Anexa 2

Fişa de evaluare privind standardele minimale pe domeniul FIZICĂ

CS III. dr. Vasile TIRON

COMISIA DE FIZICĂ - STANDARDE MINIMALE NECESARE ŞI OBLIGATORII PENTRU CONFERIREA TITLURILOR DIDACTICE DIN ÎNVĂŢĂMÂNTUL SUPERIOR ŞI A GRADELOR PROFESIONALE DE CERCETARE-DEZVOLTARE (ORDIN nr. 6129 din 20 decembrie 2016)

1.Activitatea didactică şi profesională

Nr. Crt.	Tipul activităţilor	Indicatori
1	Cărţi în edituri internaţionale recunoscute Web of Science în calitate de autor	$A_1 = \sum_i 4/n_i^{ef}$
2	Capitole de cărţi în edituri internaţionale recunoscute Web of Science în calitate de autor/Review-uri în reviste cotate ISI	$A_2 = \sum_i 1/n_i^{ef}$
3	Cărţi în edituri internaţionale recunoscute Web of Science în calitate de editor	$A_3 = \sum_i 0.5/n_i^{ef}$
4	**Cărţi, manuale,** îndrumare de laborator **în edituri naţionale** sau alte edituri internaţionale ca autor, note interne, prezentări susţinute pentru aprobarea analizelor de date în cadrul colaborărilor mari	$A_4 = \sum_i 0.5/n_i^{ef}$
5	Capitole de cărţi în edituri naţionale sau alte edituri internaţionale ca autor	$A_5 = \sum_i 0.2/n_i^{ef}$
6	Lucrări in extenso (cel puţin 3 pagini) publicate în Proceedings-uri indexate ISI	$A_6 = \sum_i 0.2/n_i^{ef}$ **0.186**
7.	Brevete de invenţie internaţionale acordate	$A_7 = \sum_i 3/n_i^{ef}$
8	Brevete de invenţie naţionale acordate	$A_8 = \sum_i 0.5/n_i^{ef}$ **0.055**
9	Director/responsabil/coordonator pentru programe de studii, programe de formare continuă, proiecte educaţionale şi proiecte de infrastructură (proiectele de cercetare se exclud)	$A_9 = \sum_i 0.5$
10.	Director/**responsabil** pentru proiecte de cercetare în valoare V_i euro câştigate prin competiţie naţională sau internaţională (proiectele de la punctul 9 se exclud). Sumele în lei sau în alte valute se convertesc în euro la cursul mediu din anul respectiv conform www.bnr.ro pentru perioada de după 1999 şi la cursul din 1999 pentru perioada anterioară. Responsabilii de proiect sunt cei care conduc o echipă de cercetare,	$A_{10} = \sum_i V_i/100.000$ **5.081**

	fiind menţionaţi ca atare în proiectul depus; în cazul lor se consideră doar suma aferentă echipei conduse.	

A = 5.322

Criterii minimale pentru activitatea didactică şi profesională: CS II:

$$A = \sum_{i=1}^{10} A_i \geq 1$$

2. Activitatea de cercetare

Nr. crt.	Tipul activităţilor	Indicatori
1	Articole ştiinţifice originale in extenso ca autor	$I = \sum_i AIS_i / n_i^{ef}$ **I= 6.456**
2	Articole ştiinţifice originale in extenso ca prim autor sau autor corespondent, conform menţiunilor de pe articol. Nu se iau în considerare articolele la care autorii sunt indicaţi în ordinea alfabetică a numelui şi candidatul este prim-autor exclusiv datorită numelui acestuia şi ordonării alfabetice. În cazul publicaţiilor HEPP (High Energy Partide Physics) cu număr mare de autori, dacă articolul are la bază o notă internă a cărei aprobare în vederea trimiterii la publicare a fost susţinută de către autor, atunci autorul este considerat prim autor.	$P = \sum_i AIS_i$ **P = 12.900**

