

Eugenia Paulescu

Lista lucrărilor științifice (lucrările în bold sunt realizate după dobândirea atestatului de abilitare)

A. Cele mai relevante 10 lucrări

- [1] E. Tulcan-Paulescu, M. Paulescu, Fuzzy modeling of solar irradiation using air temperature data; *Theoretical and Applied Climatology* 91: 181-192 (2008).
IF = 1.621, Q3 (30/52) JCR category Meteorology & Atmospheric Sciences
- [2] E. Tulcan-Paulescu, D. Comanescu, M. Paulescu, On quantum hydrodynamic models for electronic transport in nanoscale semiconductor device, *Modern Physics Letters B*. 24(4-5): 401- 409 (2010).
IF = 0.438, Q4 (61/68) JCR category Physics, Condensed Matter
- [3] E. Paulescu, N. Stefu, P. Gravila, R. St. Boata, N. Pop, M. Paulescu, Procedure of embedding biological action functions into the atmospheric transmittance, *Theoretical and Applied Climatology*, 109: 323-332 (2012).
IF = 1.759, Q2 (34/74), JCR category Meteorology & Atmospheric Sciences
- [4] Paulescu E, Blaga R, Regression models for hourly diffuse solar radiation, *Solar Energy*, 125, 111-124 (2016).
IF= 4.018 Q1 (21/92) JCR category ENERGY & FUELS
- [5] Paulescu E, Blaga R, A simple and reliable empirical model with two predictors for estimating 1-minute diffuse fraction, *Solar Energy* 180, 75-84 (2019).
IF=4.608, Q2 (35/112) JCR category ENERGY & FUELS
- [6] Paulescu E, Paulescu M, A new clear sky solar irradiance model, *Renewable Energy* 2103 -2094, 179 (2021)
IF=5.439 Q1(17/103) JCR category ENERGY & FUELS
- [7] Paulescu E, Paulescu M, Minute-Scale Models for the Diffuse Fraction of Global Solar Radiation Balanced between Accuracy and Accessibility, *Applied Sciences-Basel* 13(11), 6558 (2023).
IF=2.5 Q2 (115/231) JCR category CHEMISTRY, MULTIDISCIPLINARY
- [8] Paulescu E, Velimirovici L, Paulescu M. Clear sky solar irradiance models derived through interdependent parameterization. *Renewable Energy*, 123371 (2025).
IF=6.6 Q2 (51/182) JCR category ENERGY & FUELS
- [9] Stirban G, Paulescu E, Mathematical Assessment of Aerosol Impact on the Diffuse-to-Global Ratio of Solar UV Radiation, *Mathematics* 4 (1), 50 (2026).
IF=2.2 Q1 (30/492) JCR category MATHEMATICS
- [10] Velimirovici L, Paulescu E, Paulescu M. Short-Term Solar Irradiance Forecasting Using Random Forest-Based Models with a Focus on Mountain Locations, *Energies* 19(3) (2026).
IF= 3.2 Q3 (112/182) JCR category ENERGY & FUELS

B. Teza de doctorat și teza de abilitare

Teza de doctorat

Contribuții la descrierea matematică a procesului de solidificare unidirecțională în condiții de laborator spațial

Conducător de doctorat: Prof. dr. Ștefan Balint

Domeniul: Matematică

Universitatea de Vest din Timișoara, 2004.

Teza de abilitare

Estimarea energiei radiației solare

Domeniul: Fizică

Universitatea de Vest din Timișoara, 2023.

