009
6.	Procedeu de selectie de fiabilitate a structurilor semiconductoare cu jonctiuni p-n pe accelerarea optica a generarii-recombinarii pe nivele adanci.	Lucian Galateanu Marius Bazu Virgil Ilian	A-00415 /02.06.2009

7.	Metoda de baleiaj controlat a caracteristicii de radiatie a antenelor de microunde cu celule CRLH (Composite Right / Left Handed) prin polarizare magnetica.	Gh. Ioan Sajin Florea Craciunoiu Muller Andrei Alina Cristina Bunea	A-00501 /30 .06.2009
8.	Micro-radiator microprocesat pe suprafata	Antonie Coraci, Eremia Iancu, Elena Manea, Catalin Parvulescu, Ioana Magdalena Stanca	TCI-1023704/ 21.08.2009
9.	Procedeu pentru calibrarea dilatarii termice a cantileverului in nanolitografia de tip "dip-pen" termic.	Gabriel Moagar-Poladian, Victor Moagar-Poladian	A-00687/07.09.2009
10.	Dispozitiv pentru prinderea si realizarea unui contact electric pe suprafata unei plachete de siliciu.	Cosmin Obreja, Elena Manea, Liliana Staicu	A-00940/17.11.2009
11.	Procedeu de realizare si replicare microrezonatoare optice in polimeri.	Paula Obreja, Elena Budianu, Dana Cristea, Mihai Kusko, Roxana Rebigan	A-01026/07.12.2009

Brevete acordate in 2009

	Titlul brevetului	Autori:	Nr si data publicarii
1.	Procedeu de realizare al unei fotodiode PIN pentru comunicatii prin fibre optice.	Ileana Cernica	BI 122468 30.06.2009
2.	Procedeu de obtinere a unor retele matriciale de microalveole pe substrat de sticla	Podaru Cecilia, Manea Elena, Cernica Ileana Viorica, Ciuciumiş Alina, Moldovan Carmen Aura,	BI 122451 30.06.2009
3.	Procedeu si echipament pentru masuratori conoscopice in straturi subtiri anizotrope optic	Gabriel Moagar-Poladian	BI 122379 30.04.2009
4.	Procedeu de realizare a unei microstructuri fotonice de detectie cu microcavitate optica	Manea Elena, Purica Munizer, Budianu Elena	BI 122387 30.04.2009
5.	Structura pentru managementul termic al circuitelor integrate si microsistemelor.	Gabriel Moagar-Poladian, Victor Moagar-Poladian	BI 122466 30.06.2009
6.	Procedeu de realizare a unui biosenzor integrat pe siliciu cu detectie optica, cu ghid de unda realizate din polimeri.	Raluca Muller, Obreja Paula, Dana Cristea, Manea Elena, Kusko Mihai	BI 122382 30.04.2009
7.	Structura pentru lipirea microsistemelor si a circuitelor integrate	Victor Moagar-Poladian, Gabriel Moagar-Poladian	BI 122467 30.06.2009
8.	Procedeu de realizare a unui tranzistor cu valva de spin	Kleps Irina, Avram Marioara, Angelescu Anca	BI 122168 30.01.2009
9.	Procedeu pentru realizarea dispozitivelor microfluidice .	Podaru Cecilia, Manea Elena, Coraci Antonie, Iancu Eremia, Moagar Poladian Victor	BI 122449 30.06.2009
10.	Procedeu de realizare a unui biochip cu functia de amplificare a unor fragmente specifice de ADN prin reactia polimerazica in lant	Kleps Irina, Crăciunoiu Florea, Angelescu Anca, Simion Monica Liliana, Ignat Teodora Magdalena, Miu Mihaiela Silvia, Bragaru Florentina Adina, Condac Eduard,	BI 122612 30.09.2009

11.	Procedeu de realizare a elementelor optice difractive binare cu contrast de faza.	Podaru Cecilia, Manea Elena, Kusko Mihai, Dumbrăvescu Nicolae	BI 122511 30.07.2009
12.	Procedeu de fabricatie a unei celule solare de inalta eficienta pe siliciu monocristalin.	Podaru Cecilia, Manea Elena, Coraci Antonie, Budianu Elena, Munizer Purica, Popescu Alina	BI 122515 30.09.2009