

Dr. Eugenia Paulescu

Papers, talks and books

(updated September 2016)

Solar energy. Photovoltaics

1. 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)
2. 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).
3. Eugenia Paulescu, Robert Blaga, Regression models for hourly diffuse solar radiation, *Solar Energy*, Vol. 125, 2016, 111-124.
4. 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 (2015)
http://omicron.ch.tuiasi.ro/EEMJ/pdfs/accepted/388_110_Stefu_13.pdf
5. 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)
6. 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).
7. Pacurar A, Stefu N, Mares O, Paulescu E, Calinoiu D, Pop N, Boata R, Gravila P, Paulescu M.
Forecasting hourly global solar irradiation using simple non-seasonal models
Journal of Renewable and Sustainable Energy 5 (2013) Article Number: 063140.
8. Influence of aerosols pollution on the amount of collectable solar energy
D. Calinoiu, M. Paulescu, I. Ionel, N. Stefu, N. Pop, R. Boata, A. Pacurar, P. Gravila, E. Paulescu, G. Trif-Tordai
Energy Conversion and Management 70: 76–82 (2013).
9. 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>
10. 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).
 11. 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).
 12. 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).
 13. 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).
 14. 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).
 15. Recent Advances in Photovoltaics at the West University of Timisoara
E. Tulcan-Paulescu, P. Gravila, M. Paulescu
Proc. TIM-09 Physics Conference, American Institute of Physics Conference Proceedings 1262: 161 - 166 (2010).
 16. Integration of PV Modules in Existing Romanian Buildings
S. Fara, D. Finta, M. Iancu, L. Fara, D. Comaneci, Ana-Maria Dabija, Eugenia Tulcan-Paulescu, M. Paulescu, T. Jurca
Proc. of IEEE Int. Conf. AQTR, 28-30 May 2010. Tome III, pp. 469-474.
 17. 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).
 18. 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).
 19. Fuzzy modeling of solar irradiation using air temperature data;
E. Tulcan-Paulescu, M. Paulescu
Theoretical and Applied Climatology 91: 181-192 (2008).

20. Solar Radiation Monitoring Station at West University of Timisora;
M. Paulescu, P. Gravila, E. Tulcan-Paulescu;
Proc. International Workshop PVTRENDS-2008, Bucuresti, 29-30 July 2008.
21. Proiectarea sistemelor fotovoltaice - Între tradiție orală și criteriile științifice
Marius Paulescu, Eugenia Tulcan-Paulescu
In *Proc. Instalații pentru Construcții și Comfort Ambiental*, Timisoara, 347-35, 17-18 aprilie 2008. ISSN: 1842-9491.
22. Models for obtaining daily global solar irradiation from air temperature data
M. Paulescu, L. Fara, E. Tulcan – Paulescu
Atmospheric Research 79: 227 - 240 (2006).
23. Assessemnts 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).
24. 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.
25. 42. 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).

Quantum electronics. Nanostructured solar cells

26. 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).
27. Pseudo-Gaussian superlattice
M. Paulescu, E. Tulcan-Paulescu, P. Gravila
International Journal of Modern Physics C. 21(9) 1095-1105 (2010).
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).
29. On quantum hydrodynamic models for electronic transport in nanoscale semiconductor device
E. Tulcan-Paulescu, D. Comanescu, M. Paulescu
Modern Physics Letters B. 24(4-5): 401- 409 (2010).
30. 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).
31. A simple but accurate multiband solar cells model
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Proc. SPIE Photonics Europe 2008 - Photonics for Solar Energy Systems II
Strasbourg, April 7-8, 2008; 70020T1-70020T8; ISSN 0277-786X

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P. Gravila, E. Tulcan-Paulescu, D. Vangheli, M. Paulescu
Proc. of ICNPAA- Mathematical Problems in Engineering Aerospace and Sciences,
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33. 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).
34. Ballistic diode simulation via QHD model
E. Tulcan-Paulescu, M. Paulescu
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35. Optical and electrical modeling of multiple quantum well solar cells
M. Paulescu, P. Gravila, E. Tulcan-Paulescu
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Mathematics and Physics 52(1)*: 114 - 121 (2007).
36. 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).
37. 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
38. 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).

Medical science

39. Daniela Stefania Grecu, Eugenia Paulescu, Quality assurance in the laboratory
testing process: Indirect estimation of the reference intervals for platelet
parameters in neonates, *Clinical Biochemistry*, Vol. 47, 2014, 33-37.
40. Daniela Stefania Grecu, Eugenia Paulescu, Quality in post-analytical phase:
Indirect reference intervals for erythrocyte parameters of neonates, *Clinical
Biochemistry*, Vol. 48, 2013, 617-621.

Crystal growth

41. Eugenia Tulcan Paulescu, Agneta Balint, Stefan Balint, 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, *Journal of Crystal Growth*, 2003, Vol 247, 313-319.

Magnetic fluids

42. Eugenia Tulcan, Victor Sofonea, Morphology of cluster formation in magnetic fluids, Journal of Magnetism and Magnetic Materials, 1999, Vol. 201, 238-241.

Books

1. M. Paulescu, E. Paulescu, P. Gravila, V. Badescu (2013) Weather Modeling and Forecasting of PV Systems Operation, Springer, London.

Contributions to edited books

1. 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