C. Carti publicate

1. Weather Modeling and Forecasting of PV Systems Operation

- M. Paulescu, E. Paulescu, P. Gravila, V. Badescu (2013)
Springer, London (2013).
2. Elemente de dimensionare a sistemelor fotovoltaice
M. Paulescu, E. Tulcan-Paulescu
Editura Universitatii de Vest, Timisoara. ISBN: 978-973-125-322-0 (2010)
 3. Sisteme fotovoltaice distribuite
M. Paulescu, E. Tulcan-Paulescu
Editura Universitatii de Vest, Timisoara. ISBN: 973-685-960-6 (2009)
 4. Masurarea si estimarea radiatiei solare
M. Paulescu, A. Neculae, E. Tulcan-Paulescu
Editura Universitatii de Vest, Timisoara. ISBN: 978-973-125-189-9 (2008)
 5. Modelarea numerica a celulelor fotovoltaice nanostructurate
M. Paulescu, A. Neculae, E. Tulcan-Paulescu, D. Comanescu
Editura Universitatii de Vest, Timisoara. ISBN: 978-973-125-174-5 (2008)
 6. Elemente de nanotehnologie,
Eugenia Tulcan-Paulescu, M. Paulescu, Editura Universitatii de Vest,
Timisoara ISBN: 978-973-125-082-3 (2007)
 7. Sisteme fotovoltaice
L. Fara, E. Tulcan-Paulescu, M. Paulescu
Editura MatrixROM, Bucuresti. ISBN: 973-685-960-6 (2005)

D. Capitole de carte publicate

1. **Integration of spectral atmospheric transmittances: Parametric models for solar irradiance**
Eugenia Paulescu, Marius Paulescu, Sergiu Mihai Hategan, Elsevier, Pages 139-172 (2025)
2. Short-term Solar Power Forecasting for Smart-grid Management
Paulescu M., Paulescu E. Bentham Science Publishers Pte. Ltd., Pages 138-158 (2022)
3. Nowcasting solar irradiance for effective solar power plants operation and smart grid management
Paulescu M., Paulescu E., Badescu V. Elsevier, Pages 249-270 (2020)
4. Recent Advances in Fuzzy Modeling of Solar Radiation
M. Paulescu, E. Tulcan-Paulescu, N. Stefu, R. St. Boata
In Solar Radiation: Protection, Management and Measurement Techniques (Fatih O. Hocaoglu, Editor).
Serie Energy Science, Engineering and Technology
Nova Science, New York. In press. ISBN: 978-1-61470-064-7 (2012)
5. Algorithms in Electronic States in Artificial Semiconductors of use in Quantum Solar Cells Engineering,
Eugenia Tulcan-Paulescu, M. Paulescu, In. Physics of Nanostructured Solar Cells
Nova Science, New York ISBN: 978-1-60876-110-4 (2010)

E. Lucrări indexate WoS

(Pentru fiecare lucrare este prezentat factorul de impact din anul publicarii, alaturi de quartila in care a fost plasat jurnalul)

1. **Parametric Clear-Sky Solar Irradiance Model with Improved Diffuse Flux Estimation**, Sirbu V, Paulescu E, *Energies*, 19, 1842 (2026)
IF= 3.2 Q3 (112/182) JCR category ENERGY & FUELS
2. **Past and Future Trends in Atmospheric Transparency Derived from a Revised Formulation of the Ångström–Prescott Equation**. Hategan S-M, Paulescu E, Dughir C, Paulescu M. *Atmosphere*, 17(1):103 (2026)
IF=2.3 Q3 (243/376) JCR category ENVIRONMENTAL SCIENCES
3. **Atmospheric aerosol effects on spectral mismatch and the resulting uncertainty in photovoltaic performance**. Hategan, SM., Paulescu, E., Paulescu, M., *Scientific Reports* (2026).
IF=3.9 Q1 (25/136) JCR category MULTIDISCIPLINARY SCIENCES
4. **Diffuse fraction as a tool for exploring the sensitivity of parametric clear-sky models to changing aerosol conditions**, Robert Blaga, Oana Mares, Eugenia Paulescu, Remus Boata, Andreea

Sabadus, Sergiu-Mihai Hategan, Delia Calinoiu, Nicoleta Stefu, Marius Paulescu, Solar Energy, Volume 277, 112731, (2024)
IF=6.6 Q2 (51/182) JCR category ENERGY & FUELS

