

Lucian Viorel Taranu

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WORK EXPERIENCE

Graduate Teaching Assistant

University Politehnica of Bucharest [2014 – 2018]

- Research activities at ELMAT
- Educational activities: Laboratory and Seminars for Electrotechnical Materials (2nd year undergraduate course)

Research Assistant

University Politehnica of Bucharest [2015 – 2018]

Country: Romania

A. Research project PN-II-RU-TE-2014-4-0280, "Reduction of space charge in composite insulations of high voltage DC cables" (2015 - 2017)

- Creation of manufacturing procedures and fabrication of flat uni-layer and multi-layer samples based on XLPE, EPR and EPDM
- Study of the influence of different working parameters on the values of the electrical conductivity and electrical permittivity
- Study of the influence of different working parameters on the values of space charge density
- Study of the influence of thermal ageing on the electrical properties and space charge distributions
- Study of the influence of different working parameters on the values of partial discharges

B. Contract UPB - ELMAT - DEKRA Certification B.V. (2018)

- Sample preparation and study of electrical and electrochemical treeing for test cables

Research Collaborator

University of Bologna (PFISTERER fellowship) [2015 – 2016]

City: Bologna

Country: Italy

Programma formativo ID644 Borsa Pfisterer, N. Prot. 1794, "Measurements of space charge and the charge propagation models in the organic insulating materials"

- Study of the development of HVDC accessories using Silicone Rubber as basic insulating material
- Study of electrical characteristics of Silicone Rubber samples under DC stresses (electrical conductivity and permittivity)
- Study of space charge generation and accumulation in Silicone Rubber samples
- Study of interface characteristics between Silicone Rubber and other materials

Research Assistant

Institut D'Electronique du Sud [2013 – 2013]

City: Montpellier

Country: France

- Manufacture samples based on polyethylene
- Study of the ageing of different polyethylene-based nanomaterials under electrical DC stress
- Study of the influence of space charge on polyethylene with and without nanofillings, using the Thermal Step Method

Audio Video Systems Designer

AVITECH [2012 – 2013]

City: Bucharest

Country: Romania

- Provide efficient, intuitive integrating solutions for simple to complex audio video systems, operating and servicing
- Conduct audio video management activities to provide best resolutions for the client

Research Assistant

INCDIE ICPE-CA [2011]

City: Bucharest

Country: Romania

- Study of the influence of nanocomposite polyethylene fillings on sample's electrical properties
- Establish a correlation between the conductivity in DC and AC

EDUCATION AND TRAINING

Ph.D in El. Engineering

[2013 – 2020]

Thesis: Accumulation and effects of space charge in DC cable joints insulations

- Selection and combination of polymeric materials for HVDC applications, respectively for HVDC cable joints insulations
- Characterization of polymeric materials for cable joint insulations (electric and dielectric properties, space charge, partial discharges)
- Study of the accumulation of space charge and its distribution in the insulation of power cable joints
- Study the effects of space charge (mainly resulting electric stresses) under the action of different electric and thermal stresses
- Study the negative effects of thermal ageing (up to 90 days at 120 °C) on the electrical properties and on the space charge distributions
- Determine methods for reducing space charge
- A part of the work was funded by the EU through InnoRESEARCH, contract POSDRU/159/1.5/S/132395

Master's Degree in El. Engineering

University Politehnica of Bucharest [2011 – 2013]

Final grade : 9.70 (ranked 1 of 15)

Thesis: Study of space charge in polymeric materials for high voltage cables

Bachelor's Degree in El. Engineering
University Politehnica of Bucharest [2007 – 2011]

Final grade : 8.77 (ranked 4 of 53)

LANGUAGE SKILLS

Mother tongue(s):

Romanian

Other language(s):