Criterii minimale pentru activitatea de cercetare: CS II, conferenţiar universitar

I ≥ 2, P ≥ 2

3. Recunoaşterea impactului activităţii

Nr. crt.	Tipul activităţilor	Indicatori
1	Citări în reviste ştiinţifice cu factor de impact care se regăsesc în InCites Journal Citation Reports sau în cărţi în edituri recunoscute Web of Science. Nu se iau în considerare citările provenind din articole care au ca autor sau coautor candidatul	$C = \sum_i c_i / n_i^{ef}$ unde c_i reprezintă numărul de citări în reviste ISI ale publicaţiei i. **C=47.387**
2	Indicele Hirsch	**h = 9**

Criterii minimale pentru recunoaşterea impactului activităţii: CS II, conferenţiar universitar **C ≥ 20, h≥5**

Punctajul total CNATDCU: T = A + P/2 + I/2 + C/20 + h/5

CS II, conferenţiar universitar: **T ≥ 5**

T = 5.322+ 12.9/2+6.456/2+47.387/20+9/5 = **19.170**

Justificare punctaj

1. Activitatea didactică şi profesională: A = 5.322

1.6. Lucrări in extenso (cel puţin 3 pagini) publicate în Proceedings-uri indexate ISI

1. V. Tiron and G. Popa, “Control of the thermionic vacuum arc plasma”, 24th International Symposium on Discharges and Electrical Insulation in Vacuum, Book Series: International Symposium on Discharges and Electrical Insulation in a Vacuum, (2010) pp. 390- 393. **0.1**

2. S. Condurache-Bota, C. Constantinescu, M. Praisler, V. Tiron, N. Tigau, C. Gheorghies, “The influence of laser wavelength and pulses number on the structure and the optical properties of pulsed laser-deposited bismuth oxide thin films”, Proceedings of the International Semiconductor Conference – CAS, 6966400 (2014) 87-90. **0.036**

3. A. Demeter, A. Besleaga, V. Tiron, L. Sirghi, “Fabriaction of 2D TiO2 Nanopatterns by Plasma Colloidal Lithography”, Recent Global Research and Education: Technological Challenges, Book Series: Advances in Intelligent Systems and Computing, 519 (2017) 117-122. **0.05**

A_6 = 0.186

1.8. Brevete de invenţie naţionale acordate

1. *“Nanostructured beryllium-based alloy”* CHIRU P, CIUPINA V, JEPU I, LUNGU A M, LUNGU PC, POROSNICU C C, **TIRON V**, VLADOIU R, ZAROSCHI V N, patent inregistrat la OSIM, Patent RO127300-B1, 2012

A_8 = 0.055

1.10. Director/**responsabil pentru proiecte de cercetare în valoare Vi euro câştigate prin competiţie naţională s**au internaţională (proiectele de la punctul 9 se exclud). Sumele în lei sau în alte valute se convertesc în euro la cursul mediu din anul respectiv conform www.bnr.ro pentru perioada de după 1999 şi la cursul din 1999 pentru perioada anterioară.

Director proiect PN-II-PT-PCCA- 2011-3.2-1340, no. 174/2012 *„Procese si instalatie pentru depunerea de straturi subtiri in plasme pulsate cu grad ridicat de ionizare”,* perioada 2013-2016, Valoare: 2 212 080 lei ~508.105 euro. **A_{10} = 5.081**

2. Activitatea de cercetare (I şi P) si 3. Recunoaşterea impactului activităţii (C)

I= 6.456 **P = 12.900** **C=47.387**

Tabel de calcul pentru coeficientii I, P, C

#	Autori / Titlu Lucrare / Revista	Jurnal (selectabil)	prim	n	n_ef	a	a/n_ef	a_prim	c	c/n_ef
1	Transitory phenomena in pulsed reactive magnetron discharge	Journal of Optoelectronics and Advanced Materials	1	5	5,000	0,1020	0,0204	0,1020	0	0,0000
2	On the density of the argon metastable in a cylindrical magnetron discharge	Journal of Optoelectronics and Advanced Materials	0	5	5,000	0,1020	0,0204	0,0000	1	0,2000
3	Carbon and Tungsten Sputtering in a Helium Magnetron Discharge	IEEE Transaction on Plasma Science	1	6	5,500	0,4920	0,0895	0,4920	1	0,1818

