

## Dr. Marius Paulescu

### Papers, talks and books

(last update May 2024)

### Articles in peer-reviewed journals

1. A methodology for realistic estimation of the aerosol impact on the solar potential.  
Blaga R, Calinoiu D, [Paulescu M](#).  
Solar Energy 271, 112425 (2024).
2. A cross-sectional survey of deterministic PV power forecasting: Progress and limitations in current approaches  
Sabadus A, Blaga R, Hategan SM; Calinoiu D; Paulescu E, Mares O; Boata R, Stefu N, [Paulescu M](#), Badescu V  
Renewable Energy 226, 120385, (2024).
3. Cost-effective energy management of an islanded microgrid,  
Szilagyi E, Petreus D, [Paulescu M](#), Patarau T, Hategan SM, Sarbu NA.  
Energy Reports 10, 4516-4537 (2023).
4. An Ensemble Approach for Intra-Hour Forecasting of Solar Resource  
Hategan SM, Stefu N, [Paulescu M](#)  
Energies 16(18), 6608 (2023).
5. Intra-hour PV power forecasting based on sky imagery  
[Paulescu M](#), Blaga R, Dughir C, Stefu N, Sabadus A, Calinoiu D, Badescu V.  
Energy 28135 (2023).
6. Minute-Scale Models for the Diffuse Fraction of Global Solar Radiation Balanced between Accuracy and Accessibility  
Paulescu E, [Paulescu M](#)  
Applied Science-Basel 13(11), Article number: 6558 (2023) DOI10.3390/app13116558
7. Solar global irradiance from actinometric degree data for Montsouris (Paris) 1873–1877.  
Badescu V, Rotar N, Dumitrescu A, Oprea C, [Paulescu M](#)  
Theoretical and Applied Climatology 153, 539–559 (2023).
8. Calibration of GFS Solar Irradiation Forecasts: A Case Study in Romania.  
Hategan SM, Stefu N, [Paulescu M](#)  
Energies 16(11), 4290 (2023).
9. A Semi-Analytical Model for Separating Diffuse and Direct Solar Radiation Components  
Paulescu E, [Paulescu M](#)  
Applied Sciences 12(24), Article Number12759 (2022).
10. Spectral Factor of Colored Solar Cells: A Case Study on the Main Urban Areas in Romania  
Hategan SM, [Paulescu M](#)  
International Journal of Photoenergy, Article ID: 8494818, 2022

11. Empirical sunshine-based models vs online estimators for solar resources  
Paulescu M, Badescu V, Budea S, Dumitrescu A  
 Renewable and Sustainable Energy Reviews 168, Article Number112868, 2022.
12. A simple but accurate two-state model for nowcasting PV power,  
 Paulescu M, Stefu N, Dughir C, Sabadus A, Calinoiu D, Badescu V,  
 Renewable Energy 195, 322-330 (2022).
13. What Angstrom-PreScott equation tells us about the cloud and clear-sky climatologies?  
Paulescu M, Badescu V, Budea S, Dumitrescu A.  
 Theoretical and Applied Climatology 147(1-2), 239-250 (2022).
14. A new clear sky solar irradiance model  
 Paulescu E, Paulescu M  
 Renewable Energy 179, 2094-2103 (2022).
15. Quantification of the aerosol-induced errors in solar irradiance modeling.  
 Blaga R, Calinoiu D, Stefu N, Boata R, Sabadus A, Paulescu E, Pop N, Mares O, Bojin S,  
Paulescu M  
 Meteorology and Atmospheric Physics 133 (4), 1395-1407 (2021)
16. On the Nature of the One-Diode Solar Cell Model Parameters.  
 Sabadus A, Paulescu M  
 Energies 14, 3974 (2021)
17. A one-parameter family of clear-sky solar irradiance models adapted for different aerosol types  
 Blaga R, Calinoiu D, Paulescu M  
 Journal of Renewable and Sustainable Energy 13(2), Article Number: 023701 (2021)
18. Verification of deterministic solar forecasts  
 Yang DZ, Alessandrini S, Antonanzas J, Antonanzas-Torres F, Badescu V, Beyer HG, Blaga R,  
 Boland J, Bright JM, Coimbra CFM, David M, Frimane A, Gueymard C, Hong T, Kay MJ,  
 Killinger S, Kleissl J, Lauret P, Lorenz E, van der Meer D, Paulescu M et al.  
 Solar Energy 210, 20-37 (2020)
19. A new parameterization of the effective cloud fields  
Paulescu M, Sabadus A, Dumitrescu A, Badescu V  
 Theoretical and Applied Climatology, 142(1-2), 769-779 (2020)
20. A new perspective on the sunshine duration variability  
 Brabec M, Dumitrescu A, Paulescu M, Badescu V  
 Theoretical and Applied Climatology 139, 1219-1230 (2020)
21. Short-term forecasting of solar irradiance.  
Paulescu M, Paulescu E  
 Renewable Energy 143, 985-994 (2019)
22. A current perspective on the accuracy of incoming solar energy forecasting  
 Blaga R, Sabadus A, Stefu N, Dughir C, Paulescu M, Badescu V  
 Progress in Energy and Combustion Science 70, 119-144 (2019)
23. Quantifiers for the solar irradiance variability: A new perspective  
 Blaga R, Paulescu M  
 Solar Energy 174, 606-616 (2018)

