

Jerzy Kanicki

Publications

1980 - 2011

Books

Book Chapters

Conference Proceedings - editor

Journal Special Issues - editor

Refereed Journal Publications

Conference Proceedings

Seminar and Workshop Lecture Notes

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BOOKS

1. "Amorphous & Microcrystalline Semiconductor Devices: Optoelectronic Devices," Jerzy Kanicki, Artech House, Inc., Boston, MA, 1991.
2. "Amorphous & Microcrystalline Semiconductor Devices: Materials and Device Physics," Jerzy Kanicki, Artech House, Inc., Boston, MA, 1992.
3. "High-Fidelity Medical Imaging Displays," Badano, M.J. Flynn and J. Kanicki, SPIE Press: Bellingham, WA, 2004 (ISBN 0-8194-5191-6).

BOOK CHAPTERS

1. "Polymeric Semiconductor Contacts and Photovoltaic Application," J. Kanicki, book chapter in **Handbook of Conducting Polymers**, ed. T.A. Skotheim (Marcel Dekker, New York), pp. 543-660 (1986).
2. "Properties of Metal/Hydrogenated Amorphous Silicon Interfaces," J. Kanicki, in **Amorphous & Microcrystalline Devices, vol. II: Materials and Device Physics**, ed. J. Kanicki (Artech House, Boston), pp. 189-282 (1992).
3. "Optically Induced Nitrogen Dangling Bonds in Amorphous Hydrogenated Silicon Nitride Thin Films," W.L. Warren, J. Kanicki, P.J. McWhorter and E.H. Poindexter, in the **Physics and Chemistry of SiO₂ Interface**, eds. C.R. Helms and B.E. Deal (Plenum Press, NY, 1993).
4. "Hydrogenated Amorphous Silicon Thin-Film Transistors," J. Kanicki and S. Martin, in **Thin-Film Transistors**, eds. C.R. Kagan and P. Andry (Marcel Dekker, Inc., New York), pp.71-137 (2003).
5. "Organic Polymer Field-Effect Transistors," J. Kanicki and S. Martin, **Printed Organic and Molecular Electronics**, eds.: D.R. Gamota, P. Brazis, K. Kalyanasundaram and J. Zhang (Kluwer Academic Publishers, Boston, MA), pp. 423-492 (2004).

CONFERENCE PROCEEDINGS – EDITOR

1. “*Amorphous Insulating Thin Films*,” eds. J. Kanicki, W.L. Warren, R.A.D. Devine and M. Matsumura, **Materials Research Society Symposium Proceedings**, vol. 284, 1-636, 1993.
2. “*Flat Panel Display Materials II*,” eds. M.K. Hatalis, J. Kanicki, Ch.J. Summers and F. Funda, **Materials Research Society Symposium Proceedings**, vol. 424, pp. 1-513, 1997.
3. “*Amorphous and Crystalline Insulating Thin Films - 1996*,” eds. W.L. Warren, R.A.B. Devine, M. Matsumura, S. Cristoloveanu, Y. Homma and J. Kanicki, **Materials Research Society Symposium Proceedings**, vol. 446, pp. 1-450, 1997.
4. “*Amorphous Insulating Thin Films II*,” eds. R.A.B. Devine, W.L. Warren, J. Kanicki and M. Matsumura, **European Materials Research Society Symposia Proceedings**, vol. 46, pp. 1-510, 1995.

JOURNAL SPECIAL ISSUES - EDITOR

1. “*Amorphous Semiconductor Devices*,” ed. Jerzy Kanicki, **IEEE Transactions on Electron Devices**, Special Issue, December 1989.
2. “*Amorphous Insulating Thin Films II*,” eds. R.A.B. Devine, W.L. Warren, J. Kanicki and M. Matsumura, **Journal of Non-Crystalline Solids**, Special Issue, vol. 1987, pp. 1-510, 1995.

