

## Publication List

1. "Spatial distribution of optical emission in silane/hydrogen rf discharges"  
S. Stamou, E. Amanatides, D. Mataras  
*High Temp. Mat. Processes* **3**, 255 (1999)
2. "Effect of the interelectrode space on properties of SiH<sub>4</sub> deposition discharges operating at different Radio-Frequencies"  
E. Amanatides, D. Mataras and D.E. Rapakoulias  
*High Temp. Mat. Processes* **4**, 563 (2000)
3. "Deposition rate optimization in SiH<sub>4</sub>/H<sub>2</sub> PECVD of hydrogenated microcrystalline silicon"  
E. Amanatides, D. Mataras and D.E. Rapakoulias  
*Thin Solid Films* **383** 15 (2001)
4. "Frequency variation under constant power conditions in RF hydrogen discharges"  
E. Amanatides, D. Mataras  
*J. Appl. Phys.* **89**, 1556 (2001)
5. "Effect of double-layer formation on the deposition of microcrystalline silicon films in hydrogen diluted silane discharges"  
A. Hammad, E. Amanatides, D. E. Rapakoulias, D. Mataras.  
*J. Phys. IV.* **11**, Pr3-779 (2001)
6. "Electron impact silane dissociation and deposition rate relationship in the Plasma Enhanced Chemical Vapor Deposition of microcrystalline silicon thin films"  
E. Amanatides, D. E. Rapakoulias, D. Mataras  
*J. Phys. IV.* **11**, Pr3-715 (2001)
7. "Gas-phase and surface kinetics in Plasma Enhanced Chemical Vapor Deposition of microcrystalline silicon"  
E. Amanatides, S. Stamou, D. Mataras  
*J. Appl. Phys.* **90**, 5786 (2001)
8. "On the effect of frequency in the deposition of microcrystalline silicon from silane discharges"  
E. Amanatides, D. Mataras, D. E. Rapakoulias  
*J. Appl. Phys.* **90**, 5799 (2001)
9. "The combined effect of electrode gap and radio frequency on power deposition and film growth kinetics in SiH<sub>4</sub>/H<sub>2</sub> discharges"  
E. Amanatides, D. Mataras, D. E. Rapakoulias  
*J. Vac. Sci. Technol. A* **20**, 68 (2002)
10. "PECVD of Hydrogenated silicon thin Films from SiH<sub>4</sub>+H<sub>2</sub>+Si<sub>2</sub>H<sub>6</sub> Mixtures"  
A. Hammad, E. Amanatides, D. Mataras and D. E. Rapakoulias  
*Thin Solid Films* **451-452**, 255 (2004)
11. "On the high pressure regime of microcrystalline silicon PECVD"  
E. Amanatides, A. Hammad, E. Katsia, and D. Mataras  
*J. Appl. Phys.* **97**, 073303 (2005)
12. "Plasma Enhanced Chemical Vapor Deposition of Silicon under Relatively High Pressure Conditions"  
E. Amanatides, B. Lykas and D. Mataras

*IEEE Trans. Plasma Sci.* **33**, 372 (2005)

