



Europass Curriculum Vitae

Personal information

First name(s) / Surname(s) **Ioana-Laura VELICU**
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E-mail laura.velicu@uaic.ro, velicu.laura@yahoo.com
Nationality Romanian
Date of birth 18.05.1985
Gender Female

Work experience

TEACHING EXPERIENCE

Dates **2018 – present**
Occupation or position held **Lecturer**
Main activities and responsibilities – *Courses*: Classical Mechanics;
– *Seminars*: Classical Mechanics, Thermodynamics, Mathematical Models in Science;
– *Laboratories*: Thermodynamics;
– *Practical work*: First-year undergraduate students;
First-year M.S. students (Advanced materials. Nanotechnologies).
Name and address of employer “Alexandru Ioan Cuza” University of Iasi, 11 Carol I Blvd., 700506, Iasi, Romania
Type of business or sector Higher Education

Dates **2015 – 2018**
Occupation or position held **Assistant professor**
Main activities and responsibilities – *Courses*: Physics Problems-Solving;
– *Seminars*: Classical Mechanics, Thermodynamics, Physics Problems-Solving,
Mathematical Models in Science;
– *Laboratories*: Thermodynamics;
– *Practical work*: First-year undergraduate students;
First-year M.S. students (Advanced materials. Nanotechnologies).
Name and address of employer “Alexandru Ioan Cuza” University of Iasi, 11 Carol I Blvd., 700506, Iasi, Romania
Type of business or sector Higher Education

Dates **01.10.2012 – 01.02.2015**
Occupation or position held **Associated Assistant**
Main activities and responsibilities – *Courses*: Chaos and self-organization;
– *Seminars*: Chaos and self-organization;
– *Laboratories*: Thermodynamics;
– *Practical work*: First-year M.S. students (Environmental Physics and Environmental Protection).
Name and address of employer “Alexandru Ioan Cuza” University of Iasi, 11 Carol I Blvd., 700506, Iasi, Romania
Type of business or sector Higher Education

Dates	01.10.2010 – 01.02.2012
Occupation or position held	<i>Substitute Assistant</i>
Main activities and responsibilities	– <i>Courses</i> : General physics; – <i>Laboratories</i> : General physics.
Name and address of employer	“Gheorghe Asachi” Technical University, 67 Dimitrie Mangeron Blvd., 700050, Iasi, Romania
Type of business or sector	Higher Education
RESEARCH EXPERIENCE	
Dates	July 2018 – present
Occupation or position held	<i>Senior Researcher</i> , Romanian participation at EUROfusion program WPPFC and complementary research, PFC-RO, PNCDI III / 1EU-1/2 / 01.07.2016.
Main activities and responsibilities	– Thin films deposition and characterization for WPPFC project.
Name and address of employer	“Alexandru Ioan Cuza” University of Iasi, 11 Carol I Blvd., 700506, Iasi, Romania
Type of business or sector	Research
Dates	December 2015 – November 2016
Occupation or position held	<i>Project manager</i> , Optimizing the HiPIMS configuration to improve the deposition process and to obtain thin films with advanced properties, Grant GI-2015-07.
Main activities and responsibilities	– Thin films deposition and characterization, plasma diagnosis.
Name and address of employer	“Alexandru Ioan Cuza” University of Iasi, 11 Carol I Blvd., 700506, Iasi, Romania
Type of business or sector	Research
Dates	October 2014 – December 2016
Occupation or position held	<i>Assistant Researcher</i> , Process and device for thin films deposition in highly ionized pulsed plasma, Grant PN-II-PT-PCCA-2011-3.2-1340.
Main activities and responsibilities	Experimental devices designing, diagnosis of plasma subjected to an additional magnetic field, thin films deposition and characterization, processing and interpretation of experimental data, writing scientific papers and reports.
Name and address of employer	“Alexandru Ioan Cuza” University of Iasi, 11 Carol I Blvd., 700506, Iasi, Romania
Type of business or sector	Research
Dates	October 2010 – April 2011
Occupation or position held	<i>Trainee Research Assistant</i>
Main activities and responsibilities	– Magnetic thin films deposition using various deposition techniques – Radio Frequency Magnetron Sputtering, Electron Beam Evaporation, etc. – Thin films characterization – surface and bulk magnetic behaviour.
Name and address of employer	National Institute of Research & Development for Technical Physics – IFT Iasi, 47 Mangeron Blvd., 700050, Iasi, Romania
Type of business or sector	Research
Dates	November 2007 – August 2009
Occupation or position held	<i>Designer and Desktop Publisher</i>
Name and address of employer	“Portile Orientului” Publishing House
Type of business or sector	Typography, mass-media

Education and training

Dates	November 2012 – July 2013
Title of qualification awarded	Graduation certificates for successful completion of the psycho-pedagogical module (postgraduate, level I and level II)
Name and type of organization providing education and training	“Alexandru Ioan Cuza” University of Iasi, Teacher Training Department
Dates	01.10.2010 – 27.09.2013
Title of qualification awarded	Ph.D. in Exact Sciences – Physics, with EXCELLENT (SUMMA CUM LAUDE), awarded with DOC-Paideia Prize of Excellence.
Principal subjects/occupational skills covered	Ph.D. thesis: <i>Contributions regarding the obtaining and characterization of FeCuNbSiB amorphous and nanocrystalline thin films</i>
Name and type of organization providing education and training	Faculty of Physics, “Alexandru Ioan Cuza” University of Iasi, Romania
Dates	2008 – 2010
Title of qualification awarded	M.Sc., Physics (Plasma Physics, Self-organization and Spectroscopy)
Principal subjects/occupational skills covered	Dissertation thesis: <i>Amorphous soft magnetic thin films: obtaining and characterization</i>
Name and type of organization providing education and training	Faculty of Physics, “Alexandru Ioan Cuza” University of Iasi, Romania
Dates	2004 – 2008
Title of qualification awarded	B.Sc., Physics (Computational Physics)
Principal subjects/occupational skills covered	License thesis: <i>Magneto-optical Kerr effect. The study of surface magnetization of soft magnetic thin films</i>
Name and type of organization providing education and training	Faculty of Physics, “Alexandru Ioan Cuza” University of Iasi, Romania
Dates	2000 – 2004
Title of qualification awarded	Baccalaureate Diploma
Principal subjects/occupational skills covered	Natural Sciences
Name and type of organization providing education and training	“Ovidius” Theoretical High school, Constanta