REFEREED JOURNAL PUBLICATIONS

1. "Photogalvanic Cells 5: Oxidation Photocurrents of Triphenylmethane Dyes at the SnO₂ Bubbling Gas Electrode," A. Kirsch-de Mesmaeker, J. Kanicki, P. Leempoel and J. Nasielski, **Bull. Soc. Chim. Belg.**, vol. 87, pp. 849-856 (1978).
2. "Junction Formation Between Undoped Polyacetylene and Metals," E. Vander Donckt and J. Kanicki, **Europ. Pol. J.**, vol. 16, pp. 677-678 (1980).
3. "Electrical Conductivity and Infrared Absorption of trans-Polyacetylene in the Presence of Iodine," J. Kanicki, E. Vander Donckt and S. Boue, **J. Chem. Soc., Fard. Trans. 2**, vol. 77, pp. 2157-2168 (1981).
4. "Photovoltaic Properties of Poly-2-Vinylpyridine Iodine Complex-SnO₂ System," E. Vander Donckt, B. Noirhomme and J. Kanicki, **J. Appl. Polym. Sci.**, vol. 27, pp. 1-9 (1982).
5. "Photovoltaic and Rectification Properties of In / trans-CH_x / Electrodag + 502 Schottky Barrier Cells," J. Kanicki, S. Boue and E. Vander Donckt, **Mol. Cryst. Liq. Cryst.**, vol. 83, pp. 1351-1359 (1982).
6. "Novel Approach to the Study of Electrical Conduction in Bromine-Doped Polyacetylene," J. Kanicki, S. Boue and E. Vander Donckt, **Thin Solid Films**, vol. 92, pp. 243-251 (1982).
7. "Photovoltaic Devices Involving Organic Polymers," J. Kanicki, **Polymer Preprints**, vol. 23, pp. 138-139 (1982).
8. "Photovoltaic Properties of In / trans-Polyacetylene / Electrodag + 502 Schottky Barrier Cells," J. Kanicki, E. Vander Donckt and S. Boue, **Solar Cells**, vol. 9, pp. 281-288 (1983).
9. "Review of Conductor - Polymeric Semiconductor Solar Cells," J. Kanicki, **J. Phys. (Paris)**, vol. 44 C3, pp. 529-535 (1983).
10. "Electrical and Photovoltaic Properties of Metal Contacts to trans-Polyacetylene," P. Fedorko and J. Kanicki, **Thin Solid Films**, vol. 113, pp. 1 - 14 (1984).
11. "Electrical and Photovoltaic Properties of trans-Polyacetylene," J. Kanicki and P. Fedorko, **J. Phys. D: Appl. Phys.**, vol. 17, pp. 805-817 (1984).
12. "Electrical and Photovoltaic Properties of Pb / trans-CH_x and Pb / trans-CH_x-AsF₅ Schottky Barriers," E. Vander Donckt, J. Kanicki and P. Fedorko, **J. Appl. Poly. Sci.**, vol. 29, pp.619-627 (1984).

14. "Metal - Polyacetylene Schottky Barrier Diodes," J. Kanicki, **Mol. Cryst. Liq. Cryst.**, vol. 105, pp. 203-217 (1984).
15. "Transport Properties and Defects States of *a*-Si:H Grown by HOMOCVD," J. Kanicki, C.M. Ransom, W Bauhofer, T.I. Chappell and B.A. Scott, **J. Non-Cryst. Solids**, vol. 66, pp. 51-58 (1984).
16. "Photoconductivity of Intrinsic and Doped *a*-Si:H from 0.1 and 1.9 eV," T. Inushima, M.H. Brodsky, J. Kanicki and R.J. Serino, **AIP Conf. Proc.**, vol. 120, pp. 24-31 (1984).
17. "Far UV Pulsed Laser Melting of Silicon," G. Gorodetsky, J. Kanicki, T. Kazyaka and R.L. Melcher, **Appl. Phys. Lett.**, vol. 46, pp. 547-549 (1985).
18. "Optical, Electrical and Contact Properties of HOMOCVD Films," J. Kanicki, B.A. Scott, T. Inushima and M.H. Brodsky, **J. Non-Cryst. Solids**, vol. 77-78, pp. 789-792 (1985).
19. "Stable Photoinduced Paramagnetic Defects in Hydrogenated Amorphous Silicon Nitride," D.T. Krick, P.M. Lenahan and J. Kanicki, **Appl. Phys. Lett.**, vol. 51, pp. 608-610 (1987).
20. "Electron Spin Resonance Study of Defects in Plasma Enhanced Chemical Vapor Deposited Silicon Nitride", D. Jousse, J. Kanicki, D.T. Krick and P.M. Lenahan, **Appl. Phys. Lett.**, vol. 52, pp. 445-447 (1988).
21. "Contact Resistance to Undoped and Phosphorous-Doped Hydrogenated Amorphous Silicon Films," J. Kanicki, **Appl. Phys. Lett.**, vol. 53, pp.1943-1945 (1988).
22. "Spatial Charge Distribution in the Plasma-Enhanced Chemical Vapor Deposited Nitrogen-Rich Silicon Nitride," J. Kanicki and S. Hug, **Appl. Phys. Lett.**, vol. 54, pp.733-735 (1989).
23. "Nature of the Dominant Deep Trap in Amorphous Silicon Nitride," D.T. Krick, P.M. Lenahan and J. Kanicki, **Phys. Rev. B**, vol. 38, pp. 8226-8229 (1988).
24. "Electrically Active Point Defects in Amorphous Silicon Nitride: an Illumination and Charge Injection Study," D.T. Krick, P.M. Lenahan and J. Kanicki, **J. Appl. Phys.**, vol. 64, pp.3558-3563 (1988).
25. "Observation of Multiple Silicon Dangling Bond Configuration in Silicon Nitride," D. Jousse, J. Kanicki and J.H. Stathis, **Appl. Phys. Lett.**, vol. 54, pp.1043-1045 (1989).