5. A cross-sectional survey of deterministic PV power forecasting: Progress and limitations in current approaches, Andreea Sabadus, Robert Blaga, Sergiu-Mihai Hategan, Delia Calinoiu, Eugenia Paulescu, Oana Mares, Remus Boata, Nicoleta Stefu, Marius Paulescu, Viorel Badescu, Renewable Energy, Volume 226, 120385,(2024).
IF=9.1 Q1 (24/182) JCR category ENERGY & FUELS
6. A Semi-Analytical Model for Separating Diffuse and Direct Solar Radiation Components, Paulescu E., Paulescu M., APPLIED SCIENCES-BASEL, Volume12, Issue24, Article Number12759, (2022)
IF=2.7 Q2 (42/90) JCR category ENGINEERING, MULTIDISCIPLINARY
7. Quantification of the aerosol-induced errors in solar irradiance modeling, R. Blaga, D. Calinoiu, N. Stefu, R. Boata, A. Sabadus, E. Paulescu, N. Pop, O. Mares, S. Bojin, M. Paulescu, Meteorology and Atmospheric Physics, 133, 1395–1407 (2021)
IF= 2.292 Q4 (72/94) JCR category Meteorology & Atmospheric Sciences
8. Paulescu Marius, Paulescu Eugenia, Short-term forecasting of solar irradiance, Renewable Energy, Vol. 143, 2019, 985-994
IF=5.439 Q1(17/103) JCR category ENERGY & FUELS
9. Calinoiu D, Stefu N, Boata R, Blaga R, Pop N, Paulescu E, Sabadus A, Paulescu M. Parametric modeling: A simple and versatile route to solar irradiance, Energy Conversion and Management 164, 175-187 (2018).
IF= 7.181 Q1 (12/103) JCR category ENERGY & FUELS
10. A Simplified but Accurate UV Index Model, Paulescu E, Iman V, Dughir C, Stefu N, Paulescu M, TIM17 PHYSICS CONFERENCE, Book Series: AIP Conference Proceedings, Volume: 1916, Article Number: UNSP 040010, DOI: 10.1063/1.5017449 (2017)
Indexed by WoS
11. SEASONAL MODELING OF HOURLY SOLAR IRRADIATION SERIES Paulescu M, Pop N, Stefu N, Paulescu E, Boata R, Calinoiu D. ROMANIAN JOURNAL OF PHYSICS , 62 Issue: 7-8 (2017)
IF=1.46 Q3(45/81) JCR category PHYSICS, MULTIDISCIPLINARY
12. Model for the UV biologically effective dose and application under future climate conditions N. Stefu, M. Paulescu, P. Gravila, E. Paulescu, N. Pop, R. Boata
Environmental Engineering and Management Journal 16. 225-234 (2017)
IF = 1.008, Q4 (175/225) JCR category Environmental Science
13. Ångström–Prescott equation: Physical basis, empirical models and sensitivity analysis Paulescu M, Stefu N, Calinoiu D, Paulescu E, Pop N, Boata R, Mares O
Renewable and Sustainable Energy Reviews 62: 495-506 (2016)
IF = 6.798, Q1 (6/88) JCR category Energy&Fuels
14. A theoretical framework for Ångström equation. Its virtues and liabilities in solar energy estimation N. Stefu, M. Paulescu, R. Blaga, D. Calinoiu, N. Pop, R. Boata, E. Paulescu
Energy Conversion and Management 112, 236-245 (2016).
IF = 4.801, Q1 (2/58) JCR category Thermodynamics.
15. Evaluation of errors made in solar irradiance estimation due to averaging the Angstrom turbidity coefficient
D. Calinoiu, N. Stefu, M. Paulescu, G. Trif-Tordai, O. Mares, E. Paulescu, R. Boata, N. Pop, A. Pacurar
Atmospheric Research, 150: 69-78 (2014)

IF = 2.844, Q2 (22/77) JCR category Meteorology & Atmospheric Sciences.