Personal skills and competences

Mother tongue(s) **Romanian**

Other language(s)

Self-assessment
European level ()*

English

French

Understanding				Speaking				Writing	
Listening		Reading		Spoken interaction		Spoken production			
C2	Proficient user	C2	Proficient user	C2	Proficient user	C1	Proficient user	C1	Proficient user
B1	Independent user	B2	Independent user	B2	Independent user	B2	Independent user	B2	Independent user

(*) [Common European Framework of Reference for Languages](#)

Social skills and competences Good communication, fast adaptation in new environments, team spirit

Organizational skills and competences

I took an active part in the organization of several international conferences and Autumn schools (**member of the local organizing committee**):

- 10th International Conference on Physics of Advanced Materials – ICPAM-10, September 22-28 2014, Iasi, Romania;
- 1st Autumn School on Physics of Advanced Materials – PAMS-1, September 22-28 2014, Iasi, Romania;
- 11th International Conference on Physics of Advanced Materials – ICPAM11, 8-14 September 2016, Cluj-Napoca, Romania;
- 2nd Autumn School on Physics of Advanced Materials, 8-14 September 2016, Cluj-Napoca;
- 11th International Conference on Materials Science and Engineering – BRAMAT 2019, 13-16 March 2019, Brasov, Romania;
- The XVIIIth International Conference on Plasma Physics and Applications – CPPA 2019, 20-22 June 2019, Iasi, Romania;

I took an active part in the organization of several events:

- Doors Open Days;
- Earth Day;
- various promotional activities of the Faculty of Physics;
- practical work sessions for the first-year M.S. students.

Technical skills and competences

Well skilled in:

- deposition of amorphous and nanocrystalline thin films from a wide range of materials using various deposition techniques (Electron Beam Evaporation, Pulsed Laser Deposition, RF Magnetron Sputtering, DC Magnetron Sputtering, High Power Impulse Magnetron Sputtering);
- measurements for the study of: structural (X-ray diffraction), topological (Atomic Force Microscopy), magnetic (Vibrating Sample Magnetometry and Magneto-optical Kerr Effect), mechanical (nanoindentation) and tribological (nanoscratch) properties of thin films, as well as for the study of magnetoimpedance effect;
- optical, electrical and spectral plasma diagnosis;
- design and building of measuring devices for the study of magneto-optical Kerr and magnetostriction effects.

Computer skills and competences

- O.S.: Windows and Linux;
- Microsoft Office;
- Adobe (Acrobat, InDesign, Photoshop);
- Corel Paint Shop Pro and Corel Draw;
- Origin, Gwyddion, LabVIEW, Maple, Wolfram Mathematica;
- Computer Networks.

Patent

- „*Installation and Process for the Synthesis of Thin Layers in Pulsed Magnetron Discharge with High Degree of Ionization*”, V. Tiron, I.-L. Velicu, I. Mihăilă, M. Udrea, G. Popa, Patent Number: RO132311-A2, patent registered to OSIM, Patent RO132311-A2, 2017 (national).
- “*Installation and process for energetic metal ion beam with application in space propulsion*”, V. Tiron, I.-L. Velicu, G. Popa, patent registered to OSIM, Patent: A/00304/2018 (national).

Projects – member

- *PFC-RO, PNCDI III / 1EU-1/2 / 01.07.2016, Romanian participation at EUROfusion program WPPFC and complementary research*, 2018 – present, (national).
- PN II-PT-PCCA-2011-3.2-1340, „*Process and device for thin films deposition in highly ionized pulsed plasma*”, 2012-2016, (national).

Projects – manager

- GI-2015-07, UAIC Grants for Young Researchers, Optimizing the HiPIMS configuration to improve the deposition process and to obtain thin films with advanced properties, 2015-2016 (national).

Projects – beneficiary

- *Supporting Innovation in Romanian Catching up Regions Project* assisted by **The World Bank (WB)** and **DG REGIO of the European Commission**, 2019.

