

## 2010 - 2013

### Publications in refereed journals

1. S. Gardelis, A.G. Nassiopoulou, P. Manousiadis, N. Vouroutzis, N. Frangis, "A silicon-wafer based p-n junction solar cell by aluminum-induced recrystallization and doping", Applied Physics Letters, 103 (24), art. no. 241114 (2013)
2. I. Leontis, A. Othonos, A. G. Nassiopoulou, "Structure, morphology, and photoluminescence of porous Si nanowires: Effect of different chemical treatments", Nanoscale Research Letters, 8 (1), 1-7 (2013)
3. E. Hourdakis, A.G. Nassiopoulou, "A Thermoelectric generator using porous Si thermal isolation", Sensors (Switzerland), 13 (10), 13596-13608 (2013)
4. C. Roda Neve, K. Ben Ali, P. Sarafis, E. Hourdakis, A.G. Nassiopoulou, J.-P. Raskin, "Effect of temperature on advanced Si-based substrates performance for RF passive integration", Microelectronic Engineering, (2013)
5. E. Agocs, A. G. Nassiopoulou, S. Milita, P. Petrik, "Model dielectric function analysis of the critical point features of silicon nanocrystal films in a broad parameter range", Thin Solid Films, 541, 83-86 (2013)
6. K. Valalaki, A. G. Nassiopoulou, "Low thermal conductivity porous Si at cryogenic temperatures for cooling applications", Journal of Physics D: Applied Physics, 46 (29), art. no. 295101 (2013)
7. P. Sarafis, E. Hourdakis, A. G. Nassiopoulou, C. Roda Neve, K. Ben Ali, J.-P. Raskin, "Advanced Si-based substrates for RF passive integration: Comparison between local porous Si layer technology and trap-rich high resistivity Si", Solid-State Electronics, 87, 27-33 (2013)
8. V. Ievtukh, A. Nazarov, V. Turchanikov, V. Lysenko, A. G. Nassiopoulou, "Charge trapping processes at memory window formation in single- and double nanocrystal layered NVMs", Microelectronic Engineering, 109, 5-9 (2013)
9. P. Sarafis, E. Hourdakis, A. G. Nassiopoulou, « Dielectric permittivity of porous Si for use as substrate material in Si-integrated RF devices", IEEE Transactions on Electron Devices, 60 (4), 1436-1443 (2013)
10. P. Manousiadis, S. Gardelis, A. G. Nassiopoulou, « Electrical transport and photocurrent mechanisms in silicon nanocrystal multilayers", Journal of Applied Physics, 113 (4), art. no. 043703 (2013)
11. "High performance MIM capacitor using anodic alumina dielectric", Hourdakis, E. and Nassiopoulou, A.G., Microelectronic Engineering vol. 90, pp. 12-14 (2012)
12. "Novel Air Flow Meter for an Automobile Engine Using a Si Sensor with Porous Si Thermal Isolation", E. Hourdakis, P. Sarafis and A. G. Nassiopoulou, Sensors vol. 12, pp. 14838-14850 (2012)
13. "Two-Terminal Charge-Trapping WORM Memory Device Using Anodic Aluminum Oxide", Hourdakis, E. and Nassiopoulou, A.G., J. Nanosci. Nanotechnol. vol. 12, pp. 7968-7974 (2012)
14. "Structural and optical characterization of two-dimensional arrays of Si nanocrystals embedded in SiO<sub>2</sub> for photovoltaic applications", S. Gardelis, A.G. Nassiopoulou, P. Manousiadis, S. Milita, A. Gkanatsiou, N. Frangis, Ch. B. Lioutas, Journal of Applied Physics 111, 083536 (2012)