26. "Investigation of the Light-Induced Effects in Nitrogen-Rich Silicon Nitride," D. Jousse and J. Kanicki, **Appl. Phys. Lett.**, vol. 55, pp. 1112-1114 (1989).
27. "Stability of Electrical Properties of Nitrogen-Rich, Silicon-Rich and Stoichiometric Silicon Nitride Films," W.S. Lau, S.J. Fonash and J. Kanicki, **J. Appl. Phys.**, vol. 66, pp. 2765-2767 (1989).
28. "Gate Dielectric and Contact Effects in Hydrogenated Amorphous Silicon - Silicon Nitride Thin Film Transistors," N. Lustig and J. Kanicki, **J. Appl. Phys.**, vol. 65, pp. 3951-3957 (1989).
29. "Spatial Charge Distribution in as-Deposited and UV Illuminated Nitrogen-Rich Silicon Nitride," J. Kanicki and D. Jousse, **IEEE Elect. Dev. Lett.**, vol. 10, pp. 277-279 (1989).
30. "Light-Induced Effects in Hydrogenated Nitrogen-Rich Silicon Nitride Films," J. Kanicki, D. Jousse, A. Gelatos and M.S. Crowder, **J. Non-Cryst. Solids**, vol. 114, pp. 612-614 (1989).
31. "The Nature of the Dominant Deep Trap in Amorphous Silicon Nitride Films: Evidence for a Negative Correlation Energy," P.M. Lenahan, D.T. Krick and J. Kanicki, **Appl. Surf. Sci.**, vol. 39, pp. 392-405 (1989).
32. "Electron Spin Resonance Study of Metal-Nitride-Silicon Structures: Observation of Si Dangling Bonds with Different Configurations and Trapping Properties in Silicon Nitride," D. Jousse, J. Kanicki and J.H. Stathis, **Appl. Surf. Sci.**, vol. 39, pp. 412-419 (1989).
33. "Investigation of the Plasma Deposited Silicon Dioxide on Hydrogenated Amorphous Silicon Interface by Capacitance Measurements," A. Gelatos, P. Wagner and J. Kanicki, **J. Non-Cryst. Solids**, vol. 114, pp. 699-701 (1989).
34. "Spatial Charge Distribution in the Plasma-Enhanced Chemical Vapor Deposited Nitrogen-Rich Silicon Nitride," J. Kanicki and S. Hug, **Appl Phys. Lett.**, vol.54, pp. 733-735 (1989).
35. "Evidence for a Negative Electron-Electron Correlation Energy in the Dominant Deep Trapping Center in Silicon Nitride Films," S.E. Curry, P.M. Lenahan, D.T. Krick, J. Kanicki and C.T. Kirk, **Appl. Phys. Lett.**, vol.56, pp. 1359-1361 (1990).
36. "Photodarkening and Bleaching in Amorphous Silicon Nitride," C.H. Seager and J. Kanicki, **Appl. Phys. Lett.**, vol. 57, pp.1378-1380 (1990).
37. "Photobleaching of Light-Induced Paramagnetic Defects in Amorphous Silicon Nitride Films," M.S. Crowder, E.D. Tober and J. Kanicki, **Appl. Phys. Lett.**, vol. 57, pp. 1995-1997 (1990).