24. Parametric modeling: A simple and versatile route to solar irradiance  
Calinoiu D, Stefu N, Boata R, Blaga R, Pop N, Paulescu E, Sabadus A, Paulescu M  
Energy Conversion and Management 164, 175-187 (2018)
25. Retrieval of effective cloud field parameters from radiometric data  
Paulescu M, Badescu V, Brabec M.  
Theoretical and Applied Climatology 133, 437-446 (2018)
26. Statistical properties of clear and dark duration lengths  
Brabec M, Paulescu M, Badescu V  
Solar Energy 153, 508–518 (2017)
27. Structured, physically inspired (gray box) models versus black box modeling for forecasting the output power of photovoltaic  
Paulescu M, Brabec M, Boata R, Badescu V  
Energy 121, 792-802 (2017)
28. Seasonal Modeling of Hourly Solar Irradiation Series  
Paulescu M, Pop N, Stefu N, Paulescu E, Boata R, Calinoiu D  
Romanian Journal of Physics 62(7-8), Article no. 813 (2017)
29. Model for the UV biologically effective dose and application under future climate conditions  
Stefu N, Paulescu M, Gravila P, Paulescu E, Pop N, Boata R  
Environmental Engineering and Management Journal 16. 225-234 (2017)
30. Quantification of the solar radiative regime variability based on the clearness index  
Lucaciu S, Blaga R, Stefu N, Paulescu M  
Annals of the West University of Timisoara - Physics 59(1), 13-17 (2017).  
doi: <https://doi.org/10.1515/awutp-2016-0003>
31. 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)
32. Reconstruction of effective cloud field geometry from series of sunshine number  
Badescu V, Paulescu M, Brabec M  
Atmospheric Research 176, 254-266 (2016)
33. 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).
34. A new perspective on the relationship between cloud shade and point cloudiness  
M. Brabec, V. Badescu, M. Paulescu, A. Dumitrescu  
Atmospheric Research 172-173, 136-146 (2016)
35. A new point of view on the relationship between global solar irradiation and sunshine quantifiers  
M. Brabec, V. Badescu, A. Dumitrescu, M. Paulescu

Solar Energy 126, 252-263 (2016)

36. Empirical versus Optimal Control of Flow in Solar Domestic Hot Water Systems  
V. Badescu, S. Budea, M. Paulescu  
Journal of Energy Engineering 142(3) 04015038 (2016)  
[http://dx.doi.org/10.1061/\(ASCE\)EY.1943-7897.0000307](http://dx.doi.org/10.1061/(ASCE)EY.1943-7897.0000307)
37. A simple but accurate procedure for solving the five-parameter model  
O. Mares, M. Paulescu, V. Badescu  
Energy Conversion and Management 105: 139 – 148 (2015).
38. Tailored vs black-box models for forecasting hourly average solar irradiance  
Brabec M, Paulescu M, Badescu V  
Solar Energy 111: 320 – 331 (2015)
39. 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)
40. New procedure and field-tests to assess photovoltaic module performance  
M. Paulescu, V. Badescu, C. Dughir  
Energy 70: 49-57 (2014).
41. 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).
42. Generalized additive models for nowcasting cloud shading  
M. Brabec, M. Paulescu, V. Badescu  
Solar Energy 101: 272-282 (2014).
43. Cloude shade by dynamic logistic modeling  
M. Brabec, V. Badescu, M. Paulescu  
Journal of Applied Statistics 41(6): 1174-1188 (2014).
44. Assessment of beam solar irradiance using parametric modeling  
N. Pop, A. Pacurar, R. Boata, P. Gravila, M. Paulescu  
International Journal of Green Energy 11(8): 876-885 (2014).
45. Takagi-Sugeno algorithm for global solar irradiation using air temperature data  
R. St. Boata, M. Paulescu  
Environmental Engineering and Management Journal 13(12): 3045-3051 (2014).
46. Assessment the accuracy of nowcasting sunshine number  
O. Mares, N. Pop, M. Paulescu  
Scientific Bulletin of the "POLITEHNICA" University of Timisoara, 59(2) 56-63 (2014)