13. "Electrical and optical properties of CH<sub>4</sub>/H<sub>2</sub> rf plasmas for diamond-like thin film deposition"  
E. Amanatides, B. Lykas, D. Mataras  
*Diam. Relat. Mater.* **14**, 292 (2005)
14. "Total SiH<sub>4</sub>/H<sub>2</sub> Pressure Effect on Microcrystalline Silicon Thin Films Growth and Structure"  
E. Katsia, E. Amanatides, D. Mataras, A. Soto, G.A. Voyatzis  
*Sol. Energy Mater. Sol. Cells.* **87**, 157 (2005)
15. "Plasma Emission Diagnostics for the Transition from Microcrystalline to Amorphous Silicon Solar Cells"  
E. Amanatides, D. Mataras, D. Rapakoulias, M. N. van den Donker, B. Rech  
*Sol. Energy Mater. Sol. Cells.* **87**, 795 (2005)
16. "RF Power Effect on TEOS/O<sub>2</sub> PECVD of SiO<sub>2</sub> Thin Films"  
Ch. Voulgaris, E. Amanatides, D. Mataras  
*Surf. Coat. Technol.* **200**, 351 (2005)
17. "TEOS/O<sub>2</sub> gas pressure as a chemical composition adjuster of plasma deposited SiO<sub>2</sub> thin films"  
A. Panou , Ch. Voulgaris, E. Amanatides, D. Mataras and D.E. Rapakoulias  
*High Temp. Mat. Processes* **9**, 295 (2005)
18. «Interelectrode space effect on power dissipation and silicon oxide thin film growth from TEOS/O<sub>2</sub> discharges»  
Panou, A., Amanatides, E., Mataras, D., Rapakoulias, E.  
Journal of Physics: Conference Series 10 (1), pp. 202-205 (2005)
19. «On the effect of the substrate pretreatment parameters on the composition and structure of plasma deposited SiO<sub>2</sub> thin films»  
Voulgaris, Ch., Amanatides, E., Mataras, D., Rapakoulias, D.E.  
(2005) Journal of Physics: Conference Series 10 (1), pp. 198-201
20. "Power consumption effect on the microcrystalline silicon deposition process: A comparison between model and experimental results"  
Lyka, B., Amanatides, E., Mataras, D., Rapakoulias, D.E.  
(2005) Journal of Physics: Conference Series 10 (1), pp. 206-209
21. "Plasma surface treatment of polyethylene terephthalate films for bacterial repellence"  
E. Amanatides, D. Mataras and M. Katsikogianni, Y.F. Missirlis  
*Surf. Coat. Technol.* **200**, 6331 (2006)
22. "RF power and SiOxCyHz deposition efficiency in TEOS/O<sub>2</sub> discharges for the corrosion protection of magnesium alloys"  
Ch. Voulgaris, E. Amanatides, D. Mataras and S. Grassini, E. Angelini, F. Rosalbino  
*Surf. Coat. Technol.* **200**, 6618 (2006)
23. "Plasma 2D modeling and diagnostics of DLC deposition on PET"  
E. Amanatides, P. Gkotsis, Ch. Syndrevelis and D. Mataras  
*Diamond and Related Materials* **15**, 904 (2006)