4	On the carbon and tungsten sputtering rate in a magnetron discharge	Nuclear Instruments and Methods in Physics Research Section B	1	4	4,000	0,3620	0,0905	0,3620	6	1,5000
5	Fast Imaging Investigation on Pulsed Magnetron Discharge	IEEE Transactions on Plasma Science	0	4	4,000	0,4230	0,1058	0,0000	4	1,0000
6	Ion energy distribution in thermionic vacuum arc	IEEE Transactions on Plasma Science	1	4	4,000	0,4230	0,1058	0,4230	0	0,0000
7	Strong double layer structure in thermionic vacuum arc	Romanian Journal of Physics	1	4	4,000	0,0950	0,0238	0,0950	0	0,0000
8	The break-down of hyperfine structure coupling induced by the Zeeman effect on aluminum 2S1/2 - 2P1/2 transition, measured by tunable diode-laser induced fluorescence	Journal of Applied Physics	0	5	5,000	0,8340	0,1668	0,0000	1	0,2000
9	Structural and Magnetic Properties of FeCuNbSiB Thin Films Deposited by HiPIMS	IEEE TRANSACTIONS ON MAGNETICS	0	5	5,000	0,3680	0,0736	0,0000	4	0,8000
10	Control of aluminum doping of ZnO:Al thin films obtained by high-power impulse magnetron sputtering	Thin Solid Films	1	3	3,000	0,5510	0,1837	0,5510	9	3,0000
11	Atomic force microscopy investigation of piezoelectric response of ZnO thin films deposited by HIPIMS	Journal of Optoelectronics and Advanced Materials	1	4	4,000	0,1110	0,0278	0,1110	2	0,5000
12	Functional properties of ZnO films prepared by thermal oxidation of metallic films	Journal of Applied Physics	0	4	4,000	0,7210	0,1803	0,0000	5	1,2500
13	FINEMET-type thin films deposited by HiPIMS Influence of growth and annealing conditions on the magnetic behaviour	Materials Science and Engineering B-Advanced Functional Solid-State Materia	0	6	5,500	0,4630	0,0842	0,0000	7	1,2727
14	Optical and mass spectrometry diagnosis of a CO2 microwave plasma discharge	Romanian Reports in Physics	0	4	4,000	0,2020	0,0505	0,0000	8	2,0000
15	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	0	4	4,000	0,2020	0,0505	0,0000	3	0,7500
16	Improving the uncommon (110) growing orientation of Al-doped ZnO thin films through sequential pulsed laser deposition	Thin Solid Films	0	12	8,500	0,4550	0,0535	0,0000	6	0,7059
17	Mechanical properties of atomic force microscopy probes with deposited thin films	Thin Solid Films	0	3	3,000	0,4550	0,1517	0,0000	2	0,6667
18	Dynamics of the fast-HiPIMS discharge during FINEMET-type	Surface & Coatings Technology	1	3	3,000	0,5150	0,1717	0,5150	8	2,6667
19	On the transport phenomena in highly ionized pulsed plasma during FeCuNbSiB	Digest Journal of Nanomaterials and Biostructures	1	2	2,000	0,2020	0,1010	0,2020	2	1,0000
20	The effect of the additional magnetic field and gas pressure on the sheath region	Romanian Reports in Physics	1	4	4,000	0,1840	0,0460	0,1840	1	0,2500
21	Fe73.5Cu1Nb3Si15.5B7 Thin Films Deposited by HiPIMS Magnetic and Magnetostrictive Behavior	Journal of Superconductivity and Novel Magnetism	0	3	3,000	0,1820	0,0607	0,0000	1	0,3333
22	Friction at single-asperity contacts between hydrogen-free diamond-like carbon thin film surfaces	Diamonds and related materials	0	3	3,000	0,4820	0,1607	0,0000	9	3,0000