Awards

1. **Mention** – A.I. Bulai, **I.L. Velicu**, M. Neagu, V. Pohoata, B. Munteanu, *Magneto-optical System for Kerr Rotation Measurement*, a XXXIX-a Conferință Națională Fizica și Tehnologiile Educaționale Moderne, 2010, Iași, România.
2. **Second prize** – **I.L. Velicu**, M. Dobromir, M. Neagu, H. Chiriac, D. Luca, N. Lupu, V. Pohoată, B. Munteanu, *FeCuNbSiB Thin Films Deposited by RF Magnetron Sputtering*, a XL-a Conferința Națională Fizica și Tehnologiile Educaționale Moderne, 12-14 mai 2011, Iași, România.
3. **Prize offered by the Royal Society of Chemistry (U.K.) for the best poster presentation** and
4. **Honorable Mention offered by the organization committee for:**
M. Dobromir, **L. I. Velicu**, M. Neagu, H. Chiriac, *FeCuNbSiB Thin Films Deposited by Pulsed Laser Deposition: Structural and Magnetic Properties*, Nanomaterials: Application & Properties, 16-21 septembrie 2013, Alushta, Ukraine.
5. **DOC-Paideia Prize of Excellence** for my Ph.D. thesis entitled: *Contributions regarding the obtaining and characterization of FeCuNbSiB amorphous and nanocrystalline thin films*.
6. **Sponsor's Prize for the most original contribution presented by a young scientist** for *Nanomechanical characterization of amorphous and nanocrystalline FeCuNbSiB thin films*, **Ioana-Laura Velicu**, Maria Neagu, Lucian Costinescu, Vasile Tiron, Daniel Munteanu, The 10th International Conference on Physics of Advanced Materials – ICPAM-10, September 22-28 2014, Iasi, Romania.
7. **Second Prize Winner** (Best Paper Competition) – *Copper thin films deposited under different power deliver modes and magnetron configurations: A comparative study*, **Ioana-Laura Velicu**, Vasile Tiron, Bogdan-George Rusu, Gheorghe Popa, The 7th International Conference on Fundamentals and Industrial Applications of HIPIMS, June 27-30, 2016, Sheffield, U.K.
8. **Third Prize Winner** (Best Paper Competition) – *Bipolar High Power Impulse Magnetron Sputtering: A new approach to control the metal ion flux*, I.-I. Velicu, C. Porosnicu, I. Mihăilă, I. Burducea, A. Velea, D. Cristea, D. Munteanu, V. Tiron, The 9th International Conference on Fundamentals and Industrial Applications of HIPIMS, 25-28 June 2018, Sheffield, UK.
9. **Research Excellence Award to recognize the results obtained in 2017**, offered by “Alexandru Ioan Cuza” University of Iasi, Romania.
10. **Special mention** at the 5th Edition of *Young Researchers in Science and Engineering Competition*, founded by Professor Rada Mihalcea, Cluj-Napoca, 2019.
11. **Gold Medal** and **Diploma of Honour** for the patent entitled “Installation and process for energetic metal ion beam with application in space propulsion”, The XXIIIrd International Exhibition of Inventions, INVENTICA 2019.

Others activities

- Reviewer at: IEEE Transactions on Magnetics (2008), Surface & Coatings Technology (2017, 2018, 2019), Thin Solid Films (2018), Applied Surface Science (2019);
- Associate Editor at Journal of Advanced Research in Physics;
- Member in the:
 - Council of the Faculty of Physics, “Alexandru Ioan Cuza” University of Iasi (2011-2013);
 - Council for Doctoral Studies, “Alexandru Ioan Cuza” University of Iasi (2012-2013);
 - Romanian Physical Society (secretary of the NE Branch);
 - EUROfusion (WP PFC);
 - IPARC – Iasi Plasma Advanced Research Center;
- **3** (2019-2020);
- co-author of **33** ISI-WOS papers (**18** as first/corresponding author, **25** published in the last 5 years) in peer-reviewed journals (ORCID ID: 0000-0002-7236-2495); **57** presentations at international (**45**) and national (**12**) conferences; citations without self-citations: **113**; **11**-times awarded; co-author of **2** national patents; member of **2** national grants; manager of a grant for young researchers; Hirsch Index: **8** (WOS), **8** (Scopus), **9** (Google Scholar).

BA-Thesis Coordinator

Elements illustrating the visibility of the scientific activity

Annexes

List of papers and conferences I participated to.

A. Chapters in International Books:

1. **Velicu I.-L.**, Tiron V., Mihaila I., Costin C. (2018) Pulsed Magnetron Sputtering: The Role of the Applied Power on W Coatings Properties. In: Luca D., Sirghi L., Costin C. (eds) Recent Advances in Technology Research and Education. INTER-ACADEMIA 2017. Advances in Intelligent Systems and Computing, vol 660. Springer, Cham.