47. Tools for PV (photovoltaic) plant operators: Nowcasting of passing clouds.  
M. Paulescu, V. Badescu, M. Brabec  
Energy 54: 104-112 (2013).
48. Nowcasting sunshine number using logistic modeling.  
M. Brabec, V. Badescu, M. Paulescu  
Meteorology and Atmospheric Physics 120(1-2): 61-71 (2013).
49. 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.
50. 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).
51. Macro-engineering Australia's Lake Eyre with imported seawater  
V. Badescu, R. B. Cathcart, A. A. Bolonkin, M. Paulescu, P. Gravila  
International Journal of Environment and Sustainable Development, 12(3) 264-284 (2013)
52. Forecasting models applied to hourly solar irradiation time series  
M. Paulescu, A. Pacurar, N. Pop  
Scientific Bulletin of the "POLITEHNICA" University of Timisoara, 57(2) 84-90 (2012)
53. 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).
54. PGO models in the envelope function and effective mass approximations  
M. Paulescu, E. Tulcan-Paulescu P. Gravila  
European Physical Journal B. 80: 115-120 (2011).
55. Statistical properties of the sunshine number illustrated with measurements from Timisoara  
(Romania)  
V. Badescu, M. Paulescu  
Atmospheric Research 101: 194-204 (2011).
56. Autocorrelation properties of the sunshine number and sunshine stability number  
V. Badescu, M. Paulescu  
Meteorology and Atmospheric Physics 112(3-4): 139-154 (2011).
57. New approach to measure the stability of the solar radiative regime  
M. Paulescu, V. Badescu  
Theoretical and Applied Climatology. 103: 459 – 470 (2011).
58. 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).

59. Disorder and complexity measures for the stability of the daily solar radiative regime  
M. Paulescu, V. Badescu  
University Politehnica of Bucharest Scientific Bulletin-Series A-Applied Mathematics and Physics 73(3): 185-190 (2011).
60. Pseudo-Gaussian superlattice  
M. Paulescu, E. Tulcan-Paulescu, P. Gravila  
International Journal of Modern Physics C. 21(9) 1095-1105 (2010).
61. 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).
62. 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).
63. 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).
64. 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).
65. 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 "POLITECHNICA" University of Timisoara, 55(1): 78 – 85 (2010).
66. Fuzzy algorithm for forecasting of daily global solar radiation  
Remus Stefan Boata, M. Paulescu  
Scientific Bulletin of the "POLITECHNICA" University of Timisoara, 55(2): 75 – 81 (2010).
67. Three-Dimensional Isotropic Pseudo-Gaussian Oscillators  
Ion I Cotaescu, P. Gravila, M. Paulescu  
International Journal of Modern Physics C 20/7: 1103 – 1111 (2009).
68. 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).
69. Numerical Simulation for the Current Density of p-n like-type Solar Cells  
A. Neculae, M. Paulescu  
Journal of Optoelectronics and Advances Materials 10(9): 2445 – 2448 (2008).
70. Pseudo-Gaussian oscillators;  
Ion I Cotaescu, P. Gravila, M. Paulescu  
International Journal of Modern Physics C 19(10): 1607-1615 (2008).