23	On the HiPIMS benefits of multi-pulse operating mode	Journal of Physics D: Applied Physics	1	5	5,000	0,8340	0,1668	0,8340	9	1,8000
24	Nanomechanical characterization of amorphous and nanocrystalline FeCuNbSiB	Applied Surface Science	0	3	3,000	0,5740	0,1913	0,0000	0	0,0000
25	Tuning the band gap and nitrogen content of ZnOxNy thin films", Surface & Coatings Technology	Surface & Coatings Technology	1	2	2,000	0,5260	0,2630	0,5260	4	2,0000
26	Optimization of deposition rate in HiPIMS by controlling the peak target current	Journal of Physics D: Applied Physics	1	4	4,000	0,8380	0,2095	0,8380	7	1,7500
27	Highly transparent bismuth oxide thin films deposition: morphology - optical properties correlation studies	Journal of Optoelectronics and Advanced Materials	0	3	3,000	0,0780	0,0260	0,0000	0	0,0000
28	The effect of nitrogen doping on the structure of Ge1Sb2Te4 film	Journal of Optoelectronics and Advanced Materials	0	3	3,000	0,0780	0,0260	0,0000	1	0,3333
29	Low Temperature TiO2 Based Gas Sensors for CO2	Ceramics International	0	8	6,500	0,4590	0,0706	0,0000	23	3,5385
30	Reactive multi-pulse HiPIMS deposition of oxygen-deficient TiOx thin films	Thin Solid Films	1	7	6,000	0,3830	0,0638	0,3830	9	1,5000
31	Electric conduction mechanism of some heterocyclic compounds, 4,4'-bipyridine and indolizine derivatives in thin films	Thin Solid Films	0	10	7,500	0,3830	0,0511	0,0000	2	0,2667
32	Copper thin films deposited under different power delivery modes and magnetron	Surface & Coatings Technology	1	4	4,000	0,5170	0,1293	0,5170	5	1,2500
33	Visible-light photocatalytic activity of TiOxNy thin films obtained by reactive multi-pulse High Power Impulse Magnetron Sputtering	Surface & Coatings Technology	0	8	6,500	0,5170	0,0795	0,0000	6	0,9231
34	High Visible Light Photocatalytic Activity of Nitrogen-Doped ZnO Thin Films Deposited	Surface & Coatings Technology	1	5	5,000	0,5170	0,1034	0,5170	10	2,0000
35	Enhanced properties of tungsten thin films deposited with a novel HiPIMS	Applied Surface Science	1	8	6,500	0,6270	0,0965	0,6270	17	2,6154
36	Dielectric elastomers with voltage-switchable dual functionality built through chemical design	Journal of Materials Chemistry C	0	6	5,500	1,1330	0,2060	0,0000	9	1,6364
37	Study of deuterium retention in Be-W coatings with distinct roughness profiles	Fusion Engineering and Design	0	6	5,500	0,2810	0,0511	0,0000	1	0,1818
38	Tungsten nitride coatings obtained by HiPIMS as plasma facing materials	Applied Surface Science	1	6	5,500	0,6270	0,1140	0,6270	3	0,5455
39	Beryllium-tungsten study on mixed layers obtained by m HiPIMSDCMS	Surface & Coatings Technology	0	9	7,000	0,5170	0,0739	0,0000	3	0,4286
40	Plasma sputtering depositions with colloidal masks for fabrication of nanostructured surfaces with photocatalytic activity	Nanotechnology	0	5	5,000	0,7910	0,1582	0,0000	1	0,2000
41	Improving the crystallinity of Ta3N5 thin films by DC magnetron sputtering using an additional in-axis magnetic field on a balanced magnetron	Thin Solid Films	0	8	6,500	0,3560	0,0548	0,0000	1	0,1538
42	All-silicone elastic composites with counter-intuitive piezoelectric response, designed for electromechanical	Journal of Materials Chemistry C	0	8	6,500	1,1330	0,1743	0,0000	5	0,7692

