

Titlu proiect: Procedeu si instalatie pentru depunerea de straturi subtiri in regim de plasma pulsata cu grad ridicat de ionizare

Categoria de proiect: PNCDI II- parteneriate-Subprogram Proiecte colaborative de cercetare aplicativa

Contractul de finanțare: 174/2012

Manager proiect: Tiron Vasile

Lista rezultate

Nr. crt.	NUME AUTORI	TITLUL ARTICOLULUI/ CĂRȚII / COMUNICĂRII ȘTIINȚIFICE	REVISTA / VOLUMUL/EDITURA IN CARE A APARUT / CONFERINȚA LA CARE S-A COMUNICAT	ANUL PUBLICĂRII/ COMUNICĂRII
ARTICOLE ISI				
1	Minea T M, Costin C, Revel A, Lundin D and Caillault L	"Kinetics of plasma species in HiPIMS by particle modeling",	Surf. & Coat. Technol. 255 (2014) 52, doi:10.1016/j.surfcoat.2013.11.050	2014
2	COSTIN Claudiu, MINEA Tiberiu, POPA Gheorghe	"Electron transport in magnetrons by a posteriori Monte Carlo simulations"	PLASMA SOURCES SCIENCE & TECHNOLOGY, 23 (2014) 015012 (11pp)	2014
3	V. Tiron, I-L. Velicu, F. Ghiorghiu and G. Popa	„The effect of the additional magnetic field and gas pressure on the sheath region of a high power impulse magnetron sputtering discharge”	Romanian Reports in Physics, 67 (2015) 1004- 1017.	2015
4	Ioana-Laura Velicu, Vasile Tiron, Gheorghe Popa	“Dynamics of the fast - HiPIMS discharge during FINEMET – type films deposition”	Surface & Coatings Technology 250 (2014) 57-64, doi: 10.1016/j.surfcoat.2014.03.015	2014
5	M. Osiac, V. Tiron, G.E. Iacobescu, G. Popa	“A comparative study of Ge1Sb2Te4 films deposited by radiofrequency and pulsed direct current magnetron sputtering and high power impulse magnetron sputtering“	Digest Journal of Nanomaterials and Biostructures, 9 (2) (2014) 451-457	2014
6	O. Antonin, V. Tiron, C. Costin, G. Popa, T.M. Minea	„On the HiPIMS benefits of multi-pulse operating mode”	Journal of Physics D: Applied Physics, 48 (2015) 015202	2015
7	I.-L. Velicu, V. Tiron	“On the transport phenomena in highly ionized pulsed plasma during FeCuNbSiB thin film deposition process”	Digest Journal of Nanomaterials and Biostructures , 9 (4) (2014) 1513 – 1522.	2014
8	Ioana-Laura Velicu, Maria Neagu, Lucian Costinescu, Vasile Tiron, Daniel Munteanu	“Nanomechanical characterization of amorphous and nanocrystalline FeCuNbSiB thin films”	Applied Surface Science, 352 (2015) 5-9.	2015
9	V Tiron, I-L Velicu, O Vasilovici, G Popa	“Optimization of deposition rate in HiPIMS by controlling the peak target current”	Journal of Physics D: Applied Physics, 48 (2015) 495204.	2015