24. "Temperature Effect And Stress On Microcrystalline Silicon Thin Films Deposited Under High Pressure Plasma Conditions"  
 E. Amanatides, E. Katsia, D. Mataras and A. Soto, G.A. Voyatzis  
*Thin Solid Films* **511-512**, 603 (2006)
25. "Effect of plasma parameters on the amorphous to microcrystalline silicon transition"  
 E. Katsia, E. Amanatides, D. Mataras and D.E. Rapakoulias  
*Thin Solid Films* **511-512**, 285 (2006)
26. "Relative importance of hydrogen atom flux and ion bombardment to the growth of  $\mu$ c-Si:H thin films"  
 B. Lyka, E. Amanatides and D. Mataras  
*J. Non-Cryst. Solids* **352**, 1049 (2006)
27. "Simulation of the electrical properties of SiH<sub>4</sub>/H<sub>2</sub> discharges"  
 B. Lyka, E. Amanatides and D. Mataras  
*Jap. J. Appl. Phys.* **45**, 8172 (2006)
28. "Plasma power and impedance measurement in silicon thin film deposition"  
 D. Zhang, F. R. Zhang, E. Amanatides, D. Mataras, and Y. Zhao  
*Acta Physica Sinica* **56**, 5309 (2007) 5309
29. "Plasma Treated and a-C:H Coated PET Performance in Inhibiting Bacterial Adhesion",  
 Maria G. Katsikogianni, Christos S. Syndrevelis, Eleftherios K. Amanatides, Dimitrios S. Mataras, Yannis F. Missirlis,  
*Plasma Processes and Polymers*, Volume 4, Issue S1, Pages: S1046-S1051 (2007)
30. "Improved Surface Energy Analysis for Plasma Treated PET Films"  
 Daphne Papakonstantinou, Eleftherios Amanatides, Dimitrios Mataras, Vasilis Ioannidis, Panagiotis Nikolopoulos  
*Plasma Processes and Polymers*, Volume 4, Issue S1, Pages: S1057-S1062 (2007)
31. "Fluid Model of an Electron Cyclotron Wave Resonance Discharge"  
 S. A. Sfikas, E. K. Amanatides, D. S. Mataras, D. E. Rapakoulias  
*IEEE Trans. Plasma Sci.* **35**, 1420 (2007)
32. "Effect of substrate bias on the Plasma Enhanced Chemical Vapor Deposition on microcrystalline silicon thin films"  
 D. Zhang, F. R. Zhang, E. Amanatides, D. Mataras, and Y. Zhao  
*Thin Solid Films* **516**, 6912 (2008)
33. "Modelling and experiments of high-pressure VHF SiH<sub>4</sub>/H<sub>2</sub> discharges for higher microcrystalline silicon deposition rate"  
 X. D. Zhang, F. R. Zhang, E. Amanatides, D. Mataras, and Y. Zhao,  
*Thin Solid Films* **516**, 6829 (2008)
34. "Substrate holder biasing for improvement of microcrystalline silicon deposition process"  
 X. D. Zhang, F. R. Zhang, E. Amanatides, D. Mataras, S. Z. Xiong, and Y. Zhao,  
*J. Non-Cryst. Solids*, **354**, 2208 (2008)
35. "Staphylococcus epidermidis Adhesion to He, He/O<sub>2</sub> Plasma Treated PET Films and Aged Materials: Contributions of Surface Free Energy and Shear Rate"  
 M. G. Katsikogianni, Ch. S. Syndrevelis, E. K. Amanatides, D. S. Mataras, Y. F. Missirlis  
*Colloids & Surfaces B: Biointerfaces* **65**, 257 (2008)

36. "Diagnostics and Mechanistic Studies in Plasma Treatment of Polyester Textiles"  
M. Kostopoulou, E. Amanatides, and D. Mataras  
*J. Optoelectronic & Adv. Mater.* **10**, 2043 (2008)
37. "Development of a hollow cathode plasma source for microcrystalline silicon thin films Deposition"  
P Dimitrakellis, E Amanatides, D Mataras and DE Rapakoulias  
*Journal of Physics: Conference Series* 275, 012014 (2011)
38. "Growth Kinetics of Plasma Deposited Microcrystalline Silicon Thin Films"  
E. Amanatides, and D. Mataras  
*Surf. Coat. Technol.* 205 178 (2011)
39. "Comparative study of plasma deposited fluorocarbon coatings on different substrates"  
E. Farsari, M. Kostopoulou, E. Amanatides, D. Mataras and D.E. Rapakoulias  
*J. Phys. D - Appl. Phys.*, 44 194007 (2011)
40. "Simulation of Cylindrical Electron Cyclotron Wave Resonance Argon Discharges"  
S. Sfikas, E. Amanatides, D. Mataras and D. Rapakoulias  
*J. Phys. D - Appl. Phys.*, 44 165204 (2011)
41. "Liposomes adhesion to plasma deposited Acrylic Acid Thin Films"  
M. Kastelorizos, S. Antimisiaris, P. Klepetsanis, E. Farsari, E. Amanatides, D. Mataras, B.R. Pistillo, E. Sardella, P. Favia and R. d'Agostino  
*Colloids and Surfaces B: Biointerfaces*, 84 214 S (2011)
42. "A hybrid kinetic Monte Carlo method for simulating silicon films grown by plasma-enhanced chemical vapor deposition"  
Tsalikis D.G., Baig C., Mavrntzas V.G., Amanatides E. and Mataras D. S.  
*Journal of Chemical Physics*, 139 (20), 204706 2013
43. "Influence of cw CO<sub>2</sub>-laser radiation on the amorphous-to-microcrystalline phase transition in a-Si:H film: A Raman spectroscopic study"  
Kalampounias A.G., Farsari E., Amanatides E., Mataras D., Papatheodorou G.N.,  
*Applied Physics A: Materials Science and Processing*, 116 (1), pp. 303-310 2014
44. "ECWR plasma enhanced chemical vapour deposition of microcrystalline silicon thin films"  
E Farsari, A G Kalampounias, E Amanatides and D Mataras  
*J. Phys.: Conf. Ser.* 550 012031 2014
45. "Photoinduced superhydrophilicity of amorphous TiO<sub>x</sub>-like thin films by a simple room temperature sol-gel deposition and atmospheric plasma jet treatment"  
V E Vrakatseli, E Pagonis, E Amanatides and D Mataras  
*J. Phys.: Conf. Ser.* 550 012034 2014
46. "Practical silicon deposition rules derived from silane monitoring during plasma-enhanced chemical vapor deposition"  
Bartlome, R. , De Wolf, S., Demaurex, B., Ballif, C., Amanatides, E., Mataras, D.  
*J. Appl. Phys.*, 117 (20) 203303
47. "Does the Heat Generation by the Thulium:Yttrium aluminum garnet Laser in the Irrigation Fluid