	applications									
43	Plasma–wall interaction studies within the EUROfusion consortium progress on plasma-facing components development and qualification	Nuclear Fusion	0	168	53,250	0,8360	0,0157	0,0000	20	0,3756
44	Iron oxide nanoparticles as dielectric and piezoelectric enhancers for silicone elastomers	Smart Materials and Structures	0	10	7,500	0,7720	0,1029	0,0000	3	0,4000
45	Preparation and characterization of ZnO thin films by PLD and HiPIMS	UPB Scientific Bulletin, Series A: Applied Mathematics and Physics	0	4	4,000	0,0940	0,0235	0,0000	0	0,0000
46	Preparation and characterization of TiO2 thin films by PLD and HiPIMS	UPB Scientific Bulletin, Series A: Applied Mathematics and Physics	0	4	4,000	0,0940	0,0235	0,0000	0	0,0000
47	Influnce of ion-to-neutral flux ratio on the mechanical and tribological properties of TiN coatings deposited by HiPIMS	Surface & Coatings Technology	1	6	5,500	0,5110	0,0929	0,5110	2	0,3636
48	TiO2 2D nanopatterns obtained by high power impulse magnetron sputtering depositions with colloidal masks	Romanian Reports in Physics	0	3	3,000	0,2960	0,0987	0,0000	0	0,0000
49	Deposition rate enhancement in HiPIMS through the control of magnetic field and pulse configuration	Surface & Coatings Technology	1	4	4,000	0,5110	0,1278	0,5110	6	1,5000
50	Electric and optical properties of some new functional lower-rim substituted calixarene derivatives in thin films	Applied Physics A	0	8	6,500	0,3080	0,0474	0,0000	0	0,0000
51	HiPIMS deposition of silicon nitride for solar cell application	Surface & Coatings Technology	1	10	7,500	0,5110	0,0681	0,5110	3	0,4000
52	On the hydrophilicity of Ni-doped TiO2 thin films. EXAFS studies	Thin Solid Films	0	7	6,000	0,3240	0,0540	0,0000	1	0,1667
53	Enhanced extraction efficiency of the sputtered material from a magnetically assisted high power impulse hollow cathode	Plasma Sources Science and Technology	1	8	6,500	0,8040	0,1237	0,8040	0	0,0000
54	Energy-Enhanced Deposition of Copper Thin Films by Bipolar High Power Impulse Magnetron Sputtering	Surface & Coatings Technology	1	9	7,000	0,5110	0,0730	0,5110	3	0,4286
55	Negative ion-induced deuterium retention in mixed W-Al layers codeposited in dual-HiPIMS	Surface & Coatings Technology	0	10	7,500	0,5110	0,0681	0,0000	1	0,1333
56	Linear and cyclic siloxanes sulfur-bridged functionalized with polar groups by thiol-ene addition: synthesis, characterization and exploring some material behaviour	Journal of Molecular Liquids	0	8	6,500	0,5800	0,0892	0,0000	2	0,3077
57	Beryllium thin films deposited by thermionic vacuum arc for nuclear applications	Applied Surface Science	1	9	7,000	0,6710	0,0959	0,6710	1	0,1429
58	Overcoming the insulating materials limitation in HiPIMS: ion-assisted deposition of DLC coatings	Applied Surface Science	1	7	6,000	0,6710	0,1118	0,6710	0	0,0000