38. "Direct Observation of the Silicon Nitride on Amorphous Silicon Interface States," A.V. Gelatos and J. Kanicki, **Appl. Phys. Lett.**, vol. 56, pp. 940-942 (1990).
39. "Bias Stress-Induced Instabilities in Amorphous Silicon Nitride / Hydrogenated Amorphous Silicon Structures: Is the "Carrier-Induced Defect Creation Model Correct?" A.V. Gelatos and J. Kanicki, **Appl. Phys. Lett.**, vol. 57, pp. 1197-1199 (1990).
40. "Stretched Exponential Illumination Time Dependence of Positive Charge and Spin Generation in Amorphous Silicon Nitride," J. Kanicki, M. Sankaran, A. Gelatos, M.S. Crowder and E.D. Tober, **Appl. Phys. Lett.**, vol. 57, pp. 698-700 (1990).
41. "Performance of Thin Hydrogenated Amorphous Silicon Thin Film Transistors," J. Kanicki, F.R. Libsch, J. Griffith and R. Polastre, **J. Appl. Phys.**, vol. 69, pp. 2339-2345 (1991).
42. "Low Temperature Electron Spin Resonance Investigation of Silicon Paramagnetic Defects in Silicon Nitride," W.L. Warren, F.C. Rong, E.H. Poindexter, J. Kanicki and G.J. Gerardi, **Appl. Phys. Lett.**, vol. 58, pp. 2417-2419 (1991).
43. "Structure, Properties and Thermal Stability of in-Situ Phosphorous-doped Hydrogenated Microcrystalline Silicon Prepared by Plasma-Enhanced Chemical Vapor Deposition," S.J. Jeng, D.E. Kotecki, J. Kanicki, C.C. Parks and J. Tien, **Appl. Phys. Lett.**, vol. 58, pp. 1632-1634 (1991).
44. "Thermal Annealing of Light-Induced Metastable Defects in Hydrogenated Amorphous Silicon Nitride," E.D. Tober, J. Kanicki and M.S. Crowder, **Appl. Phys. Lett.**, vol. 59, pp. 1723-1725 (1991).
45. "Structural Identification of the Silicon and Nitrogen Dangling-Bond Centers in Amorphous Silicon Nitride," W.L. Warren, F.C. Rong, E.H. Poindexter, G.J. Gerardi and J. Kanicki, **J. Appl. Phys.**, vol. 70, pp. 346-354 (1991).
46. "Electrically Neutral Nitrogen Dangling-Bond Defects in Amorphous Hydrogenated Silicon Nitride Thin Films," W.L. Warren, P.M. Lenahan and J. Kanicki, **J. Appl. Phys.**, vol. 70, pp. 2220-2225 (1991).
47. "Threshold and Saturation Effects for Photosignals in an Amorphous Silicon Waveguide Structure," M. Zelikson, K. Weiser, J. Salzman and J. Kanicki, **Appl. Phys. Lett.**, vol. 59, pp. 2660-2662 (1991).

48. "Energy Level of the Nitrogen Dangling Bond in Amorphous Silicon Nitride," W.L. Warren, J. Kanicki, J. Robertson and P.M. Lenahan, **Appl. Phys. Lett.**, vol. 59, pp. 1699-1701 (1991).
49. "Determination of Electron and Hole Mobilities in *a*-Si:H from Photo-electric Effects in a Waveguide Structure," M. Zelikson, K. Weiser, J. Salzman and J. Kanicki, **J. Non-Cryst. Solids**, vols. 137&138, pp. 455-458 (1991).
50. "Transient Photocapacitance and Capacitance Studies of Interface and Bulk States in Metal / *a*-SiN_{1.6}/ *c*-Si structures," C. Godet, J. Kanicki and A. Gelatos, **J. Non-Cryst. Solids**, vols. 137&138, pp. 1051-1054 (1991).
51. "Microscopic Origin of the Light-Induced Defects in Hydrogenated Nitrogen-Rich Amorphous Silicon Nitride Films," J. Kanicki, W.L. Warren C.H. Seager, M.S. Crowder and J. Kanicki, **J. Non-Cryst. Solids**, vols. 137&138, pp. 291-294 (1991).
52. "Paramagnetic Point Defects in Amorphous Silicon Dioxide and Amorphous Silicon Nitride Thin Films II: *a*-SiN_x:H," W.L. Warren, J. Kanicki, F.C. Rong and E.H. Poindexter, **J. Electrochem. Soc.**, vol. 139, pp. 880-889 (1992).
53. "Some Electrical Properties of Amorphous Silicon / Amorphous Silicon Nitride Interfaces: Top and Bottom Nitride Configurations in MNS and TFT Devices," C. Godet, J. Kanicki and A.V. Gelatos, **J. Appl. Phys.**, vol. 71, pp. 5022-5032 (1992).
54. "Investigation of the Quality of Polysilicon Film-Gate Dielectric Interface in Polysilicon Film - Gate Dielectric Interface in Polysilicon Thin Film Transistors," J.H. Kung, M.K. Hatalis and J. Kanicki, **Thin Solid Films**, vol. 216, pp. 137-141 (1992).
55. "Enhanced Electro-optic Effect in Amorphous Silicon Based Waveguides," M. Zelikson, J. Sulzman, K. Weiser and J. Kanicki, **Appl. Phys. Lett.**, vol. 61, pp. 1664-1666 (1992).
56. "Charge Trapping Centers in N-rich Silicon Nitride Thin Films," W.L. Warren, J. Kanicki, F.C. Rong, E.H. Poindexter and P.J. McWhorter, **Appl. Phys. Lett.**, vol. 61, pp. 216-218 (1992).
57. "Near-IR Absorption in Chemically Vapor Deposited *a*-SiN_x:H Films," C.H. Seager and J. Kanicki, **Phys. Rev B**, vol. 46, pp. 15163-1568 (1992).
58. "Hydrogenation Effects on Polysilicon Thin Film Transistor Structures," M.K. Hatalis, J.H. Kung and J. Kanicki, **IEEE Trans. Electr. Dev.**, vol. 39, pp. 2665-2665 (1992).