16. Quality assurance in the laboratory testing process: Indirect estimation of the reference intervals for platelet parameters in neonates, Grecu, Daniela Stefania; Paulescu, Eugenia, CLINICAL BIOCHEMISTRY Volume: 47 Issue: 15 Pages: 33-37 (2014)
IF=2.275 Q2(11/29) JCR category MEDICAL LABORATORY TECHNOLOGY
17. Nowcasting solar irradiance using the sunshine number
M. Paulescu, O. Mares, E. Paulescu, N. Stefu, A. Pacurar, D. Calinoiu, P. Gravila, N. Pop, R. Boata
Energy Conversion and Management 79: 690-697 (2014).
IF = 4.380, Q1 (3/55) JCR category Thermodynamics.
18. Forecasting hourly global solar irradiation using simple non-seasonal models , Pacurar A, Stefu N, Mares O, Paulescu E, Calinoiu D, Pop N, Boata R, Gravila P, Paulescu M. , *Journal of Renewable and Sustainable Energy* 5 (2013) Article Number: 063140.
IF = 0.925, Q3 (52/76) JCR category Energy&Fuels
19. Calinoiu D, Paulescu M, Ionel I, Stefu N, Pop N, Boata R, Pacurar A, Gravila P, Paulescu E, Trif-Tordai G. Influence of aerosols pollution on the amount of collectable solar energy, *Energy Conversion and Management*, Vol. 70, 76-82 (2013).
IF = 3.590, Q1 (5/55), JCR category Thermodynamics.
20. Quality in post-analytical phase: Indirect reference intervals for erythrocyte parameters of neonates, Grecu, Daniela Stefania; Paulescu, Eugenia, CLINICAL BIOCHEMISTRY Volume: 46 Issue: 7-8 Pages: 617-621 Published: MAY 2013
IF=2.229 Q2(11/29) JCR category MEDICAL LABORATORY TECHNOLOGY
21. Atmospheric transmittance model for photosynthetically active radiation
M. Paulescu, N. Stefu, P. Gravila, E. Paulescu, N. Pop, D. Calinoiu, R. Boata, A. Pacurar, O. Mares
Proc. TIM-12 Physics Conference. American Institute of Physics Conference Proceedings 1564, 188 (2013) <http://dx.doi.org/10.1063/1.4832816>
Indexed by WoS
22. A temperature based model for global solar irradiance and its application to estimate daily irradiation values
M. Paulescu, E. Tulcan-Paulescu, N. Stefu
International Journal of Energy Research. 35: 520-529 (2011).
IF = 2.122, Q1 (2/35) JCR category Nuclear Science & Technology
23. PGO models in the envelope function and effective mass approximations
M. Paulescu, E. Tulcan-Paulescu P. Gravila
European Physics Journal B. 80: 115-120 (2011).
IF = 1.534, Q2 (34/69) JCR category Physics, Condensed Matter
24. Global solar irradiation modeling and measurements in Timisoara
T. Jurca, E. Tulcan-Paulescu, C. Dughir, M. Lascu, P. Gravila, A. De Sabata, I. Luminosu, C. De Sabata, M. Paulescu
Proc. TIM-10 Physics Conference, American Institute of Physics Conference Proceedings 1387: 253 - 258 (2011).
Indexed by WoS
25. Fuzzy sets theory applied for computing global solar irradiation
Boate St.; Paulescu M.; Tulcan-Paulescu E.; Gravila P.;
Proc. TIM-10 Physics Conference, American Institute of Physics Conference Proceedings 1387, (2011).
Indexed by WoS

26. Pseudo-Gaussian superlattice
M. Paulescu, E. Tulcan-Paulescu, P. Gravila
International Journal of Modern Physics C. 21(9) 1095-1105 (2010).
IF = 0.706, Q4 41/54 JCR category Physics, Mathematical

27. Solar Radiation Modeling and Measurements in Timisoara, Romania: Data and Model Quality
M. Paulescu, C. Dughir, E. Tulcan-Paulescu, M. Lascu, P. Gravila, T. Jurca
Environmental Engineering and Management Journal, 9(8): 1089-1095 (2010).
IF = 1.435, Q3 (107/193) JCR category Environmental Sciences

28. A hybrid model for quantum well solar cells
M. Paulescu, E. Tulcan-Paulescu, P. Gravila
International Journal of Modern Physics B. 24(14): 2121-2133 (2010).
IF = 0.402, Q4 (62/68) JCR category Physics, Condensed Matter

29. UV solar irradiance from broadband radiation and other meteorological data
M. Paulescu, N. Stefu, E. Tulcan-Paulescu, D. Calinoiu, A. Neculae, P. Gravila
Atmospheric Research 96(1): 141-148 (2010).
IF = 1.597, Q3 (35/68) JCR category Meteorology & Atmospheric Sciences

