



## **FLORAN VILA, Academician Emeritus, Prof.Dr**

Albanian Academy of Sciences, Square Fan Noli, No. 7,  
Tirana, Albania

[Physics Department, Faculty of Natural Sciences (FNS)  
Tirana University (UT), Bul. ZOG 1, Tirana, Albania]

(E-mail: [floran.vila@fshn.edu.al](mailto:floran.vila@fshn.edu.al) – [floranvila@ikf-akad.al](mailto:floranvila@ikf-akad.al) -  
[floranvila@yahoo.com](mailto:floranvila@yahoo.com))

### **University and Postuniversity Education**

University studies in Physics, (Tirana University, (UT)), (1960-1964); [PHD (1981) (High Commission of Attestation (HCA));[ Dozent (1986) (HCA)]; [Professor (1994) (Scientific Qualification Commission of Sciences and Technology Committe)];[ Academician (2008), Akademician Emeritus (2019), (Albanian Academy of Sciences) (AAS)]. All education was performed with excellent results.

### **Orders and Awards**

Order Naim Frashëri,(1979) (Presidium of the People's Assembly, Tirana, Albania)]; [Honor Award (2015), [Balkan Physical Union (BPU 9), Istanbul, Turkey].

### **Docs and post-docs scientific research activity (1975-2023)**

**(Electricity):** [{"Static Electricity" (1975) (Leader of the Scientific Research Group); [ "*Study about static electricity in the textile industry and its elimination by means of air ionization*" (1980) (Dissertation thesis)]; ["Study on the elimination of static electricity in the textile industry by changing the electrical conductivity of fibers" (1982),( Dissertation leader)]} ((FNS), (UT)); "*Charge and field distribution in different electrostatic systems*" [Guest professor, Universite de Poitiers (Poitiers, France, 1995)]; "*General theory of critical charge density*" [International Centre for Theoretical Physics (ICTP), (Trieste, Itali, 1997,2000)].

**(Gas-dynamics):** ["*Studies on the application of Gas-dynamics and Nuclear Physics for the evaluation of the immobilizing effects of Conventional and Nuclear Ammunitions*" (1997),( Leader PH.D thesis)], (FNS), UT).

**(Polymers physics):** *"Surface modification of materials under the action of corona discharge"* ( Specialization) [Ecole Supérieure d'Electricité (SUPELEC) (Paris, France, 1986)]; *"Study of electrical properties of polymers"* [ ( ICTP), (Trieste, Italy, 1992,1994)]; *"Study of electrical characteristics of electron-irradiated polyethylene"*[ DAAD Project, Technical University of Darmstadt (TUD), (Darmstadt Germany, 1998)]; “Study on the specific electrical conductivity of polymer materials” [DAAD Project, (TUD), ( Darmstadt Germany, (2002)]; *"Theoretical study on the specific electrical conductivity of polymers"* [(ICTP), (Trieste, Italy, 2003)]; *"Study on the influence of temperature and corona discharge on the electrical conductivity of different types of polymers"* [DAAD Project, (TUD), ( Darmstadt Germany, (2008-2009)]; *"Study on the electrification of polymers"* (2019) [Leader PhD thesis, (FNS, UT)].

**Atmospheric physics:** [*"Study on the electrification of the atmosphere and its effects"* (2007), *"Study on aerosol measurement methodologies"* (2011)] (FNS, UT); [*"Study on the basic elements and their specific parameters affecting the electrification of the atmosphere"* (2012), *"Study on electrostatic characteristics as well as optical and microphysical properties of atmospheric aerosols"* (2021)] (Leader PhD thesis), (FNS, UT); “*Assessment of Parameters and Phenomena of Air Pollutants and Impacts on the Environment*” [Project, Scientific leader, Agency for Research, Technology and Innovation (ARTI), (2010-2012)]; *"Assessment of the mutual impacts between climate change and air pollution, on the territory of Albania"* [Project, Coordinator, National Agency for Scientific Research and Innovation (NASRI), (2021-2023)].

**(Teaching physics):** [*"Study on the theoretical-experimental treatment of Physics in high school"* (2021) (Leader PhD thesis), (FNS, UT).

### Teaching Experience

Contribution to teaching activities has mainly been related to the basic disciplines of General Physics, in all three cycles of university education in the subjects: Electromagnetism and Modern Physics (Bachelor), Basics of Optics and Problems of Modern Physics (Scientific Master), Atmospheric Physics and Supplement of Physics (Doctorate studies).

### Professional background

{[Assistant, Physics Chair, (1964)]; [Pedagogue, (1970)]; [Leader of the Scientific Research Group "Static Electricity" (1975)]; Vice Head (1975), Head (1994-2007),

(General and Experimental Physics Chair)]; [ Scientific Secretary of the Special Commission for the defense of Physics dissertations, (1988-1992)]; [Member of the Editorial Board of the Bulletin of Natural Sciences, (1994-2004)]} (FSHN, UT); [Member of the Council of the National Atomic Authority, (2004-2007)]; {[Member of the Journal of Natural and Technical Sciences (JNTS) (2014-at present)]; [Head of the Physics and Chemistry Commission, (2023-at present)]}(AAS).