59. "*Bias-Stress-Induced Stretched-Exponential Time Dependence of Charge Injection and Trapping in Amorphous Silicon Thin-Film Transistors*," F.R. Libsch and J. Kanicki, **Appl. Phys. Lett.**, vol. 62, pp. 1286-1288 (1993).
60. "*Electron Paramagnetic Resonance Investigation of Charge Trapping Centers in Amorphous Silicon Nitride Films*," W.L. Warren, J. Kanicki, J. Robertson, E.H. Poindexter and P.J. McWhorter, **J. Appl. Phys.**, vol. 74, pp. 4034-4046 (1993).
61. "*Si and N Dangling Bond Creation in Silicon Nitride Thin Films*," W.L. Warren, J. Robertson and J. Kanicki, **Appl. Phys. Lett.**, vol. 63, pp. 2685-2687 (1993).
62. "*Photocreation and Photobleaching of $a\text{-SiN}_{1.6}$ / $c\text{-Si}$ Interface States Studied by Photocapacitance Transient Spectroscopy*," C. Godet and J. Kanicki, **Physica B**, vol. 185, pp. 542-545 (1993).
63. "*Defects in Amorphous Hydrogenated Silicon Nitride Films*," J. Kanicki and W.L. Warren, **J. Non-Cryst. Solids**, vols. 164 & 166, pp. 1055-1060 (1993).
64. "*Temperature Dependence of the Electron-Spin Resonance in Nitrogen-Rich Amorphous Silicon Nitride*," D. Chen, J.M. Viner, P.C. Taylor and J. Kanicki, **Phys. Rev. B**, vol. 49, pp. 13420-13422 (1994).
65. "*Photoluminescence and Electron Spin Resonance in Nitrogen-Rich Amorphous Silicon Nitride*," D. Chen, J.M. Viner, P.C. Taylor and J. Kanicki, **J. Non-Cryst. Solids**, vol. 182, pp. 103-108 (1995).
66. "*Ultra-Violet Light Induced Annihilation of Silicon Dangling Bonds in Hydrogenated Amorphous Silicon Nitride Films*," W.L. Warren, C.H. Seager, J. Kanicki, M.S. Crowder and E. Sigari, **J. Appl. Phys.**, vol. 77, pp. 5730-5735 (1995).
67. "*Nature of the Si and N Dangling Bonds in Silicon Nitride*," J. Robertson, W.L. Warren and J. Kanicki, **J. Non-Cryst. Solids**, vol. 187, pp. 297-300 (1995).
68. "*Paramagnetic Point Defects in Silicon Nitride and Silicon Oxynitride Thin Films on Silicon*," W.L. Warren, J. Kanicki and E. H. Poindexter, **Colloid Surface A**, vol. 115, pp. 311-317 (1996).
69. "*High Field-Effect Mobility $a\text{-Si:H}$ TFT Based on High Deposition Rate PECVD Materials*," C.-Y. Chen and J. Kanicki, **IEEE Elec. Dev. Lett.**, vol. 17, pp. 437-439 (1996).
70. "*Ultraviolet Light Induced Changes in Polyimide Liquid-Crystal Alignment Films*," S. Lu, S. Deshpande, E. Gulari and J. Kanicki, **J. Appl. Phys.**, vol. 80, pp. 5028-5034, (1996).

71. "Patterning of Transparent Conduction Oxide Thin Films by Wet Etching for *a*-Si:H TFT - LCDs," J.H. Lan, J. Kanicki, A. Catalano, J. Keane, W. den Boer and T. Yu, **J. Electron. Mat.**, vol. 25, pp. 1806-1817 (1996).
72. "High Rate Selective Deposition of Polysilicon Thin Films at Low Temperature by Hot-Wire Chemical Vapor Deposition," S. Yu, E. Gulari and J. Kanicki, **Appl. Phys. Lett.**, vol. 68, pp. 2681-2683, (1996).
73. "Study of Sub-bandgap Photo-Induced Absorption in *a*-Si:H Using Excitation Spectroscopy in a Waveguide Configuration," M. Zelikson, K. Weiser and J. Kanicki, , " **J. Non-Cryst. Solids**, vols. 198-200, pp. 259-262 (1996).
74. "Direct Determination of the Quadratic Electro-Optic Coefficient in *a*-Si:H Based Waveguide," M. Zelikson, K. Weiser, A. Chack and J. Kanicki, **J. Non-Cryst. Solids**, vols. 198-200, pp. 107-110 (1996).
75. "Creation and Properties on Nitrogen Dangling Bond Defects in Silicon Nitride Thin Films," W.L. Warren, C.H. Seager, J. Robertson and J. Kanicki, **J. Electrochem. Soc.**, vol. 143, pp. 3685-3691 (1996).
76. "High Field Effect Mobility *a*-Si:H TFT Based on High Deposition-Rate Materials," C.-Y. Chen, and J. Kanicki, **Colloid Surface A**, vol. 115, pp. 311-317 (1996).
77. "Characterization and Stability of Light-Emitting Diodes Based on Poly(bithiazole)'s," Y.He, J.K. Politis, H. Cheng, M.D. Curtis and J. Kanicki, **IEEE Trans. Elec. Dev.**, vol. 44, pp. 1282-1288 (1997).
78. "ITO Surface Ball Formation Induced by Atomic Hydrogen in PECVD and HW-CVD Tools," J.-H. Lan and J. Kanicki, **Thin Solid Films**, vol. 304, pp. 123-129 (1997).
79. "Gated-Four-Probe *a*-Si:H TFT Structure: a New Technique to Measure the Intrinsic Performance of *a*-Si:H TFT," C.-Y. Chen and J. Kanicki, **IEEE Elec. Dev. Lett.**, vol. 18, pp. 340-342 (1997).
80. "Observation of Incident Angle Dependent Phonon Absorption in Hydrogenated Amorphous Silicon Nitride Thin Films," T. Li and J. Kanicki, **Appl. Phys. Lett.**, vol. 73, pp. 3866-3868 (1998).
81. "Synthesis and Characterization of Conjugated *n*-Dopable Bithiazole-Containing Polymers," J.K. Politis, M.D. Curtis, L. Gonzalez, D.C. Martin, Y. He and J. Kanicki, **Chem. Mater.**, vol. 10, pp. 1713-1719 (1998).