A. Papers published in ISI-quoted journals with impact factor (IF):

1. V. Tiron, E.-L. Ursu, D. Cristea, D. Munteanu, G. Bulai, A. Ceban, **I.-L. Velicu (corresponding author)**, *Overcoming the insulating materials limitation in HiPIMS: Ion-assisted deposition of DLC coatings using bipolar HiPIMS*, Applied Surface Science <https://doi.org/10.1016/j.apsusc.2019.07.239>.
2. C. Gabor, D. Cristea, **I.-L. Velicu**, T. Bedo, A. Gatto, E. Bassoli, B. Varga, M. A. Pop, V. Geanta, R. Stefanioiu, M. M. Codescu, E. Manta, D. Patroi, M. Florescu, S. I. Munteanu, I. Ghiuta, N. Lupu, D. Munteanu, *Ti-Zr-Si-Nb Nanocrystalline Alloys and Metallic Glasses: Assessment on the Structural Development, Thermal Stability, Corrosion and Mechanical Properties*, Materials (open access) **12(9) 1551 (2019)** <https://doi.org/10.3390/ma12091551>.
3. T. Bedo, B. Varga, D. Cristea, A. Nitoi, A. Gatto, E. Bassoli, G. Bulai, **I.-L. Velicu**, I. Ghiuta, S. Munteanu, A. M. Pop, C. Gabor, M. Cosnita, L. Parv, D. Munteanu, *Metastable Al-Si-Ni alloys for additive manufacturing: structural stability and energy release during heating*, Metals (open access) **9(5) 483 (2019)** <https://doi.org/10.3390/met9050483>.
4. D. Cristea, L. Cunha, C. Gabor, I. Ghiuta, C. Croitoru, A. Marin, **I.-L. Velicu**, A. Besleaga, V. Bogdan, *Tantalum oxynitride thin films: assessment on the photocatalytic efficiency and antimicrobial capacity*, Nanomaterials (open access) **9(3) 476 (2019)** <https://doi.org/10.3390/nano9030476>.
5. V. Tiron, C. Porosnicu, P. Dinca, **I.-L. Velicu (corresponding author)**, D. Cristea, D. Munteanu, Á. Révész, G. Stoian, C. P. Lungu, *Beryllium thin films deposited by thermionic vacuum arc for nuclear applications*, Applied Surface Science **481 (2019)** 327-336.
6. P. Dinca, V. Tiron, **I.-L. Velicu**, C. Porosnicu, B. Butoi, A. Velea, E. Grigore, C. Costin, C.P. Lungu, *Negative ion-induced deuterium retention in mixed W-Al layers codeposited in dual-HiPIMS*, Surface & Coatings Technology **363 (2019)** 273-281.
7. **I.-L. Velicu**, G.-T. Ianoş, C. Porosnicu, I. Mihăilă, Ion Burducea, Alin Velea, Daniel Cristea, Daniel Munteanu, Vasile Tiron, *Energy-Enhanced Deposition of Copper Thin Films by Bipolar High Power Impulse Magnetron Sputtering*, Surface & Coatings Technology **359 (2019)** 97-107.
8. V. Tiron, **I.-L. Velicu**, A. V. Nastuta, C. Costin, G. Popa, Z. Kechidi, C. Ionita, R. Schrittwieser, *Enhanced extraction efficiency of the sputtered material from a magnetically assisted high power impulse hollow cathode*, Plasma Sources Science and Technology **27 (2018)** 085005.
9. V. Tiron, **I.-L. Velicu (corresponding author)**, I. Pana, D. Cristea, B.G. Rusu, P. Dinca, C. Porosnicu, E. Grigore, D. Munteanu, S. Tascu, *HiPIMS deposition of silicon nitride for solar cell application*, Surface & Coatings Technology **344 (2018)** 197-203.
10. V. Tiron, **I.-L. Velicu (corresponding author)**, I. Mihăilă, G. Popa, *Deposition rate enhancement in HiPIMS through the control of magnetic field and pulse configuration*, Surface & Coatings Technology **337 (2018)** 484-491.
11. V. Tiron, **I.-L. Velicu (corresponding author)**, D. Cristea, N. Lupu, G. Stoian, D. Munteanu, *Influence of ion-to-neutral flux ratio on the mechanical and tribological properties of TiN coatings deposited by HiPIMS*, Surface & Coatings Technology **352 (2018)** 690-698.
12. S. Brezinsek, J.W. Coenen, T. Schwarz-Selinger, K. Schmid, A. Kirschner et al. (168 authors), *Plasma-Wall Interaction Studies within the EUROfusion Consortium: progress on Plasma-Facing Components development and qualification*, Nuclear Fusion (open access) **57 (2017)** 116041.
13. P. Dinca, C. Porosnicu, B. Butoi, I. Jepu, V. Tiron, O. G. Pompilian, I. Burducea, C. P. Lungu, **I.-L. Velicu**, *Beryllium-Tungsten Study on Mixed Layers obtained by m-HiPIMS / DCMS Techniques in a Deuterium and Nitrogen Reactive Gas Mixture*, Surface & Coatings Technology **321 (2017)** 397-402.
14. V. Tiron, **I.-L. Velicu**, C. Porosnicu, I. Burducea, P. Dinca, P. Malinsky, *Tungsten Nitride Coatings Obtained by HiPIMS as Plasma Facing Materials for Fusion Applications*, Applied Surface Science **416 (2017)** 878-884.
15. **I.-L. Velicu**, V. Tiron, C. Porosnicu, I. Burducea, N. Lupu, G. Stoian, G. Popa, D. Munteanu, *Enhanced properties of Tungsten thin films deposited with a novel HiPIMS approach*, Applied Surface Science **424 (2017)** 397-406.
16. V. Tiron, **I.-L. Velicu**, D. Stanescu, H. Magnan, L. Sirghi, *High Visible Light Photocatalytic Activity of Nitrogen-Doped ZnO Thin Films Deposited by HiPIMS*, Surface & Coatings Technology **324 (2017)** 594-600.
17. **I.-L. Velicu**, V. Tiron, B.-G. Rusu, G. Popa, *Copper thin films deposited under different power delivery modes and magnetron configurations: A comparative study*, Surface & Coatings Technology **327 (2017)** 192-199.