Allow Its Use on the Upper Urinary Tract? An Experimental Study”

Panagiotis Kallidonis, Lefteris Amanatides, Vasileios Panagopoulos, Iason Kyriazis, Theofanis Vrettos,

Fotini Fligou, Wissam Kamal, Evangelos N. Liatsikos

Journal of Endourology. Apr 2016: 422-427

48. “Thulium Laser in the Upper Urinary Tract: Does the Heat Generation in the Irrigation Fluid Pose a Risk? Evidence from an in Vivo Experimental Study.”

Kallidonis P., Kamal W., Panagopoulos V., Vasilas M., Amanatides L., Kyriazis I., Vrettos T., Fligou F., Liatsikos E.

Journal of Endourology, 30 (5), pp. 555 – 559 2016

49. “Measurement of intrinsic and laser heating-induced stress in microcrystalline silicon thin films”

A.G. Kalampounias, E. Farsari, E. Amanatides, G. N. Papatheodorou, D. Mataras

Chemical Physics, 469–470, 2016, 65-71

50. “Detection of powder formation in SiH<sub>4</sub>/H<sub>2</sub> glow discharges”

G. Alexiou, G. Tsigaras, E. Amanatides, D. Mataras

J. Phys.: Conf. Ser. 700 012038 2016

51. Comparative study of RF Reactive Magnetron Sputtering and Sol-gel deposition of UV induced Superhydrophilic TiO<sub>x</sub> thin films.

V E Vrakatseli, E Amanatides and D Mataras

J. Phys.: Conf. Ser. 700 012039 2016

52. “Stone Retropulsion with Ho:YAG And Tm:YAG Lasers: A clinical practice oriented experimental study”

Wissam Kamal, Panagiotis Kallidonis, Georgia Koukiou, Vasileios Panagopoulos, Lefteris Amanatides, Pantelis Ntasiotis, EVANGELOS N LIATSIKOS

Journal of Endourology, 30 (11), pp. 1145 – 1149 2016

53. “Disilane as a growth rate catalyst of plasma deposited microcrystalline silicon thin films”

P. Dimitrakellis, A. G. Kalampounias, N. Spiliopoulos, E. Amanatides, D. Mataras, V. Lahootun, F. Coeuret, and A. Madec

AIP Advances 6(7) 075306 2016

54. “Disilane addition vs silane-hydrogen flow rate effect on the PECVD of silicon thin films