71. 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).
72. Fuzzy modeling of solar irradiation using air temperature data;  
E. Tulcan-Paulescu, M. Paulescu  
Theoretical and Applied Climatology 91: 181-192 (2008).
73. Applying the Dirac equation to derive the transfer matrix for piecewise constant potentials  
Ion I Cotaescu, P Gravila, M Paulescu  
Physics Letters A 366: 363 -366 (2007).
74. 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).
75. 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).
76. 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).
77. 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).
78. 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).
79. Models for obtaining daily global solar irradiation from air temperature data  
M. Paulescu, L. Fara, E. Tulcan – Paulescu  
Atmospheric Research 79: 227 - 240 (2006).
80. Solar cell based on CuInS<sub>2</sub> and TiO<sub>2</sub> nano-crystals;  
T. Nyari, SZ Papp, L Korosi, R. Banica, M. Paulescu, I Hrianca, I Dekany  
The Annals of the West University of Timisoara, Physics Series 47: 79- 83 (2005).
81. On the possibility of obtaining silicon carbide using the glow discharge electron gun  
Schlett Z, Ferician F, Paulescu M, Baltateanu D  
Journal of Materials Processing Technology 159: 311-313 (2005).
82. Assesemnts on the multijunction solar cells photoelectric efficiency related to the semiconductor band gap and outdoor conditions  
Paulescu M, Tulcan-Paulescu E

Modern Physics Letters B 19: 447-459 (2005).

83. On the relationship between global solar radiation and daily maximum and minimum temperature  
M. Paulescu, L. Fara  
Scientific Bulletin of the Polytechnic University of Bucuresti, Mathematics and Physics 67/4: 41-50 (2005).
84. Performance assessment of global solar irradiation models under Romanian climate  
Paulescu M, Schlett Z  
Renewable Energy 29: 767 – 777 (2004).
85. A simplified but accurate spectral solar irradiance model  
Paulescu M, Schlett Z  
Theoretical and Applied Climatology 75: 203-212 (2003).
86. On the reliability of stand-alone PV systems  
Paulescu M, Tulcan-Paulescu E  
The Annals of the West University of Timisoara, Physics Series 45: 173-176 2002.
87. A mathematical model for total solar irradiation on tilted surfaces  
Paulescu M, Tulcan-Paulescu E  
*The Annals of the West University of Timisoara, Physics Series 45: 177-180 (2002).*
88. 43. On the optimization of solar irradiation models  
Paulescu M, Schlett Z  
The Annals of the West University of Timisoara, Physics Series 43: 102-110 (2002).

### **Conferences and workshops**

89. Analysis and calibration of GFS solar irradiation forecasts for Timisoara, Romania.  
Hategan SM, Paulescu M  
In Proc. of TIM-22 Physics Conference, West University of Timisoara, 23-25 November 2022.  
American Institute of Physics Conference Proceedings. IAIP Conf. Proc. 3181, 020006 (2024)  
<https://doi.org/10.1063/5.0215356>
90. A multi-model approach to nowcasting cloud shadow  
Paulescu M, Hategan SM, Paulescu E, Sabadus A, Dughir C  
In Proc. of 40th European PV Solar Energy Conference (EUPVSEC 2023), Lisbon, September 18-23, 2023, 020453-001 - 020453-004. DOI: 10.4229/EUPVSEC2023/4DV.4.16
91. Impact of data granularity on nowcasting the solar resource  
Hategan SM, Paulescu M  
In Proc. of 40th European PV Solar Energy Conference (EUPVSEC 2023) Lisbon, September 18-23, 2023, 020452-001 - 020452-004. DOI: 10.4229/EUPVSEC2023/4DV.4.15
92. Improved models for nowcasting sunshine number  
Paulescu M, Stefu N, Dughir C, Sabadus A