10	M. Osiac, V. Tiron, G.-E. Iacobescu	"The effect of nitrogen doping on the structure of Ge1Sb2Te4 film"	Journal of Optoelectronics and Advanced Materials 17 (2015) 1471 – 1475.	2015
11	C. Costin, G. Popa, and V. Anita	„Electrical probe characteristic recovery by measuring only one time-dependent parameter"	Review of Scientific Instruments 87 (2016) 033506.	2016
12	Vasile Tiron, Ioana-Laura Velicu, Dana Stanescu, Helene Magnan and Lucel Sirghi	"High Visible Light Photocatalytic Activity of Nitrogen-Doped ZnO Thin Films Deposited by HiPIMS"	Surface & Coatings Technology (2016), doi: 10.1016/j.surfcoat.2016.11.087	2016
13	Ioana-Laura Velicu, Vasile Tiron, Corneliu Porosnicu, Ion Burducea, Nicoleta Lupu, George Stoian, Gheorghe Popa, Daniel Munteanu	"Enhanced properties of tungsten thin films deposited with a novel HiPIMS approach"	Applied Surface Science.	(2016), in press
14	Vasile Tiron, Ioana-Laura Velicu, Corneliu Porosnicu, Ion Burducea, Paul Dinca, Petr Malinsky	"Tungsten Nitride Coatings Obtained by HiPIMS as Plasma Facing Materials for Fusion Applications"	Journal of Nuclear Materials.	(2016) in press
15	Vasile TIRON, Ioana-Laura VELICU, Ilarion MIHAILA and Gheorghe POPA	„Optimization of deposition rate in HiPIMS through the control of magnetic field and pulsing configuration"	Plasma Sources Science & Technology.	(2016) in press
ARTICOLE ALTE BAZE DE DATE				
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COMUNICARI STIINTIFICE NATIONALE SI INTERNATIONALE				
1	Gheorghe Popa	"Plasma surface interaction in material science"	9th International Conference on Physics of Advanced Materials, , Iasi, Romania, PI-1, pag. 53 (lectie invitata)	20 - 23 September 2012
2	Vasile Tiron, Valentin Pohoata, Gheorghe Popa, Catalin Vitelaru.,	"On tungsten thin films properties and their relation with transport process of the sputtered atoms in a DC high power pulse magnetron discharge"	9th International Conference on Physics of Advanced Materials, , Iasi, Romania, P16, pag. 44	20 - 23 September 2012
3	V.Tiron, C.Vitelaru, I. Mihaila, I.Becherescu	"The Tunable Diode Laser Techniques used in Plasma Diagnostics; Strong Points and Weaknesses"	International Conference on Modern Laser Applications – INDLAS 2013, Bran, Romania; (oral presentation)	20-24 May 2013
4	Vasile TIRON, Ioana-Laura VELICU, Claudiu COSTIN and Gheorghe POPA	"Dynamics of the fast - HiPIMS discharge during FINEMET – type films deposition"	4th International conference on HiPIMS, Braunschweig, Germany; (oral presentation)	11-13 June 2013
5	V. Tiron, I-L.Velicu, F. Ghiorghiu and G. Popa, ,	"The effect of the additional magnetic field and gas pressure on the sheath region of a high power impulse magnetron sputtering discharge"	16th International Conference on Plasma Physics and Applications, , Magurele, Romania; (poster)	20-25 June 2013
6	M. Osiac, V. Tiron, G. E. Iacobescu, G. Popa, ,	"The Ge1Sb2Te4 films deposited by magnetron sputtering high power impulse magnetron sputtering"	16th International Conference on Plasma Physics and Applications, , Magurele, Romania; (poster)	20-25 June 2013