P. Dimitrakellis, E. Amanatides, D. Mataras, A. G. Kalampounias, N. Spiliopoulos, V. Lahootun, F. Coeuret, and A. Madec”

J. Vac. Sci. Technol. A 34(6), Nov/Dec 2016

#### Μετά την εκλογή σε Αναπληρωτή Καθηγητή

55. “SiH<sub>4</sub> enhanced dissociation via argon plasma assistance for hydrogenated microcrystalline silicon thin-film deposition and application in tandem solar cells”

Li T., Xu S., Huang Q., Ren H., Ni J., Li B., Zhang D., Wei C., Amanatides E., Mataras D., Zhao Y., Zhang X.

Solar Energy Materials and Solar Cells, 180, pp. 110 – 117 2018

56. "On the reliable probing of discrete 'plasma bullet' propagation"  
Svarnas P., Gazeli K., Gkelios A., Amanatides E., Mataras D.  
Measurement Science and Technology, 29 (4), art. no. 045016 2018
57. "Glancing angle deposition effect on structure and light-induced wettability of RF-sputtered TiO<sub>2</sub> thin films"  
Vrakatseli V.E., Kalarakis A.N., Kalampounias A.G., Amanatides E.K., Mataras D.S.  
Micromachines, 9 (8), art. no. 389 2018
58. "Towards a blended strategy for quality distance education lifelong learning courses: The patras model"  
Mystakidis S., Berki E., Valtanen J., Amanatides E.  
Proceedings of the European Conference on e-Learning, ECEL, 2018-November, pp. 408 – 416 2018
59. "Time Resolved Optical Emission Spectrum for Hydrogen and Hydrogen/Silane Plasma"  
Zhang F.-R., Zhang X.-D., Amanatides E., Zhao Y.  
Faguang Xuebao/Chinese Journal of Luminescence, 40 (4), pp. 528 – 534 2019
60. "Predicting the flow of cold plasma jets in kINPen: A critical evaluation of turbulent models"  
Passaras D., Amanatides E., Kokkoris G.  
Journal of Physics D: Applied Physics, 53 (26), art. no. 265202 2020
61. "A hybrid computational framework for the simulation of atmospheric pressure plasma jets: The importance of the gas flow model"  
Passaras D., Amanatides E., Kokkoris G.  
Plasma Sources Science and Technology, 30 (12), art. no. 125018 2021
62. "Life Cycle Assessment of Composites Additive Manufacturing Using Recycled Materials"  
Chatzipanagiotou K.-R., Antypa D., Petrakli F., Karatza A., Pikoń K., Bogacka M., Poranek N., Werle S., Amanatides E., Mataras D., Koumoulos E.P.  
Sustainability (Switzerland), 15 (17), art. no. 12843 2023
63. "Ionization wave propagation and cathode sheath formation due to surface dielectric-barrier discharge sustained in pulsed mode"  
Giotis K., Svarnas P., Amanatides E., Gazeli K., Lombardi G., Papadopoulos P.K.  
Plasma Science and Technology, 25 (11), art. no. 115402 2023
64. "Chemical recovery of carbon fibers from composites via plasma assisted solvolysis"  
Marinis D., Farsari E., Alexandridou C., Amanatides E., Mataras D.  
Journal of Physics: Conference Series, 2692 (1), art. no. 012017 2024
65. "A Novel Plasma-Enhanced Solvolysis as Alternative for Recycling Composites"  
Marinis D., Markatos D., Farsari E., Amanatides E., Mataras D., Pantelakis S.  
Polymers, 16 (19), art. no. 2836 2024

66. "Performance Restoration of Chemically Recycled Carbon Fibres Through Surface Modification with Sizing"

D. Semitekolos, S. Terzopoulou, S. Zecchi, D. Marinis, E. Farsari, E. Amanatides, M. Sajdak, S. Sobek, W. Smok, T. Tański, S. Werle, A. Tagliaferro and C. Charitidis

Polymers, 17(1), 33 2025