- In Proc. of the 8th World Conference on Photovoltaic Energy Conversion, Milano, Italia (2022)  
pp. 1264 – 1267.
93. A new explicit five-parameter solar cell model  
Sabadus A, Paulescu M  
In Proc. of the 8th World Conference on Photovoltaic Energy Conversion, Milano, Italia 2022  
pp. 454-456.
94. Extraction of the diode saturation current and ideality factor from the PV module datasheet  
Sabadus A, Paulescu M  
In proc of TIM 20-21 Physics Conference 11-13 November 2021. American Institute of Physics  
Conference Proceedings 2843 (1), 040004 (2023). <https://doi.org/10.1063/5.0150653>
95. PV 2-STATE: A simple but accurate short-term PV power forecasting tool  
Paulescu M, Stefu N, Sabadus A, Dughir C, Bojin S.  
In Proc. of 38th European PV Solar Energy Conference (EUPVSEC), pp 1161 - 1164 (2021).
96. Simple vs complex models for solar cells  
Sabadus A, Paulescu M  
In proc. of Sustainable Solutions for Energy and Environment (EENVIRO), Cluj Napoca,  
October 09-13, 2018. E3S Web of Conferences 85, 04004 (2019).
97. Parametrization of Cloud Fields: Simple Models for the Probability of a Clear Line-of-Sight  
Bojin S, Paulescu M, Badescu V  
In Proc. of TIM 18 Physics Conference, American Institute of Physics Conference Proceedings  
2071, Article Number: UNSP 040002 (2019).  
<https://doi.org/10.1063/1.5090069>
98. Parameters Extraction of The One-Diode Solar Cell Model: Performance Assessment of  
Different Numerical Procedures  
Sabadus A, Mihailetchi V, Vizman D, Paulescu M  
In Proc. of TIM 18 Physics Conference, American Institute of Physics Conference Proceedings  
2071, Article Number: UNSP 040005 (2019).
99. Nowcasting the output power of PV systems.  
Paulescu M, Mares O, Dughir C, Paulescu E (2018)  
In Proc. of the International Conference of Renewable Energy, Barcelona, 25-27 April 2018  
(Editor Safdarian A) E3S Web Conference 61, 00010 (2018).
100. Paulescu M, O. Mares O, Calinoiu D, Paulescu E  
Short-Term Solar Irradiance Forecasting Based on Sunshine Number  
35th European Photovoltaic Solar Energy Conference and Exhibition, Bruxelles, september  
2018. DOI: 10.4229/35thEUPVSEC20182018-6BV.1.9
101. Characterizing the Variability of High Resolution Solar Irradiance Data Series.  
Blaga R, Paulescu M  
In Proc. of the Conference for Sustainable Energy (CSE) Brasov (I. Vișa, A. Duța Eds.),  
Springer Proceedings in Energy, pp. 337-347 (2017).

102. Extracting the I-V Characteristics of the PV Modules from the Manufacture's Datasheet.  
Sabadus A, Paulescu M, Badescu V,  
In Proc. of the Conference for Sustainable Energy (CSE) Brasov (I. Vişa, A. Duşa Eds.),  
Springer Proceedings in Energy, pp. 434-442 (2017).
103. Parameters Extraction for the One-Diode Model of a Solar Cell  
A. Sabadus, V. Mihailetchi, M. Paulescu  
In Proc. of TIM 17 Physics Conference, American Institute of Physics Conference Proceedings  
(D. Vizman, A. Popescu Eds.) 1916, Article number: 040005 (2017);  
<https://doi.org/10.1063/1.5017444>
65. A Simplified but Accurate UV Index Model  
E. Paulescu, V. Iman, C. Dughir, N. Stefu, M. Paulescu  
In Proc. of TIM 17 Physics Conference, American Institute of Physics Conference Proceedings  
(D. Vizman, A. Popescu Eds.) 1916, Article number: 040010 (2017);  
<https://doi.org/10.1063/1.5017449>
104. Assessment of Different Models for Computing the Probability of a Clear Line of Sight  
S. Bojin, M. Paulescu, V. Badescu  
In Proc. of TIM 17 Physics Conference, American Institute of Physics Conference Proceedings  
(D. Vizman, A. Popescu Eds.) 1916, Article number: 040014 (2017);  
<https://doi.org/10.1063/1.5017453>
105. Proton irradiation effects on silicon solar cells characteristics  
A. Sabadus, D. Vizman, F. Negoita, C. Manailescu, M. Paulescu  
THE 9th INTERNATIONAL CONFERENCE ON ADVANCED MATERIALS: ROCAM Bucharest,  
11-14 July 2017.
106. Experimental study of proton irradiation effect on silicon solar cells  
M. Paulescu, D. Vizman, M. Lascu, R. Negriila, and M. Stef  
In Proc. of TIM 15-16 Physics Conference, American Institute of Physics Conference  
Proceedings (D. Vizman, A. Popescu Eds.) 1796, Article number: 040010 (2017);
107. Performance Assessment of a Direct-Coupled PV Water Pumping System  
C. I. Balaj, T.E. Man, M. Paulescu  
In Proc. of TIM 15-16 Physics Conference, American Institute of Physics Conference  
Proceedings (D. Vizman, A. Popescu Eds.) 1796, Article number 040012 (2017);
108. M. Paulescu, V. Badescu  
Perspective pentru prognoza puterii furnizate de centralele fotovoltaice  
Conferinta Diaspora in Cercetarea Stiintifica si Invatamantul Superior din Romania, 25-28 mai  
2016, Timisoara, Romania.
109. Role of the sunshine number and clearness index in forecasting solar radiation  
M. Paulescu, V. Badescu, M. Brabec  
World Renewable Energy Congress, WREC-XIV, Bucharest, June 7-12, 2015.
110. Statistical modeling of solar radiation  
M. Brabec, M. Paulescu  
*World Renewable Energy Congress, WREC-XIV, Bucharest, June 7-12, 2015.*