15. "Lateral electrical transport and photocurrent in single and multilayers of two-dimensional arrays of Si nanocrystals", P. Manousiadis, S. Gardelis, and A.G. Nassiopoulou, *Journal of Applied Physics* 112, 043704 (2012)
16. "Nanomechanical properties of thick porous silicon layers grown on p- and p+-type bulk crystalline Si", Charitidis C.A., Skarmoutsou A., Nassiopoulou A. G., Dragoneas A., *Materials Science and Engineering A* 528 (29-30), pp. 8715-8722 (2011)
17. "On-Chip High-Performance Millimeter-Wave Transmission Lines on Locally Grown Porous Silicon Areas," Issa H, Ferrari P, Hourdakis E, Nassiopoulou A G, *IEEE Transactions on Electron Devices* 58 (11), pp. 3720-3724 (2011)
18. "Role of surface vibration modes in Si nanocrystals within light emitting porous Si at the strong confinement regime", Mahdouani M., Gardelis S., and Nassiopoulou A.G., *Journal of Applied Physics* 110 (2), art. no. 023527
19. "Charge-trapping MOS memory structure using anodic alumina charging medium", Hourdakis E. and Nassiopoulou A. G., *Microelectronics Engineering* 88 (7), pp. 1573-1575 (2011)
20. "Lateral electronic transport in 2D arrays of oxidized Si nanocrystals on quartz: Coulomb blockade effect and role of hydrogen passivation", Manousiadis P., Gardelis S., and Nassiopoulou A.G., *Journal of Applied Physics* 109 (8), art. no. 083718 (2011)
21. "Electrical and structural properties of ultrathin SiON films on Si prepared by plasma nitridation", Hourdakis E., Nassiopoulou A.G., Parisini A., Reading M. A., Van Den Berg J. A., Sygellou L., Ladas S., Petrik P., Nutsch A., Wolf M., Roeder G., *Journal of Vacuum Science and Technology B: Microelectronics and Nanometer Structures* 29 (2), art. no. 022201 (2011)
22. "Optical characterization of nanocrystals in silicon rich oxide superlattices and porous silicon" Agocs E., Petrik P., Milita S., Vanzetti L., Gardelis S., Nassiopoulou A. G., Balboni R., Fried M., *Thin Solid Films* 519 (9), pp. 3002-3005 (2011)
23. "Lateral electrical transport, optical properties and photocurrent measurements in two-dimensional arrays of silicon nanocrystals embedded in SiO<sub>2</sub>", Gardelis S., Manousiadis P., and Nassiopoulou A.G., *Nanoscale Research Letters* 6 (1), pp. X1-6 (2011)
24. "High performance MIM capacitor using anodic alumina dielectric", Hourdakis E. and Nassiopoulou A. G., *Microelectronics Engineering*, DOI: 10.1016/j.mee.2011.03.020 2011
25. "High-density MIM capacitors with porous anodic alumina dielectric", Hourdakis, E., Nassiopoulou, A.G, *IEEE Transactions on Electron Devices* 57 (10), art. no. 5535075, pp. 2679-2683 (2010)
26. "Photoluminescence-induced oscillations in porous anodic aluminum oxide films grown on Si: Effect of the interface and porosity", Gardelis, S., Nassiopoulou, A.G., Gianneta, V., Theodoropoulou, M., *Journal of Applied Physics* 107 (11), art. no. 113104 (2010)
27. "Electrical and structural properties of ultrathin SiON films on Si prepared by plasma nitridation", E. Hourdakis, A. G. Nassiopoulou, A. Parisini, M. A. Reading, J. A. van den Berg, L. Sygellou, S. Ladas, P. Petrik, A. Nutsch, M. Wolf, and G. Roeder, *J. Vac. Sci. Technol. B* 29, 022201 (2011) (accepted in 2010)
28. "Charge-trapping MOS memory structure using anodic alumina charging medium", E. Hourdakis and A.G. Nassiopoulou, *Microelectronics Engineering*, accepted for publication (accepted in 2010)
29. "High performance MIM capacitor for RF using anodic alumina dielectric", E. Hourdakis and A.G. Nassiopoulou, *Microelectronics Engineering*, (accepted in 2010)