	using bipolar HiPIMS									
59	Copper complexes with spherical morphology generated in one step by amphiphilic ligands: in situ view of the self-assembling, characterization, catalytic activity	Colloids and Surfaces A: Physicochemical and Engineering Aspects	0	8	6,500	0,5300	0,0815	0,0000	0	0,0000
60	From an ultra-high molecular weight polydimethylsiloxane to the super-soft elastomer	European Polymer Journal	0	5	5,000	0,6970	0,1394	0,0000	0	0,0000
61	Lithium niobate waveguides with high-index contrast and preserved nonlinearity fabricated by High Vacuum Vapor-phase Proton Exchange	Photonics Research	0	7	6,000	1,2350	0,2058	0,0000	0	0,0000
62	Understanding the ion acceleration mechanism in bipolar HiPIMS: double layer structure developed in the after-glow plasma	Plasma Sources Science and Technology	1	2	2,000	0,8040	0,4020	0,8040	0	0,0000
63	PVDF-ferrite composites with dual magneto-piezoelectric response for flexible electronics applications: synthesis and functional properties	Journal of Materials Science	0	9	7,000	0,5880	0,0840	0,0000	0	0,0000
	TOTAL		**26**				**6,4565**	**12,9000**	**239**	**47,3876**
							I	P	cit	C

Calcul coeficienți I, P, C detaliat

1. V. Tiron, C. Vitelaru, M. Solomon, F. M. Tufescu, G. Popa, *“Transitory phenomena in pulsed reactive magnetron discharge”*, Journal of Optoelectronics and Advanced Materials 8(1) (2006) 66-70.
IF = 1.106, AIS = 0.102, N = 5, I = AIS/N = 0.0204, C = 0

2. C. VITELARU, **V. TIRON**, C. ANDREI, S. DOBREA, G. POPA, “*On the density of the argon metastable in a cylindrical magnetron discharge*”, Journal of Optoelectronics and Advanced Materials 10(8) (2008) 2003 – 2006.
IF = 0.577, AIS = 0.102, N = 5, I = AIS/N = 0.0204, C = 0.2

[1] C. VITELARU, T. MINEA, L. DE POUCQUES, M. GANCIU, G. POPA, *Time resolved tunable diode laser absorption spectroscopy on al and arm atoms in high power pulsed magnetron sputtering,* Rom. Journ. Phys. *56 (2011) 47–53.*

3. V. Tiron, C. Andrei, A. V. Nastuta, G. B. Rusu, C. Vitelaru and G. Popa, “*Carbon and Tungsten Sputtering in a Helium Magnetron Discharge”,* IEEE Transaction on Plasma Science 37(8) (2009) 1581-1585.
IF = 1.447, AIS = 0.492, N = 5.5, I = AIS/N = 0.0895, C = 0.1818

[1] C. P. Lungu, A. Marcu, C. Porosnicu, I. Jepu, J. Kovac, V. Nemanic, Carbon–Tungsten Thin-Film Deposition by a Dual Thermionic Vacuum Arc, IEEE Transaction on Plasma Science 40(6) (2012) 3546-3551.

4. V. Tiron, S. Dobrea, C. Costin and G. Popa, “*On the carbon and tungsten sputtering rate in a magnetron discharge”*, Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms 267(2) (2009) 434-437.
IF = 0.999, AIS = 0.362, N = 4, I = AIS/N = 0.0905, C = 1.5

[1] Alan Xu, David E.J. Armstrong, Christian Beck, Michael P. Moody, George D.W. Smith, Paul A.J. Bagot, Steve G. Roberts, Ion-irradiation induced clustering in W-Re-Ta, W-Re and W-Ta alloys: An atom probe tomography and nanoindentation study, Acta Materialia, 124 (2017) 71-78
https://doi.org/10.1016/j.actamat.2016.10.050.
[2] A O Serov et al Current-pressure characteristics of dc magnetron discharge for high-rate sputtering, J. Phys.: Conf. Ser. 653 (2015) 012127 doi:10.1088/1742-6596/653/1/012127.
[3] A O Serov, Yu A Mankelevich, A F Pal and A N Ryabinkin, Current–pressure dependencies of dc magnetron discharge in inert gases, J. Phys.: Conf. Ser. 774 (2016) 012150 doi:10.1088/1742-6596/774/1/012150.
[4] Yu A Mankelevich, A F Pal, A N Ryabinkin and A O Serov, Effect of interelectrode distance on dc magnetron current–pressure