111. Variabilitatea radiatiei solare la nivelul solului. Masuratori, prognoza si incertitudini  
M. Paulescu, V. Badescu  
 Simpozionul "De la casa cu consum redus de energie la casa inteligenta", 29 mai 2015  
 Timisoara. In cadrul Zilelor Academice Timisene, Ed. XIV.
112. A Review of the Solar Energy Database for the Banat Plain  
 G. M. Turi, C. N. Marin, M. Paulescu  
 In Proc. of TIM14 PHYSICS CONFERENCE: PHYSICS WITHOUT FRONTIERS (D. Vizman,  
 A. Popescu). American Institute of Physics Conference Proceedings, 1694, Article Number:  
 UNSP 040010 (2015)
113. Application of Fuzzy Logic to Forecast Hourly Solar Irradiation  
 R. Boata, M. Paulescu  
 In Proc. of the 1<sup>st</sup> international Conference on Energies, 14-31 March 2014.  
<http://sciforum.net/conference/ece-1>
114. Overview about solar cells degradation in space  
 Marius Paulescu, Radu Andrei Negriila, Daniel Vizman  
*TIM-14 Physics Conference*, November 2014, Timisoara, Romania.
115. Performance assessment of ten clear sky solar irradiance models in Timisoara  
 O. Mares, D. Vizman, M. Paulescu  
*TIM-13 Physics Conference*, 21-23 November 2013, Timisoara, Romania.
116. 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.
117. Comparison between numerical and experimental results in the case of a special type of  
 electromagnetical stirring for conducting melts.  
 R Andrei Negriila, A. Popescu, M. Paulescu, D. Vizman, B. Barvinschi  
*TIM-13 Physics Conference*, 21-23 November 2013, Timisoara, Romania.
118. Stochastic modeling of sunshine number data  
 M. Brabec, M. Paulescu, V. Badescu  
*Proc. TIM-12 Physics Conference*. American Institute of Physics Conference Proceedings  
 1564, 178 (2013) <http://dx.doi.org/10.1063/1.4832815>
119. 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>
120. Influence of the atmospheric composition on energy collected by the solar thermal converters  
 N. Pop, A. Pacurar, R. St. Boata, M. Paulescu  
 5th International Congress on Thermal Analysis and Calorimetry, August 20 - 24, 2012,  
 Higashi-Osaka, Japan, pag. 38-42 (2012).

121. Nowcasting global solar irradiance by fuzzy logic  
 R. St. Boata, M. Paulescu  
 In Proc of. Energy and the Environment, September 17-18, 2012, Opatija, Croatia, pp.183-192 (2012).
122. A new parametric model for solar irradiance components  
 N. Pop, A. Pacurar, M. Paulescu  
*The 10th IEEE International Conference on Environment and Electrical Engineering (EEEIC'10)*, Rome, Italy, 8-11 May, 2011.
123. Fuzzy sets theory applied for computing global solar irradiation  
 R. St. Boata, M. Paulescu  
*Proc. TIM-10 Physics Conference, American Institute of Physics Conference Proceedings* 1387: 86 - 91 (2011).
124. 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).
125. 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).
126. Integration of PV Modules in Existing Romanian Buildings  
 S. Fara, D. Finta, M. Iancu, L. Fara, D. Comaneci, Ana-Maria Dabija, Eugenia Tulcan-Paulescu, Paulescu M, T. Jurca  
*Proc. of IEEE Int. Conf. AQTR*, 28-30 May 2010. Tome III, pp. 469-474.
127. 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* Strassbourg, April 7-8, 2008; 70020T1-70020T8; ISSN 0277-786X
128. Modeling and numerical simulation of the transport processes inside DSSC using a monodomain approach  
 A. Neculae, M. Paulescu, D. Curticapean  
*Proc. SPIE Photonics Europe 2008 - Photonics for Solar Energy Systems II* Strassbourg, April 7-8, 2008; 70020Y1-70020Y8. ISSN 0277-786X
129. 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.
130. Building integrated photovoltaics (BIPV) in Romania  
 L. Fara, AM Dabija, S. Fara, D Finta, M. Iancu, M. Paulescu