82. "Electrical Instability of Hydrogenated Amorphous Silicon Thin-Film Transistors for Active-Matrix Liquid-Crystal Displays," C.-S. Chiang, J. Kanicki and K. Takechi, **Jpn. J. Appl. Phys.**, vol. 37, pp. 4704-4710 (1998).
83. "Schottky-Contact Gated-Four-Probe a-Si:H TFT Structure: A New Structure to Investigate the Electrical Instability of a-Si:H TFT," C.-S. Chiang, C.-Y. Chen and J. Kanicki, **IEEE Elec. Dev. Lett.**, vol. 19, pp. 382-384 (1998).
84. "Top-Gate Staggered Amorphous Silicon Thin-Film Transistors: Series Resistance and Nitride Thickness Effects," C.-S. Chiang, S. Martin, J. Kanicki, Y. Ugai, T. Yukawa and S. Takeuchi, **Jpn. J. Appl. Phys.**, vol. 37, pp. 5914-5920 (1998).
85. "Origin of Series Resistances in a-Si:H TFTs," C.-Y. Chen and J. Kanicki, **Solid State Electronics**, vol. 42, pp. 705-713 (1998).
86. "Investigation of Intrinsic Channel Characteristics of Hydrogenated Amorphous Silicon Thin-Film Transistors by Gated-Four-Probe Structure," C.-S. Chiang, C.-Y. Chen, J. Kanicki and K. Takechi, **Appl. Phys. Lett.**, vol. 72, pp. 2874-2876 (1998).
87. "Viewing Angle Improvement with Compensation Films for LCDs," S. Gong, J. Kanicki, G. Xu, A. Abileah, M. Jones, R. Brinkley and S. Thomsen, **Advanced Display**, vol. 3, pp. 4-12 (1998).
88. "Contrast Reduction from Ambient Light for Film, CRT, and AM-LCD display Devices," M.J. Flynn, A. Badano and J. Kanicki, **Radiology**, vol. 209, pp. 279-279 (1998).
89. "Planarized Copper Gate Hydrogenated Amorphous Silicon Thin Film Transistors for AM-LCDs," J.-H. Lan and J. Kanicki, **IEEE Elect. Dev. Lett.**, vol. 20, pp. 129-131 (1999).
90. "Microstructure Characterization of Amorphous Thin Solid Films in a Fringe-Free Environment," T. Li and J. Kanicki, **J. Appl. Phys.**, vol. 85, pp. 388-396 (1999).
91. "Method of Collecting Pure Vibrational Absorption Spectra of Amorphous Thin Films," T. Li, J. Kanicki and C. Mohler, **Thin Solid Films**, vol. 349, pp. 283-288 (1999).
92. "High Fidelity Electronic Display of Digital Radiographs," M.J. Flynn, J. Kanicki, A. Badano and W.R. Eyer, **Radiographics**, vol. 19, pp. 1653-1669 (1999).