characteristics, J. Phys.: Conf. Ser. 946 (2018) 012150 doi :10.1088/1742-6596/946/1/012150
[5] A F Pal et al., Correlation between plasma glow intensity distribution and sputtering profile in dc magnetron discharge, J. Phys.: Conf. Ser. 1147 (2019) 012115 doi:10.1088/1742-6596/1147/1/012115
[6] M. Makówka, W. Pawlak, P. Konarski, B. Wendler, H. Szymanowski, Modification of magnetron sputter deposition of nc-WC/a-C(:H) coatings with an additional RF discharge, Diamond and Related Materials,98 (2019) 107509 doi.org/10.1016/j.diamond.2019.107509.

5. C. Costin, **V. Tiron**, J. Faustin, and G. Popa, *"Fast Imaging Investigation on Pulsed Magnetron Discharge"*, IEEE Transactions on Plasma Science, 39(11) (2011) 2482 – 2483.
IF = 1.174, AIS = 0.423, N = 4, I = AIS/N = 0.1057, C = 1

[1] J. T. Gudmundsson, High power impulse magnetron sputtering discharge, Journal of Vacuum Science & Technology A 30 (2012) 030801 https://doi.org/10.1116/1.3691832
[2] I.-L. VELICU, I. MIHAILA, G. POPA, Operating the hipims discharge with ultra-short pulses: a solution to overcome the deposition rate limitation, Romanian Reports in Physics 69, 411 (2017)
[3] Daniel Lundin, Ante Hecimovic, Tiberiu Minea, André Anders, Nils Brenning, Jon Tomas Gudmundsson, 7 - Physics of high power impulse magnetron sputtering discharges, High Power Impulse Magnetron Sputtering, Fundamentals, Technologies, Challenges and Applications, Elsevier (2020) 265-332 https://doi.org/10.1016/B978-0-12-812454-3.00012-7.
[4] Adrien Revel, Tiberiu Minea and Claudiu Costin, 2D PIC-MCC simulations of magnetron plasma in HiPIMS regime with external circui Plasma Sources Science and Technology 27 (2018)

6. Vasile Tiron, Marius Dobromir, Valentin Pohoata and Gheorghe Popa, "*Ion energy distribution in thermionic vacuum* arc*",* IEEE Transaction on Plasma Science 39(6) (2011) 1403-1407.
IF = 1.174, AIS = 0.423, N = 4, I = AIS/N = 0.1057, C = 0

7. V. Tiron, L. Mihaescu, C.P. Lungu, G, Popa, *"Strong double layer structure in thermionic vacuum arc*", Romanian Journal of Physics 56 (2011) 41–46.
IF = 0.414, AIS = 0.095, N = 4, I = AIS/N = 0.0237, C = 0

8. Catalin Vitelaru,Valentin Pohoata, Constantin Aniculaesei,**Vasile Tiron** and Gheorghe Popa, "*The break-down of hyperfine structure coupling induced by the Zeeman effect on aluminum $^2S_{1/2}$ - $^2P_{1/2}$ transition, measured by tunable diode-laser induced fluorescence*", Journal of Applied Physics 109 (2011) 084911.
IF = 2.168, AIS = 0.834, N = 5, I = AIS/N = 0.1668, C = 0.2

[1] S. S. Harilal, N. L. LaHaye, and M. C. Phillips, High-resolution spectroscopy of laser ablation plumes using laser-induced fluorescence, Optics Express Vol. 25, Issue 3, pp. 2312-2326 (2017) •https://doi.org/10.1364/OE.25.002312

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