

## Eugenia Paulescu

### Lista lucrărilor științifice

#### A. Teza de doctorat

Contributii la descrierea matematica a procesului de solidificare unidirectionala in conditii de laborator spatial

Conducator de doctorat: Prof. dr. Stefan Balint

Domeniul: Matematica

Universitatea de Vest din Timisoara, 2004.

#### Teza de abilitare

ESTIMAREA ENERGIEI RADIATIEI SOLARE

Domeniul: Fizica

Universitatea de Vest din Timisoara, 2023.

#### B. Lucrări indexate WoS

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

1. Minute-Scale Models for the Diffuse Fraction of Global Solar Radiation Balanced between Accuracy and Accessibility, Eugenia Paulescu, Marius Paulescu, Applied Sciences-Basel, Volume 13(11), 6558 (2023).
2. A Semi-Analytical Model for Separating Diffuse and Direct Solar Radiation Components, Eugenia Paulescu, Marius Paulescu, Applied Sciences-Basel, Volume 12(24), 12759 (2022).
3. A new clear sky solar irradiance model, Eugenia Paulescu, Marius Paulescu, RENEWABLE ENERGY Volume: 179 , Pages: 2094-2103 (2021)  
IF=5.439 Q1(17/103) JCR category ENERGY & FUELS
4. 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)
5. A simple and reliable empirical model with two predictors for estimating 1-minute diffuse fraction, Paulescu Eugenia; Blaga Robert, SOLAR ENERGY Volume: 180 , Pages: 75-84 (2019)  
IF=4.674,Q1(24/103) JCR category ENERGY & FUELS
6. Short-term forecasting of solar irradiance, Paulescu Marius; Paulescu Eugenia, RENEWABLE ENERGY Volume: 143 ,Pages: 985-994 (2019)  
IF=5.439 Q1(17/103) JCR category ENERGY & FUELS
7. Parametric modeling: A simple and versatile route to solar irradiance. Calinoiu, Delia, Stefu, Nicoleta; Boata, Remus, Blaga Robert, Pop Nicolina, Paulescu Eugenia, Sabadus Andreea, Paulescu Marius, ENERGY CONVERSION AND MANAGEMENT Volume: 164 Pages: 175-187 (2018)  
IF=7.181Q1(12/103) JCR category ENERGY & FUELS
8. 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)

9. 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
  
10. 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
  
11. 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
  
12. 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.
  
13. Regression models for hourly diffuse solar radiation, Paulescu, Eugenia; Blaga, Robert, SOLAR ENERGY Volume: 125 Pages: 111-124 (2016)  
IF=4.784,Q1(24/103) JCR category ENERGY & FUELS
  
14. 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)  
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15. 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
  
16. 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).  
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17. 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
  