18. **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** (2017).
19. V. Tiron, **I.-L. Velicu**, M. Dobromir, A. Demeter, F. Samoila, C. Ursu, L. Sirghi, *Reactive multi-pulse HiPIMS deposition of oxygen-deficient TiO_x thin films*, Thin Solid Films **603** (2016) 255-261.
20. V. Tiron, **I.-L. Velicu (corresponding author)**, 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.
21. L. Budeanu, M. Neagu, N. Lupu, H. Chiriac, **I.-L. Velicu**, *Fe_{73.5}Cu₁Nb₃Si_{15.5}B₇ powders prepared by mechanical grinding: structural and magnetic properties*, Optoelectronics and Advanced Materials - Rapid Communications **9** (2015) 1164-1166.
22. **I.-L. Velicu**, M. Neagu, L. Costinescu, V. Tiron, D. Munteanu, *Nanomechanical characterization of amorphous and nanocrystalline FeCuNbSiB thin films*, Applied Surface Science **352** (2015) 5-9.
23. V. Tiron, **I.-L. Velicu**, F. Ghiorghiu, 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.
24. L. Costinescu, C. Cojocariu, M. Dudita, L. Parv, **I.-L. Velicu**, D. Munteanu, *The effect of Si incorporation on the mechanical properties and corrosion behaviour of a-C:H and a-C:H:Si coatings*, Journal of Optoelectronics and Advanced Materials **17** (2015) 241-247.
25. **I.-L. Velicu**, M. Neagu, V. Tiron, *Fe_{73.5}Cu₁Nb₃Si_{15.5}B₇ Thin Films Deposited by HiPIMS: Magnetic and Magnetostrictive Behaviour*, Journal of Superconductivity and Novel Magnetism **28** (2015) 1035-1039.
26. **I.-L. Velicu**, V. Tiron, *On the transport phenomena in highly ionized pulsed plasma during FeCuNbSiB thin film deposition process*, Digest of Nanomaterials and Biostructures **9** (2014) 1513-1522.
27. **I.-L. Velicu**, V. Tiron, G. Popa, *Dynamics of the fast - HiPIMS discharge during FINEMET - type films deposition*, Surface & Coatings Technology, **250** (2014) 57-64.
28. **I.-L. Velicu**, M. Neagu, L. Costinescu, D. Munteanu, E. P. Koumoulos, C. A. Charitidis, *Nanomechanical Properties of amorphous FeCuNbSiB Thin Films Deposited by HiPIMS*, Sensors Letters **11** (2013) 1925-1930.
29. **I.-L. Velicu**, M. Kowalczyk, M. Neagu, V. Tiron, H. Chiriac, J. Ferenc, *FINEMET-type thin films deposited by HiPIMS: influence of growth and annealing conditions on the magnetic behaviour*, Materials Science & Engineering B **178** (2013) 1329-1333.
30. **I.-L. Velicu**, M. Neagu, M. Dobromir, D. Luca, N. Lupu, H. Chiriac, F. Borza, *Structural, Magnetic and Magnetoelastic Behaviour of FeCuNbSiB Thin Films*, Sensor Letters **10** (2012) 902-905.
31. **I.-L. Velicu**, M. Neagu, H. Chiriac, V. Tiron, M. Dobromir, *Structural and Magnetic Properties of FeCuNbSiB Thin Films Deposited by HiPIMS*, IEEE Transactions on Magnetism **48** (2012) 1336-1339.
32. M. Dobromir, M. Neagu, H. Chiriac, C. Agheorghiesei, A. Bulai, **I.-L. Velicu**, F. Borza, *Ellipsometric investigation of Fe-based amorphous thin films*, Optoelectronics and Advanced Materials - Rapid Communications **4** (2010) 1667-1669.
33. M. Neagu, M. Lozovan, M. Dobromir, **I.-L. Velicu**, C. Hison, S. Stratulat, *Permalloy Thin Films Obtained by Pulsed Laser Deposition: Magnetic and Galvanomagnetic Behaviour*, Journal of Optoelectronics and Advanced Materials **10** (2008) 632-634.

B. BDI Papers:

1. D. Mihăilescu, C. Munteanu, C. Aniculăesei, **I.-L. Velicu**, *Backscattering Coefficients For 8-32 KeV Electrons: A Monte Carlo Investigation*, Annals of West University, Timișoara, Physics Series **25** (2008).

C. Papers published in extenso in volumes of international scientific manifestations:

1. M. Dobromir, **I.-L. Velicu**, M. Neagu, H. Chiriac, *FeCuNbSiB Thin Films Deposited by Pulsed Laser Deposition: Structural and Magnetic Properties*, Proceedings of International Conference Nanomaterials: Application & Properties **2** (2013) 01NTF09(3).
2. 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*, Proceedings of The XXXI International Conference on Phenomena in Ionized Gases – ICPIG (2013).

D. B+ Papers:

1. **I.-L. Velicu (corresponding author)**, M. Neagu, V. Tiron, *Magnetoimpedance effect in single-layered and sandwiched FeCuNbSiB thin films in frequencies up to 500 MHz*, Journal of Advanced Research in Physics **7(1)** (2017) 011701.

E. Participation in national conferences:

1. M.-A. Petrea, T. Matei, C. Agheorghiesei, **I.-L. Velicu**, V. Tiron, *Visualizing the invisible using qualitative Schlieren imaging*, a XLVIII-a Conferinta Nationala Fizica si Tehnologiile Educaționale Moderne – FTEM, May 24-25, 2019, Iasi, Romania (**oral**).
2. A. Ceban, **I.-L. Velicu**, V. Tiron, *Plasma diagnosis of reactive HiPIMS discharge: assessment of optimal conditions for TiN coatings deposition*, a XLVIII-a Conferinta Nationala Fizica si Tehnologiile Educaționale Moderne – FTEM, May 24-25, 2019, Iasi, Romania (**poster**).
3. T. Matei, M.-A. Petrea, **I.-L. Velicu**, *Motion of objects through fluids. Estimating the drag force and terminal speed using dimensional analysis*, a XLVII-a Conferinta Nationala Fizica si Tehnologiile Educaționale Moderne – FTEM, May 19-20, 2018, Iasi, Romania (**poster**).
4. M.-A. Petrea, T. Matei, **I.-L. Velicu**, *Measuring the gravitational acceleration using the parabolic free surface of a rotating liquid*, a XLVII-a Conferință Națională Fizica si Tehnologiile Educaționale Moderne – FTEM, May 19-20, 2018, Iasi, Romania (**poster**).
5. D. Zanoschi, A. Ceban, T. Cîmpeanu **I.-L. Velicu**, *Study on the diamagnetic behavior of water*, The 46th National Conference on Physics and Modern Education Technologies – FTEM 2017, May 19-20, 2017, Iasi, Romania (**poster**).
6. **I.-L. Velicu**, V. Tiron, G. Popa, *FINEMET-type thin films obtained by HiPIMS: influence of deposition conditions on the deposition rate*, The 5th National Conference of Applied Physics – CNFA 2013, May 23-24 2013, Iasi, Romania (**poster**).
7. **I.-L. Velicu**, V. Tiron, G. Popa, *Onset of sustained self-sputtering regime in HiPIMS discharge for growing FINEMET-type thin films*, Conferința Școlilor Doctorale, October 19, 2012, Iasi, Romania (**oral**).
8. **I.-L. Velicu**, M. Neagu, *FeCuNbSiB thin films deposited by HiPIMS: influence of deposition conditions and thermal treatment*, Conferința Școlilor Doctorale, October 21, 2011, Iasi, Romania (**oral**).
9. **I.-L. Velicu**, M. Dobromir, M. Neagu, H. Chiriac, D. Luca, N. Lupu, V. Pohoăț, B. Munteanu, *FeCuNbSiB thin films deposited by RF magnetron sputtering*, a XL-a Conferinta Nationala Fizica si Tehnologiile Educationale Moderne – FTEM, May 12-14, 2011, Iasi, Romania (**oral**).
10. M. Dobromir, M. Neagu, H. Chiriac, A. Bulai, **I.-L. Velicu**, F. Borza, *Ellipsometric investigation of Fe-based amorphous thin films*, National Conference on Physics, September 23-25, 2010, Iasi, Romania (**poster**).
11. A. Bulai, **I.-L. Velicu**, M. Neagu, V. Pohoăț, B. Munteanu, *Magneto-optical System for Kerr Rotation Measurement*, a XXXIX-a Conferință Națională Fizica si Tehnologiile Educaționale Moderne, May 15, 2010, Iasi, Romania (**poster**).
12. S. Stratulat, **I.-L. Velicu**, A. Bulai, B. Munteanu, H. Chiriac, M. Neagu, *Magnetostrictive behaviour in amorphous magnetic thin films*, a XXXIX-a Conferință Națională Fizica si Tehnologiile Educaționale Moderne, May 15, 2010, Iasi, Romania (**poster**).