93. “*Thin Film Transistors in Low Temperature as-Deposited and Reduced-Crystallization-Time Polysilicon Films on 665C Strain Point Glass Substrates,*” M.K. Hatalis, D.N. Kouvatsos, J.-H. Kung, A.T. Voutsas and J. Kanicki, **Thin Solid Films**, vol. 338, pp. 281-285 (1999).
94. “*High Performance Organic Polymer Light-Emitting Heterostructure Devices,*” Y. He, S. Gong, R. Hattori and J. Kanicki, **Appl. Phys. Lett.**, vol. 74, pp. 2265-2267 (1999).
95. “*Ultraviolet-light Induced Liquid Crystal Alignment on Polyimide Films,*” S. Gong, J. Kanicki, L. Ma and J.Z.Z. Zhong, **Jpn. J. Appl. Phys.**, vol. 38, pp. 5996-6004 (1999).
96. “*A Novel Structure to Improve the Viewing Angle Characteristics of Twisted-Nematic Liquid-Crystal Displays,*” S. Gong and J. Kanicki, **Jpn. J. Appl. Phys.**, vol. 38, pp. 4110-4116 (1999).
97. “*Tuning Optical and Electronic Properties of Bithiazole Containing Polymers by N-Methylation,*” J.K. Politis, M. Curtis, Y. He and J. Kanicki, **Macromolecules**, vol. 32, pp. 2484-2489 (1999).
98. “*Two-Dimension Numerical Simulation of Solid-Phase-Crystallized Polysilicon Thin-Film Transistor Characteristics,*” T.-K.A. Chou and J. Kanicki, **Jpn. J. Appl. Phys.**, vol. 38, pp. 2251-2255 (1999).
99. “*Electrical Characteristics of New LDD Poly-Si TFT Structure Tolerant to Process Misalignment,*” B.-H. Min and J. Kanicki, **IEEE Elec. Dev. Lett.**, vol. 20, pp. 335-337 (1999).
100. “*Interference Fringe-Free Transmission Spectroscopy of Amorphous Thin Films,*” T. Li, J. Kanicki, W. Kong and F.L. Terry, **J. Appl. Phys.**, vol. 88, pp. 5764-5771 (2000).
101. “*High-Efficiency Organic Polymer Light-Emitting Heterostructure Devices on Flexible Plastic Substrates,*” Y. He and J. Kanicki, **Appl. Phys. Lett.**, vol. 76, pp. 661-663 (2000).
102. “*Light Output Measurements of the Organic Light-Emitting Devices,*” Y. He, R. Hattori and J. Kanicki, **Rev. Sci. Instruments**, vol. 71, pp. 2104-2107 (2000).
103. “*Current Source a-Si:H Thin Film Transistor Circuit for Active-Matrix Organic Light-emitting Displays,*” Y. He, R. Hattori, and J. Kanicki, **IEEE Elec. Dev. Lett.**, vol. 21, pp. 590-592 (2000).

104. "Current-Writing Active-Matrix Circuit for Organic Light-Emitting Diode Display Using *a*-Si:H Thin-Film-Transistors," R. Hattori, T. R. Hattori, T. Tsukamizu, R. Tsuchiya, K. Miyake, Y. He and J. Kanicki, **IEICE Trans. Electron.**, vol. E83-C, pp. 779-782 (2000).
105. "Influence of the Amorphous Silicon Thickness on Top Gate Thin-Film Transistor Electrical Performances," S. Martin, C.-S. Chiang, J.-Y. Nahm, T. Li and J. Kanicki, and Y. Ugai, **Jpn. J. Appl. Phys.**, vol. 40, pp. 530-537 (2001).
106. "Four-Thin Film Transistor Pixel Electrode Circuits for Active-Matrix Organic Light-Emitting Displays," Y. He, R. Hattori and J. Kanicki, **Jpn. J. Appl. Phys.**, vol. 40, pp. 1199-1208 (2001).
107. "Improved *a*-Si:H TFT Pixel Electrode Circuits for Active-Matrix Organic Light-Emitting Displays," Y. He, R. Hattori and J. Kanicki, **IEEE Trans. Elec. Dev.**, vol. 48, pp. 1322-1325 (2001).
108. "Monte Carlo Analysis of the Spectral Photon Emission and Extraction Efficiency of Organic Light-Emitting Devices," A. Badano and J. Kanicki, **J. Appl. Phys.**, vol. 90, pp. 1827-1830 (2001).
109. "High Resolution Organic Polymer Light-Emitting Pixels Fabricated by Imprinting Technique," X. Cheng, Y. Hong, J. Kanicki and L.J. Guo, **J. Vac. Sci. Technol. B**, vol. 20, pp. 2877-2880 (2002).
110. "Gate-Planarized Organic Polymer Thin Film Transistors," S. Martin, J.-Y. Nahm and J. Kanicki, **J. of Electronic Materials**, vol. 31, pp. 512-519 (2002).
111. "Accurate Small-Spot Luminance Measurements," A. Badano, M.J. Flynn, and J. Kanicki, **Displays**, vol. 23, pp. 177-182 (2002).
112. "Integrating Sphere Charge Coupled Device-Based Measurement Method for Organic Light-Emitting Devices," Y. Hong and J. Kanicki, **Rev. of Scientific Instruments**, vol. 74, pp. 3572-3575 (2003).
113. "Contact Resistance in Schottky Contact Gated-Four-Probe *a*-Si Thin-Film Transistor," R. Hattori and J. Kanicki, **Jpn. J. Appl. Phys.**, vol. 42, p. L907-L900 (2003).
114. "Organic-Polymer Thin-Film Transistors for Active-Matrix Flat Panel Displays?" S. Martin, M. Hamilton and J. Kanicki, **J. of the SID**, vol. 11/3, pp. 543-549 (2003).
115. "Angular Dependence of the Luminance and Contrast in Medical Monochrome Liquid Crystal Displays," A. Badano, M.J. Flynn, S. Martin and J. Kanicki, **Med. Phys.**, vol. 30, pp. 2602-2613 (2003).