## Selected publications

### University books

1. **F. Vila**, R. Meidani, Mechanics. *University book publishing house (UBPH)*, Tirana 1990.
2. **F. Vila**, R. Meidani, Electromagnetism, (UBPH), Tirana, 2005.
3. **F. Vila**, R. Meidani, Modern Physics, (UBPH), Tirana, 2009.
4. **F.Vila**, Fundamentals of Optics, “impress l.l.c.”, Tirana, 2024.

### Scientific articles

#### Electricity

1. **F.Vila**. Avoiding the electrification of the wick in the process of its preparation by means of beta neutralizer with promethium ( $^{147}\text{Pm}$ ). *Bulletin of Natural Sciences*, No. 4, 1981, *Faculty of Natural Sciences, University of Tirana*.
2. **F.Vila**. Experimentation of the active alpha neutralizer with polonium in the textile industry for the removal of electrostatic charges in the combing process. *Proceedings of the Institute of Nuclear Physics*, No. 4, 1987, *Academy of Sciences of Albania*.
3. **F.Vila**. A method for determination of the surface charge density. *Balkan Physics Letters*, vol. 3. No. 3, 149 – 153, 1995.
4. **F.Vila**, G. Touchard, Computation of charge and field in a metallic sphere dielectric flat plate configuration. *Journal of Electrostatics*, 40&41, 121-126, 1997.
5. **F.Vila**. General theory to determine the Critical Charge Density, *IEEE Transaction on Dielectric and Electrical Insulation*, Vol. 9, No. 2 300-307, April 2002.

#### Polymers physics

1. **F.Vila**, G. M. Sessler. Influence of Electron Beam Irradiation on Electric Parameters of Dielectric materials. *Journal of Electrostatics*, **51&52**, 146-152, **2001**.
2. **F. Vila**, G. M. Sessler, H. Sykja. The influence of electron beam irradiation on the volume resistivity of polyethylene and kapton. *Journal of Electrostatics*, V. 63, Issues, 6 – 10, 749, 2005.
3. P.Dhima, **F.Vila**. Determination of Volume Conductivity of Polyethylene Using Positive Corona, when the Current through the sample Depend Lineary on Grid Potential, *Journal of Materials Science and Chemical Engeneering (MSCE)*, Vol. 5, No.12, 40-51, 2017.
4. **F.Vila**, P.Dhima, F.Mandija. (2013) The influencë of temperature on the electrical resistivity of the cellular polypropylene and effect of activation energy. Springer Plus, **2**, 472.
5. Dhima, P. and **Vila, F.** (2018) Determination of Volume Conductivity of Thin Polymeric Films Using Corona Triode, When the Current through the Sample Depends Quadratically on Grid Potentia, *Advances in Materials Physics and Chemistry*, Vol. 8, Nr. 6, 281-294.
6. Dhima, P. and **Vila, F.** (2018), Effect of Polarity on Volume Conductivity of Polymers, Determined by Corona Triode Method, *Advances in Materials Physics and Chemistry Journal*, Vol.8, 387-400.

### **Atmospheric physics**

1. **F. Vila**, F. Mandija, The altitude profile of air ion concentration, and the determination of the recombination and attachment coefficients in the suburbs areas, *Journal of Electrostatics*, V. 67, p. 492-495, 2009.
2. E.Lukaj, F.Mandija,**F.Vila**, OverallAssessmrnt of the Dynamics of Dust Load over the South-East European Region, *European Journal of Applied Sciences EJAS*. P.204-211- DOI:10.14738/aivp.92.9985. ISSN 2054-7412 (2021).
3. E.Lukaj, F.Mandija, **F.Vila**, Overall Assessment of the Dynamics of Dust Load Over the South-East European Region, *European Journal of Applied Sciences*, Vol. 9 No. 2, pp. 204-211, April 2021.
4. E. Lukaj , F. Mandia, **F. Vila**. Investigation of the patterns of the aerosol loads over Albania. *European Journal of Advances in Engineering and Technology*, 2021, 8(4):1-9, ISSN: 2394 - 658X.
5. E.Lukaj, **F.Vila**,F.Mandija Impact of radon gas concentration in the aerosols profile. *AIP (American Institute of Physics)*, Proceedings 1722, 270005 (2016); 10 . 1063/1 . 4944277.
6. N. Frashëri, E. Lukaj, **F.Vila**, F.Mandija, Assesment of the correlations between aerosol optical depth and air temperature. (*AJNTS*) *Albanian Journal of Natural and Technical Sciences*, Published by Academy of Sciences of Albania, 2023 (2) XXVIII, (58).