F. Participation in international conferences:

1. R. Schrittwieser, V. Tiron, **I.-L. Velicu**, A. V. Nastuță, C. Costin, G. Popa, Z. Kechidi, C. Ioniță, D. Alexandroaei, R. Apetrei, M. Asandulesa, P. Balan, M. Dobromir, C. Douat, S. Jaksch, C. Rusu, D. Luca, A. Murawski, C. Maszl, R. Niedrist, B. Olenici, G. B. Rusu, P. Scheier, I. Vojvodic, *Research on hollow cathodes*, The 19th International Balkan Workshop on Applied Physics, July 16-19, 2019, Constanța, Romania (**invited, co-author**).
2. V. Tiron, **I.-L. Velicu**, A. Ceban, D. Cristea, G. Bulai, D. Munteanu, *Enhanced optical and mechanical properties of silicon dioxide thin films deposited by reactive HiPIMS*, The XVIIIth International Conference on Plasma Physics and Applications – CPPA 2019, 20-22 June 2019, Iasi, Romania (**poster**).
3. **I.-L. Velicu**, V. Tiron, D. Cristea, I. Mihăilă, D. Munteanu, G. Popa, *Bipolar HiPIMS: a step further in exploring new perspectives and horizons in coatings deposition*, The XVIIIth International Conference on Plasma Physics and Applications – CPPA 2019, 20-22 June 2019, Iasi, Romania (**invited, author**).
4. V. Tiron, E.-L. Ursu, D. Cristea, D. Munteanu, A. Menharth, A. Ceban, **I.-L. Velicu**, *Overcoming the insulating materials limitation in HiPIMS: ion-assisted deposition of DLC coatings using bipolar HiPIMS*, 11th International conference on materials science and engineering – BRAMAT 2019, 13-16 March 2019, Brasov, Romania (**poster**).
5. P. Dinca, V. Tiron, I. Mihaila, **I.-L. Velicu**, C. Porosnicu, B. Butoi, A. Velea, E. Grigore, C. Costin, C.P. Lungu, *Dual-HiPIMS system as source of fusion related W-Al composite layers having helium and deuterium inclusions*, The 9th International Conference on Fundamentals and Industrial Applications of HiPIMS, 25-28 June 2018, Sheffield, UK (**poster**).
6. C. Porosnicu, P. Dinca, O.G. Pompilian, B. Butoi, V. Tiron, I. Burducea, **I.-L. Velicu**, C.P. Lungu, *BeW coatings deposited by hybrid HiPIMS/dcMS co-sputtering system as plasma facing material for fusion applications*, The 9th International Conference on Fundamentals and Industrial Applications of HiPIMS, 25-28 June 2018, Sheffield, UK (**oral**).
7. **I.-L. Velicu**, C. Porosnicu, I. Mihăilă, I. Burducea, A. Velea, D. Cristea, D. Munteanu, V. Tiron, *Bipolar High Power Impulse Magnetron Sputtering: A new approach to control the metal ion flux*, The 9th International Conference on Fundamentals and Industrial Applications of HiPIMS, 25-28 June 2018, Sheffield, UK (**oral**).
8. **I.-L. Velicu**, V. Tiron, I. Mihaila, C. Costin, *Pulsed magnetron sputtering: the role of the applied power on W coatings properties*, The 16th International Conference on Global Research and Education – inter-Academia 2017, September 25-28, 2017, Iasi, Romania (**poster**).
9. **I.-L. Velicu**, V. Tiron, G. Popa, *High Power Impulse Magnetron Sputtering: An overview on the benefits of ultra-short pulse operating mode*, The XXXIII International Conference on Phenomena in Ionized Gases – ICPiG 2017, July 9-14 2017, Lisbon, Portugal (**oral**).
10. V. Tiron, **I.-L. Velicu**, N. Lupu, D. Cristea, G. Stoian, D. Munteanu, *Influence of ion-to-metal flux ratio on the mechanical and tribological properties of TiN coatings deposited by HiPIMS*, The 8th International Conference on Fundamentals and Industrial Applications of HiPIMS, 13-14 June 2017, Braunschweig, Germany (**poster**).