21st Scientific Conference on Energy and the Environment, Opatija, Croatia, Oct 22-24 (2008).

131. 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.
132. Proiectarea sistemelor fotovoltaice - Între tradiție orală și criterii științifice  
Paulescu M, Tulcan-Paulescu E  
In *Proc. Instalații pentru Construcții și Comfort Ambiental*, Timisoara, 347-35, 17-18 aprilie 2008. ISSN: 1842-9491.
133. Electronic band structure engineering of quantum well superlattice for photovoltaic devices  
L. Fara, M. Paulescu  
Proceeding of The 4<sup>th</sup> International Colloquium "Mathematics in Engineering and Numerical Physics", October 6-8 2006, Bucharest. ISBN 97897337187611
134. 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
135. Solar Architecture – First Step In Romania,  
S. Fara, D. Finta, M. Iancu, L. Fara, M. Paulescu  
*Proc. of IEEE International Conference AQTR*, Cluj, May 25-28, 2006. Tom 1: 233-237 (2006).
136. A new semiconductor-based pyranometer  
Paulescu M, Schlett Z  
*Proc. of Physics Conference*, West University of Timisoara, 30 November 2002. pp. 93-96.
137. New simple clear and cloudy sky models to evaluate global solar irradiance  
Z Schlett, M. Paulescu, N. Udriste  
In *Proc of 17th Photovoltaic Solar Energy Conference*, Munich, 22-26 Oct, 2001, pp. 257-260.

## Books

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

## Edited books

1. *Physics of Nanostructured Solar Cells*  
Editors: Badescu V, Paulescu M  
Nova Science, New York, 2010.  
ISBN: 978-1-60876-110-4

## Contributions to edited books

1. Nowcasting solar irradiance for effective solar power plants operation and smart grid Management  
Paulescu M  
In Solar Irradiance. Types and Applications. (Daryl M. Welsh, Editor), Nova Science, New York (2020).
2. Nowcasting solar irradiance for effective solar power plants operation and smart grid management  
Paulescu M, Eugenia Paulescu E, Badescu V  
In Predictive Modelling for Energy Management and Power Systems Engineering (Deo R, Samui P, Roy SS, Editors), Elsevier (2020).
3. Territorial and Urban Measurements  
Paulescu M, Badescu V  
In Solar Energy at Urban Scale (Benoit Beckers, Editor). ISTE – Wiley, 2012.
4. Recent Advances in Fuzzy Modeling of Solar Radiation  
Paulescu M, Tulcan-Paulescu E, Stefu N, Boata R  
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
5. Optical characteristics of materials  
Paulescu M, Gravila P  
In Solar Thermal Conversion. Active Solar Systems (Ed. Petros J. Axaopoulos) Simmetria Publications, Athens, Greece, 2011. ISBN 978-960-266-328-8.
6. Macro-Engineering Lake Eyre with Imported Seawater  
Badescu V, Cathcart RB, Paulescu M, Gravila P, Bolonkin AA  
In Macro-engineering Seawater in Unique Environments (V. Badescu, R. B. Cathcart, Eds.) Springer, Berlin, 2011. ISBN: 978-3-642-14778-4
7. Geo-Engineering South Australia: The Case of Lake Eyre  
Badescu V, Cathcart RB, Paulescu M, Gravila P, Bolonkin AA  
In Engineering Earth, The impacts of Megaengineering Projects (Stanley D. Brunn, Editor), Springer, Berlin, 2011. ISBN 978-90-481-9919-8
8. Solar irradiation via air temperature data  
Paulescu M  
In: Modeling Solar Radiation at the Earth's Surface. Recent Advances (V. Badescu Editor), Springer, Berlin, 2008. ISBN: 978-3-540-77454-9