30. Integration of PV Modules in Existing Romanian Buildings
Fara S.; Finta D.; Iancu M.; Fara L.; Dabija A.M., Tulcan-Paulescu E., PROCEEDINGS OF 2010 IEEE INTERNATIONAL CONFERENCE ON AUTOMATION, QUALITY AND TESTING, ROBOTICS (AQTR 2010), VOLS. 1-3 Book Series IEEE International Conference on Automation Quality and Testing Robotics Published 2010, Meeting IEEE International Conference on Automation, Quality and Testing, Robotics (AQTR) Cluj Napoca, ROMANIA, MAY 28-30, 2010
Indexed by WoS

31. Recent Advances in Photovoltaics at the West University of Timisoara,
Tulcan-Paulescu, E.; Gravila, P.; Paulescu, M., Conference: Physics Conference (TIM 2009) Location: Timisoara, ROMANIA Date: NOV 27-28, 2009, Sponsor(s): W Univ Timisoara, TIM-09: PROCEEDINGS OF THE PHYSICS CONFERENCE Book Series: AIP Conference Proceedings Volume: 1262 Pages: 161-166 (2010)
Indexed by WoS

32. ALGORITHMS FOR ELECTRONIC STATES IN ARTIFICIAL SEMICONDUCTORS OF USE IN QUANTUM SOLAR CELLS ENGINEERING
Tulcan-Paulescu E., Paulescu M., PHYSICS OF NANOSTRUCTURED SOLAR CELLS, Page167-192 Book Series Renewable Energy Research Development and Policies, Published 2010, Article; Book Chapter
Indexed by WoS

33. Fuzzy logic algorithms for atmospheric transmittances of use in solar energy estimation
M. Paulescu, P. Gravila, E. Tulcan-Paulescu
Energy Conversion and Management 49: 3691-3697 (2008).
IF = 1.813, Q1 (6/44) JCR category Thermodynamics

34. Internal Reflection Influence on the Multiple Quantum Well Solar Cell Efficiency;
M. Paulescu, E. Tulcan-Paulescu, A. Neculae, P. Gravila
Journal of Optoelectronics and Advances Materials 10(9): 2441 – 2444 (2008).
IF = 0.577, Q3 (142/192) JCR category Materials Science, Multidisciplinary

35. A simple but accurate multiband solar cells model
M. Paulescu, E. Tulcan-Paulescu, A. Neculae, P. Gravila

36. Models for obtaining daily global solar irradiation from air temperature data
M. Paulescu, L. Fara, E. Tulcan-Paulescu
Atmospheric Research 79: 227 - 240 (2006).
IF = 1.304, Q3 (27/48) JCR category Meteorology & Atmospheric Sciences
37. Assesemnts on the multijunction solar cells photoelectric efficiency related to the semiconductor band gap and outdoor conditions
M. Paulescu, E. Tulcan-Paulescu
Modern Physics Letters B 19: 447-459 (2005).
IF = 0.621, Q3 (44/60) JCR category Physics, Condensed Matter)
38. The effect of the initial dopant distribution in the melt on the axial compositional uniformity of a thin doped crystal grown in strictly zero-gravity environment by Bridgman-Stockbarger method, Tulcan-Paulescu, E; Balint, AM; Balint, S, JOURNAL OF CRYSTAL GROWTH Volume: 247 Issue: 3-4 Pages: 313-319
Article Number: PII S0022-0248(02)02055-9 (2003)
IF= 1.414 Q2 (9/23) JCR category CRYSTALLOGRAPHY
39. The role of the thermo-transport and heat loss in the axial macrosegregation,
Tulcan-Paulescu E.; Balint A.M.; Balint St., ADVANCED COMPUTATIONAL METHODS IN HEAT TRANSFER VII, Volume 4, Page 313-318, Book Series COMPUTATIONAL STUDIES, Meeting 7th International Conference on Advanced Computational Methods in Heat Transfer, HALKIDIKI, GREECE, APR 22-24, 2002
Indexed by WoS
40. On the controllability of the flow of a magnetic fluid by a magnetic field,
Tulcan-Paulescu E.; Balint A.M, THIRD INTERNATIONAL CONFERENCE ON NONLINEAR PROBLEMS IN AVIATION AND AEROSPACE, VOLS 1 AND 2, PROCEEDINGS, Page 653-658, Published 2002, Meeting 3rd International Conference on Nonlinear Problems in Aviation and Aerospace, EMBRY RIDDLE AERONAUT UNIV, DAYTONA BEACH, FL, MAY 10-12, 2000
Indexed by WoS
41. Morphology of cluster formation in magnetic fluids, Tulcan, E; Sofonea, V, Conference: 8th International Conference on Magnetic Fluids (ICMF) Location: TIMISOARA, ROMANIA Date: JUN 29-JUL 03, 1998, JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS Volume: 201 Pages: 238-241 (1999)
IF= 1.195 Q2 (39/168) JCR category MATERIALS SCIENCE, MULTIDISCIPLINARY