11. I.-L. Velicu, V. Tiron, C. Porosnicu, I. Burducea, G. Popa, D. Munteanu, *Enhanced properties of Tungsten thin films deposited with a novel HiPIMS approach*, The 11th International Conference on Physics of Advanced Materials – ICPAM-11, September 8-14, 2016, Cluj-Napoca, Romania (**poster**).
12. V. Tiron, I.-L. Velicu, I. Mihaila, G. Popa, *Optimization of deposition rate in HiPIMS through the control of magnetic field and pulsing configuration*, The 7th International Conference on Fundamentals and Industrial Applications of HiPIMS, 27-30 June 2016, Sheffield, UK (**poster**).
13. I.-L. Velicu, V. Tiron, B.-G. Rusu, G. Popa, *Copper thin films deposited under different power deliver modes and magnetron configurations: A comparative study*, The 7th International Conference on Fundamentals and Industrial Applications of HiPIMS, 27-30 June 2016, Sheffield, UK (**oral**).
14. V. Tiron, I.-L. Velicu, D. Stanescu, H. Magnan, L. Sirghi, *Synthesis and Characterization of Nitrogen-Doped ZnO with High Visible Light Activity*, European-Material Research Society E-MRS, 2-6 May 2016, Lille, France (**poster**).
15. 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 – ICPIG 2015, July 26-31 2015, Iasi, Romania (**poster**).
16. V. Tiron, I.-L. Velicu, O. Vasilovici, M. Dobromir, C. Costin, G. Popa C. Porosnicu, I. Jepu, P. Dinca, C. P. Lungu, M. Straticiu, I. Burducea, *HiPIMS technique used for fusion related mixed materials*, The XXXII International Conference on Phenomena in Ionized Gases – ICPIG 2013, July 26-31 2015, Iasi, Romania (**poster**).
17. V. Tiron, I.-L. Velicu, C. Costin, G. Popa, C. Porosnicu, M. Straticiu, I. Burducea, C. Lungu, *Nitrogen Containing Tungsten Coatings Obtained by HiPIMS as Plasma Facing Materials for Fusion Applications*, The 10th International Conference on Physics of Advanced Materials – ICPAM-10, September 22-28 2014, Iasi, Romania (**poster**).
18. V. Tiron, I.-L. Velicu, N. Becherescu, M. Ganciu, G. Popa, *HiPIMS process optimization by external pulsed magnetic field*, the 10th International Conference on Physics of Advanced Materials – ICPAM-10, September 22-28 2014, Iasi, Romania (**poster**).
19. I.-L. Velicu, M. Neagu, L. Costinescu, V. Tiron, D. Munteanu, *Nanomechanical characterization of amorphous and nanocrystalline FeCuNbSiB thin films*, the 10th International Conference on Physics of Advanced Materials – ICPAM-10, September 22-28 2014, Iasi, Romania (**oral**).
20. V. Tiron, O. Vasilovici, I.-L. Velicu, V. Nica, C. Costin, G. Popa, *Multi-pulse reactive HiPIMS advantages for TiO₂ deposition*, ESCAMPIG XXII, Greifswald, Germany, July 15-19, 2014 (**poster**).
21. L. Budeanu, H. Chiriac, M. Neagu, I.-L. Velicu, *Magnetic and structural characterization of powders obtained by mechanical grinding of Fe_{73.5}Cu₁Nb₃Si_{13.5}B₉ ribbons*, 10th European Conference on Magnetic Sensors and Actuators – EMSA 2014, July 6-9, 2014, Viena, Austria (**poster**).
22. I.-L. 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, July 6-9, 2014, Viena, Austria (**poster**).
23. I.-L. Velicu, M. Neagu, V. Tiron, V. Nica, H. Chiriac, *Fe_{73.5}Cu₁Nb₃Si_{15.5}B₇ Thin Films Deposited by HiPIMS: Magnetic and Magnetostrictive Behaviour*, 4th International Conference on Superconductivity and Magnetism, 27th April – 2nd May, 2014 Antalya, Turcia (**poster**).
24. M. Dobromir, I.-L. Velicu, M. Neagu, H. Chiriac, *FeCuNbSiB Thin Films Deposited by Pulsed Laser Deposition: Structural and Magnetic Properties*, Nanomaterials: Application & Properties – NAP 2013, 16-21 septembrie 2013, Alushta, Ucraina (**poster**).
25. 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*, The XXXI International Conference on Phenomena in Ionized Gases – ICPIG 2013, July 14-19 2013, Granada, Spania (**poster**).
26. V. Tiron, I.-L. Velicu, F. Ghiorghiu, 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 – CPPA 2013, June 20-25 2013, Magurele, București, Romania (**poster**).
27. V. Tiron, I.-L. Velicu, C. Costin, G. Popa, *Dynamics of the fast - HiPIMS discharge during FINEMET – type films deposition*, The 4th International Conference on Fundamentals and Industrial Applications of HiPIMS, June 12-13 2013, Braunschweig, Germania (**oral**).
28. I.-L. Velicu, M. Kowalczyk, M. Neagu, V. Tiron, H. Chiriac, J. Ferenc, *FINEMET-type thin films deposited by HiPIMS: influence of growth and annealing conditions on the magnetic behaviour*, The 9th International Conference on Physics of Advanced Materials – ICPAM-9, September 20-23 2012, Iasi, Romania (**poster**).
29. E.P. Koumoulos, I.-L. Velicu, V.P. Tsikourkitoudi, C.A. Charitidis, M. Neagu, V. Tiron, *Nanomechanical properties of FINEMET-type thin films deposited by HiPIMS for sensing applications*, The 9th International Conference on Nanosciences & Nanotechnologies (NN12), July 3-6 2012, Thessaloniki, Grecia (**poster**).
30. M. Dobromir, I.-L. Velicu, M. Neagu, H. Chiriac, *Structural and magnetic properties of pulsed laser deposited FeCuNbSiB thin films*, International Conference on Materials and Applications for Sensors and Transducers, May 24-28, 2012, Budapesta, Ungaria (**poster**).
31. I.-L. Velicu, M. Neagu, H. Chiriac, V. Tiron, M. Dobromir, V. Pohoată, B. Munteanu, *Effect of preparation conditions on the magnetic properties of FeCuNbSiB thin films*, The 10th International Conference on Global Research and Education – inter-Academia, September 26-29, 2011, Sucevița, România (**poster**).
32. I.-L. Velicu, M. Neagu, H. Chiriac, V. Tiron, M. Dobromir, *Structural and Magnetic Properties of FeCuNbSiB Thin Films Deposited by HiPIMS*, The 20th Soft Magnetic Materials Conference – SMM20, September 18-22, 2011, Kos, Grecia (**poster**).