English

LISTENING C2 READING C2 WRITING C1

SPOKEN PRODUCTION C1 SPOKEN INTERACTION C1

French

LISTENING B2 READING B2 WRITING A2

SPOKEN PRODUCTION A2 SPOKEN INTERACTION B1

DIGITAL SKILLS

Knowledge of technical software

COMSOL / LabView

Knowledge of mathematical and numerical programs

Matlab / Mathcad

Knowledge of computer graphics programs

Photoshop / Autocad

Knowledge of various programming languages

C++ / PHP / Web design

PUBLICATIONS

ISI Journals

1. **L.V. Taranu**, *P.V. Notingher, C. Stancu*, "The influence of electric field and temperature on the electrical conductivity of polyethylene for power cable insulations", U.P.B. Sci. Bull., Series C, vol. 80, no. 4, 2018, pp. 45–56
2. **L.V. Taranu**, *P.V. Notingher, C. Stancu*, "Dependence of electrical conductivity of ethylene-propylene rubber on electric field and temperature", Rev. Roum. Sci. Techn.– Électrotechn. Et Énerg, vol. 63, no. 3, 2018, pp. 243–248
3. **L.V. Taranu**, *P.V. Notingher, C. Stancu*, "Accumulation and effects of space charge in direct current cable joints. Part I: Model and methods for space charge density computation", Rev. Roum. Sci. Techn.– Électrotechn. et Énerg, vol. 64, no. 2, 2019, pp. 113–118
4. **L.V. Taranu**, *P.V. Notingher, C. Stancu*, "Accumulation and effects of space charge in direct current cable joints. Part II: Space charge density and electric field determination", Rev. Roum. Sci. Techn.– Électrotechn. et Énerg, vol. 64, no. 2, 2019, pp. 119–124

ISI Proceedings

1. C. Stancu, P.V. Notingher, L. Dumitran, **L.V. Taranu**, I.A. Cernat, A. Constantin, "Thermal ageing effect on the DC cable joints insulations", Int. Conf. on Applied and Theoretical Electricity (ICATE), 2016
2. C. Stancu, P.V. Notingher, L.M. Dumitran, **L.V. Taranu**, A. Constantin, I.A. Cernat, "Electric field distribution in dual dielectric DC cable joints", Proc. of IEEE International Conference on Dielectrics (ICD), 2016, pp. 402-405
3. C. Stancu, P.V. Notingher, **L.V. Taranu**, I.A. Cernat, A. Constantin, "Thermal and electrical stresses effect on the XLPE-EPR DC cable joints insulations", Proc. of the 10th Int. Symp. on Advanced Topics in Electrical Engineering (ATEE), 2017, pp. 434-439
4. **L.V. Taranu**, P.V. Notingher, C. Stancu, "Concerning the separation of space charge at the DC cable joints interfaces", Proc. of the Int. Symp. on Fundamentals of Electrical Engineering (ISFEE), 2018
5. C. Stancu, P.V. Notingher, **L.V. Taranu**, "Influence of the electric field and temperature on space charge in DC cable joints", Proc. of the 11th Int. Symp. on Advanced Topics in Electrical Engineering (ATEE), 2019

BDI Proceedings

1. C. Stancu, P.V. Notingher, **L.V. Taranu**, "Concerning the space charge accumulation in DC power cable joints insulation", Proc. of Materials, Methods & Technologies, vol. 10, 2016, pp. 154-174
2. C. Stancu, P.V. Notingher, **L.V. Taranu**, I.A. Cernat, A. Constantin, "Influence of the properties of the joint insulation components on the space charge and electric field", Proc. of Materials, Methods & Technologies, 2017.
3. C. Stancu, P.V. Notingher, **L.V. Taranu**, L. Badicu, "Partial discharges in power cable joint insulation models", Proc. of Materials, Methods & Technologies, vol. 12, 2018, pp. 123-136

Proceedings not indexed

1. **L.V. Taranu**, P.V. Notingher, C. Stancu, "Influence of the electric charge accumulated at the inhomogeneous insulation interfaces of electrical equipment on the electric field distribution", Proc. of Electrical Machines National Symp. (EMS'15), 2015
2. C. Stancu, P.V. Notingher, **L.V. Taranu**, S. Dumitrescu, "The influence of ageing of electrical equipment insulations on the level of partial discharges", Proc. of Electrical Machines National Symp. (EMS'17), 2017

NETWORKS AND MEMBERSHIPS

IEEE Student Member

IEEE DEIS Student Member