18. Influence of aerosols pollution on the amount of collectable solar energy  
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*Energy Conversion and Management* 70: 76–82 (2013).  
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19. 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  
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20. 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  
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21. Procedure of embedding biological action functions into the atmospheric transmittance  
E. Paulescu, N. Stefu, P. Gravila, R. St. Boata, N. Pop, M. Paulescu  
*Theoretical and Applied Climatology*, 109: 323-332 (2012).  
IF = 1.759, Q2 (34/74), JCR category Meteorology & Atmospheric Sciences
22. 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
23. A temperature based model for global solar irradiance and its application to estimate daily irradiation values  
M. Paulescu, E. Tulcan-Paulescu, N. Stefu  
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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,  
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25. Fuzzy sets theory applied for computing global solar irradiation  
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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  
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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).  
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30. On quantum hydrodynamic models for electronic transport in nanoscale semiconductor device  
E. Tulcan-Paulescu, D. Comanescu, M. Paulescu  
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31. ALGORITHMS FOR ELECTRONIC STATES IN ARTIFICIAL SEMICONDUCTORS OF USE IN QUANTUM SOLAR CELLS ENGINEERING, Tulcan-Paulescu, Eugenia; Paulescu, Marius, PHYSICS OF NANOSTRUCTURED SOLAR CELLS Book Series: Renewable Energy Research Development and Policies Pages: 167-192 (2010)
32. Integration of PV Modules in Existing Romanian Buildings, Fara, S.; Finta, D.; Iancu, M.; Fara, L ; Dabija, AM ; Tulcan-Paulescu, E, Conference: IEEE International Conference on Automation, Quality and Testing, Robotics (AQTR) Location: Cluj Napoca, ROMANIA Date: MAY 28-30, 2010, Sponsor(s): IEEE 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 (2010)
33. 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)
34. 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
35. 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
36. Fuzzy modeling of solar irradiation using air temperature data, E. Tulcan-Paulescu, M. Paulescu, *Theoretical and Applied Climatology* 91: 181-192 (2008).  
 IF = 1.621, Q3 (30/52) JCR category Meteorology & Atmospheric Sciences
37. A simple but accurate multiband solar cells model, M. Paulescu, E. Tulcan-Paulescu, A. Neculae, P. Gravila, *Proc. SPIE Photonics Europe 2008 - Photonics for Solar Energy Systems II* Strasbourg, April 7-8, 2008; 70020T1-70020T8; ISSN 0277-786X Indexed by WoS
38. Models for obtaining daily global solar irradiation from air temperature data , M. Paulescu, L. Fara, E. Tulcan-Paulescu , *Atmospheric Research* 79: 227 - 240 (2006).  
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39. 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)
40. 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)

41. The role of the thermo-transport and heat loss in the axial macrosegregation, Tulcan-Paulescu, E; Balint, AM; St Balint, Conference: 7th International Conference on Advanced Computational Methods in Heat Transfer Location: HALKIDIKI, GREECE Date: APR 22-24, 2002 , ADVANCED COMPUTATIONAL METHODS IN HEAT TRANSFER VII Book Series: COMPUTATIONAL STUDIES Volume: 4 Pages: 313-318 (2002)
42. On the controllability of the flow of a magnetic fluid by a magnetic field, Tulcan-Paulescu, E; Balint, AM., Conference: 3rd International Conference on Nonlinear Problems in Aviation and Aerospace Location: EMBRY RIDDLE AERONAUT UNIV, DAYTONA BEACH, FL Date: MAY 10-12, 2000, THIRD INTERNATIONAL CONFERENCE ON NONLINEAR PROBLEMS IN AVIATION AND AEROSPACE, VOLS 1 AND 2, PROCEEDINGS Pages: 653-658 (2002)
43. 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)

#### D. Lucrări indexate BDI

44. 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).
45. 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).
46. 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).
47. 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).
48. 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).
49. 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 Timișoara* 51(1): 95-101 (2006).
50. 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).
51. A mathematical model for total solar irradiation on tilted surfaces

M. Paulescu, E. Tulcan-Paulescu;  
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## **E. Lucrări prezentate la congrese / conferinte / workshop-uri**

52. 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.*

53. 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.*

54. 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.*

55. 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.

56. 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 4<sup>th</sup> International Colloquium Mathematics in Engineering and Numerical Physics, October 6-8 2006, Bucharest, pp. 141-144 (2006).  
ISBN 97897337187611

## **F. Carti / capitole publicate la edituri internationale**

1. Weather Modeling and Forecasting of PV Systems Operation  
M. Paulescu, E. Paulescu, P. Gravila, V. Badescu (2013)  
Springer, London (2013).
2. 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, 2012. In press. ISBN: 978-1-61470-064-7
3. 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 (2010) ISBN: 978-1-60876-110-4

4. Paulescu M, Paulescu E (2022) Short-term solar power forecasting for smart-grid management. In Facets of a Smart City: Computational and Experimental Techniques for Sustainable Urban Development (Pijush Samui, Anasua GuhaRay, Elham Mahmoudi Eds). Bentham Science Publisher, ISBN: 978-981-5049-08-4

### **G. Carti / capitole publicate la edituri nationale**

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

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