33. **I.-L. Velicu**, M. Neagu, N. Lupu, H. Chiriac, V. Tiron, M. Dobromir, *FeCuNbSiB thin films deposited by HiPIMS: annealing influence on the structural and magnetic properties*, The 5th International Workshop on Amorphous and Nanostructured Magnetic Materials – ANMM, September 5-7, 2011, Iasi, Romania (**poster**).
34. M. Neagu, M. Dobromir, H. Chiriac, C. Agheorghiesei, B. Munteanu, V. Pohoată, **I.-L. Velicu**, A. Bulai, *Ferromagnetic resonance studies in FeSiB amorphous thin films*, The 8th European Conference on Magnetic Sensors and Actuators, July 4-7, 2010, Bodrum, Turkey (**poster**).
35. **I.-L. Velicu**, M. Neagu, M. Dobromir, D. Luca, H. Chiriac, A. Bulai, F. Borza, S. Stratulat, *Structural, magnetic and magnetoelastic behaviour of FeCuNbSiB thin films*, The 8th European Conference on Magnetic Sensors and Actuators, July 4-7, 2010, Bodrum, Turkey (**poster**).
36. M. Dobromir, M. Neagu, **I.-L. Velicu**, D. Luca, H. Chiriac, N. Lupu, A. Bulai, V. Dascalescu, *The influence of thermal treatments on the magnetic behavior of FeCuNbSiB thin films*, The XVth International Conference on Plasma Physics and Applications, July 1-4, 2010, Iasi, Romania (**poster**).
37. M. Neagu, M. Dobromir, F. Borza, H. Chiriac, **I.-L. Velicu**, M. Grigoras, *Thermal optimization of the magnetic properties of pulsed laser deposited FeCuNbSiB thin films*, The 19th Soft Magnetic Materials Conference, September 6-9, 2009, Torino, Italia (**poster**).
38. M. Dobromir, M. Neagu, D. Luca, B. Munteanu, **I.-L. Velicu**, A. Bulai, *The XPS study and magnetic properties of FeCuNbSiB amorphous thin films*, The 10th International Balkan Workshop on Applied Physics, July 6-8, 2009, Constanta, Romania (**poster**).
39. M. Dobromir, M. Neagu, H. Chiriac, C. Agheorghiesei, G. Ababei, V. Pohoata, **I.-L. Velicu**, *Ferromagnetic resonance studies in FeSiB amorphous thin films*, 10th International Balkan Workshop On Applied Physics, July 6-8, 2009, Constanta, Romania (**poster**).
40. D. Mihăilescu, C. Munteanu, C. Aniculăesei, **I.-L. Velicu**, *Backscattering Coeficients For 8-32 Kev Electrons: A Monte Carlo Investigation*, International Physics Conference TIM-08, November 27-28, 2008, Timișoara, Romania (**poster**).
41. M. Neagu, M. Dobromir, C. Agheorghiesei, S. Stratulat, **I.-L. Velicu**, C. Hison, *Ellipsometric and Magneto-optical Investigation of FeSiB Amorphous Thin Films*, The 4th International Workshop Amorphous and Nanostructured Magnetic Materials – ANMM, August 29-31, 2007, Iași, Romania (**poster**).
42. M. Dobromir, M. Neagu, G. Popa, S. Stratulat, **I.-L. Velicu**, *Ellipsometric investigation of Fe-based amorphous thin films: experiment and simulation*, 8th International Balkan Workshop on Applied Physics, July 3-5, 2007, Constanța, Romania (**poster**).
43. M. Neagu, M. Lozovan, M. Dobromir, **I.-L. Velicu**, C. Hison, *Permalloy Thin Films Obtained by Pulsed Laser Deposition: Magnetic and Galvanomagnetic Behaviour*, The 8th International Balkan Workshop on Applied Physics, July 3-5, 2007, Constanța, Romania (**poster**).
44. M. Dobromir, M. Neagu, **I.-L. Velicu**, M. Lozovan, G. Popa, H. Chiriac, *Magnetic Behavior of Permalloy Thin Films Obtained by Pulsed Laser Deposition*, IEEE ROMSC, May 26-29, 2007, Iași, Romania (**poster**).
45. M.-A. Ciolan, **I.-L. Velicu**, M.-E. Macsim, D. Luca, *A computer-controlled goniometer for contact angle measurements*, International Conference on Fundamental and Applied Research in Physics – FARPhys, October 26-29, 2005, Iasi, Romania (**poster**).

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