7	V. Tiron, C. Vitelaru, I-L. Velicu, F. Ghiorghiu, G. Popa, ,	"On transport phenomena in high power pulse unbalanced magnetron discharge with additional external magnetic field"	31st International Conference on Phenomena in Ionized Gases, , Granada, Spain, (poster).	14-19 Iulie 2013
8	C. Costin, T.M. Minea, G. Popa	"Charge transport in magnetrons"	31st International Conference on Phenomena in Ionized Gases, , Granada, Spain. (lectie invitata)	14-19 Iulie 2013
9	Vasile Tiron, Ovidiu Vasilovici, Ioana-Laura Velicu, Valentin Nica, Claudiu Costin, Gheorghe Popa	,"Multi-pulse reactive HiPIMS advantages for TiO2 deposition"	ESCAMPIG XXII, Greifswald, Germany, (poster)	July 15-19, 2014
10	T. Minea, O. Antonin, L. Caillault, C. Costin, D. Lundin, A. Revel, V. Tiron, C. Vitelaru	"Magnetron versus HiPIMS: sputtered particle transport and deposition rate"	IAP Plasma Workshop on Plasma Diagnostics, REIMS Cedex, France (prezentare orală).	June 10-11, 2014
11	O. Antonin, V. Tiron, C. Costin and T.M. Minea, ,	"On the HiPIMS benefits of multi-pulse operating mode"	5th International Conference on Fundamentals and Industrial Applications of HIPIMS, , Sheffield, UK (prezentare orală)	30 June - 3 July 2014
12	A. Revel, C. Costin, L. Caillault, O. Antonin, V. Tiron and T. Minea, ,	"Multiple short pulse modelling in HiPIMS regime"	14th International Conference on Plasma Surface Engineering, , Garmisch-Partenkirchen, Germany (poster)	15-19 September 2014
13	Nicu Becherescu, Bogdan Chiricuta, Vasile Tiron, Ion Mihalescu, Gabriel Socol, Catalin Luculescu, ,	"HiPIMS versus PLD depositions for metallo composites nanomaterials"	The 10th International Conference on Physics of Advanced Materials – ICPAM-10, , Iasi, Romania (prezentare orală)	September 22-28 2014
14	L.I. Velicu, M. Neagu, V. Tiron, V. Nica, H. Chiriac,	"Fe73.5Cu1Nb3Si15.5B7 Thin Films Deposited by HiPIMS: Magnetic and Magnetostrictive Behaviour".	4th International Conference on Superconductivity and Magnetism – ICSM 2014, Antalya, Turcia (poster)	27th April – 2nd May, 2014
15	L.I. Velicu, M. Neagu, L. Costinescu, E. Hristoforou, V. Tiron, D. Munteanu, ,	"Nanoindentation measurement of hardness and Young's modulus of amorphous and nanocrystalline FeCuNbSiB thin films"	10th European Conference on Magnetic Sensors and Actuators – EMSA 2014, , Viena, Austria (poster).	July 6-9, 2014
16	Vasile Tiron, Ioana-Laura Velicu, Nicu Becherescu, Mihai Ganciu, Gheorghe Popa	"HiPIMS process optimization by pulsed external magnetic field"	The 10th International Conference on Physics of Advanced Materials – ICPAM-10, , Iasi, Romania (poster).	September 22-28 2014
17	Ioana-Laura Velicu, Maria Neagu, Lucian Costinescu, Vasile Tiron, Daniel Munteanu	"Nanomechanical characterization of amorphous and nanocrystalline FeCuNbSiB thin films"	The 10th International Conference on Physics of Advanced Materials – ICPAM-10, , Iasi, Romania (prezentare orală); premiata cu Sponsor's Prize for the most original contribution presented by a young scientist	September 22-28 2014
	V. Tiron, I-L. Velicu, O. Vasilovici, G. Popa, ,	"Optimization of deposition rate in High Power Impulse Magnetron Sputtering"	The XXXII International Conference on Phenomena in Ionized Gases, , Iasi, Romania (poster presentation).	26-31 July 2015
	M. Osiac, V. Tiron, G.E. Iacobescu,	"Phase change behaviour in nitrogen-doped Ge1Sb2Te4"	The XXXII International Conference on Phenomena in Ionized Gases, , Iasi, Romania (poster presentation).	26-31 July 2015

	Vasile Tiron, Ioana-Laura Velicu, Dana Stanescu, Helene Magnan and Lucel Sirghi	„Synthesis and Characterization of Nitrogen-Doped ZnO with High Visible Light Activity”	EMRS 2016 SPRING MEETING, , Lille, France (poster presentation).	02 - 06 May 2015
	Vasile TIRON, Ioana-Laura VELICU, Ilarion MIHAILA and Gheorghe POPA.	“Optimization of deposition rate in HiPIMS through the control of magnetic field and pulsing configuration”	The 7th International Conference on HiPIMS, Sheffield, UK (poster presentation).	29-30 June 2016
ATLASE, DICTIONARE DE SPECIALITATE				
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CERERI BREVET DE INVENTII/BREVET OBTINUT				
	Vasile Tiron, Ioana-Laura Velicu, Ilarion Mihăilă, Gheorghe Popa, Mircea Udrea, Dan Nicolae Becherescu Barbu, Mariana Osiac ,	„INSTALAȚIE ȘI PROCEDEU DE SINTEZĂ A STRATURILOR SUBȚIRI ÎN DESCĂRCAREA MAGNETRON PULSATĂ CU GRAD RIDICAT DE IONIZARE”	Inregistrare OSIM: nr. depozit A/00464 din 27.09.2016.	2016
ALTE rezultate				
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Lista achizițiilor realizate în cadrul proiectului

Denumire echipament	Categorie de achiziții*: (numai mijloace fixe)	Valoarea (lei)	Locație

**Director proiect,
CS III Vasile TIRON**