F. Lucrări reviste BDI

42. On the energy production of a stand-alone PV system related to the cloud cover variability
M. Paulescu, E. Tulcan-Paulescu
Scientific Bulletin of the "POLITEHNICA" University of Timisoara, 55(1): 78 – 85 (2010).
43. Nanoscale transport description via QHD simulation
E. Tulcan Paulescu, M. Paulescu, D. Comanescu
The Annals of the West University of Timisoara, Physics Series 51: 56-60 (2007).
44. Ballistic diode simulation via QHD model
E. Tulcan-Paulescu, M. Paulescu
Scientific Bulletin of the "Politehnica" University of Timisoara. Transactions on Mathematics and Physics 52(2): 112 – 118 (2007).

45. Optical and electrical modeling of multiple quantum well solar cells
M. Paulescu, P. Gravila, E. Tulcan-Paulescu
Scientific Bulletin of the "Politehnica" University of Timisoara. Transactions on Mathematics and Physics 52(1): 114 - 121 (2007).
46. Critical assessment of high efficiency photovoltaic concepts
E. Tulcan-Paulescu, P. Gravila, M. Paulescu
The Annals of the West University of Timisoara, Physics Series 49: 135-139 (2006).
47. Modeling the quantum semiconductor via the transfer matrix method
M. Paulescu, E. Tulcan-Paulescu, P. Gravila
Scientific Bulletin of the "Politehnica" University of Timisoara. Transactions on Mathematics and Physics Timisoara 51(1): 95-101 (2006).
48. On the reliability of stand-alone PV systems;
M. Paulescu, E. Tulcan-Paulescu;
The Annals of the West University of Timisoara, Physics Series 45: 173-176 (2002).
49. A mathematical model for total solar irradiation on tilted surfaces
M. Paulescu, E. Tulcan-Paulescu;
The Annals of the West University of Timisoara, Physics Series 45: 177-180 (2002).

G. Lucrări prezentate la congrese / conferinte / workshop-uri

50. Recent advances in solar radiation forecasting at the West University of Timisoara
A. Pacurar, O. Mares, R. Boata, D. Calinoiu, N. Stefu, N. Pop, P. Gravila, E. Paulescu, M. Bunoiu, D. Vizman, M. Paulescu
TIM-13 Physics Conference, 21-23 November 2013, Timisoara, Romania.
51. Multi-intermediate band structures for photovoltaic applications
P. Gravila, E. Tulcan-Paulescu, D. Vangheli, M. Paulescu
Proc. of ICNPAA- Mathematical Problems in Engineering Aerospace and Sciences, Genoa, June 25-27, 2008.
52. Solar Radiation Monitoring Station at West University of Timisoara;
M. Paulescu, P. Gravila, E. Tulcan-Paulescu;
Proc. International Workshop PVTRENDS-2008, Bucuresti, 29-30 July 2008.
53. Proiectarea sistemelor fotovoltaice - Între tradiție orală și criterii științifice
Marius Paulescu, Eugenia Tulcan-Paulescu
In *Proc. Instalații pentru Construcții și Comfort Ambiental*, Timisoara, 347-35, 17-18 aprilie 2008. ISSN: 1842-9491.
54. The transfer matrix method as an approach for numerical simulation of nanoscale semiconductor device
M. Paulescu, E. Tulcan-Paulescu, P. Gravila
In *Proc. of The 4th International Colloquium Mathematics in Engineering and Numerical Physics*, October 6-8 2006, Bucharest, pp. 141-144 (2006).
ISBN 97897337187611

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