116. "Amorphous Silicon TFT-Based Active-Matrix Organic Polymer LEDs," J.-H. Kim, Y. Hong and J. Kanicki, **IEEE Elec. Dev. Lett.**, vol. 24, pp. 451-453 (2003).
117. "Optoelectrical Properties of Four Amorphous Silicon Thin-Film Transistors 200 dpi Active-Matrix Organic Polymer Light-Emitting Display," Y. Hong, J.Y. Nahm and J. Kanicki, **Appl. Phys. Lett.**, vol. 83, pp. 3233-3235 (2003).
118. "100 dpi 4-a-Si:H TFTs Active-Matrix Organic Polymer Light-Emitting Display," Y. Hong, J.-Y. Nahm and J. Kanicki, **IEEE J. of Selected Topics in Quantum Electronics**, vol. 10, p. 16-25 (2004).
119. "Monte Carlo Modeling of the Light Transport in Polymer Light-Emitting Devices on Plastic Substrates," S.-J. Lee, A. Badano and J. Kanicki, **IEEE J. of Selected Topics in Quantum Electronics**, vol. 10, pp. 37-44 (2004).
120. "Organic Polymer Thin-Film Transistor Photosensors," M.C. Hamilton and J. Kanicki, **IEEE J. of Selected Topics in Quantum Electronics**, vol. 10, pp. 840-848 (2004).
121. "Transparent Flexible Plastic Substrates for Organic Light-Emitting Devices," Y. Hong, Z. He, N.S. Lennhoff, D.A. Banach and J. Kanicki, **J. of Electronic Materials**, vol. 33, pp. 312-320 (2004).
122. "Thin-Film Organic Polymer Phototransistors," M.C. Hamilton, S. Martin and J. Kanicki, **IEEE Trans. on Elec. Dev.**, vol. 51, pp. 877-855 (2004).
123. "Opto-Electronic Properties of Poly(fluorene) Co-polymer Red Light-Emitting Devices on Flexible Plastic Substrate," Y. Hong and J. Kanicki, **IEEE Trans. on Elec. Dev.**, vol. 51, pp. 1562-1569 (2004).
124. "Field-Effect Mobility of Organic Polymer Thin-Film Transistors," M.C. Hamilton, S. Martin and J. Kanicki, **Chemistry of Materials**, vol. 16, pp. 4699-4704 (2004).
125. "Structural Ordering and Enhanced Carrier Mobility in Organic Polymer Thin Film Transistors," L. Kinder, J. Kanicki, and P. Petroff, **Synthetic Metals**, vol. 146, pp. 181-185 (2004).
126. "a-Si:H TFTs Active-Matrix Organic Polymer Light-Emitting Displays," J. Kanicki, Special Issue of the **Nikkei Microdevices** on "Flat Panel Display 2004," pp. 230 – 237 (2004).

127. "Field-Effect Mobility of Polycrystalline Tetrabenzoporphyrin Thin-Film Transistors," P.B. Shea, J. Kanicki and N. Ono, **J. of Applied Physics**, vol. 98, pp. 014503-1-0145053-7 (2005).
128. "Electrical Properties of Staggered Electrode, Solution-Processed, Polycrystalline Tetrabenzoporphyrin Field-Effect Transistors," P.B. Shea, A.R. Johnson, N. Ono and J. Kanicki, **IEEE Trans. on Elec. Dev.**, vol. 52, pp. 1497-1503 (2005).
129. "Methanofullerene-Coated Tetrabenzoporphyrin Organic Field Effect Transistors," P.B. Shea, J. Kanicki and N. Ono, **Appl. Phys. Lett.**, vol. 87, pp. 173506-1-173506-3 (2005).
130. "A Novel Current-Scaling *a*-Si:H TFTs Pixel Electrode Circuit for AM-OLEDs," Y.-C. Lin, H.-P.D. Shieh and J. Kanicki, **IEEE Trans. on Elec. Dev.**, vol. 52, pp. 1123-1131 (2005).
131. "Poly(fluorine-oxadiazole) Copolymer-Based Light-Emitting Devices on a Plastic Substrate," S.-J. Lee, J.R. Gallegos, J. Klein, M.D. Curtis and J. Kanicki, **Synthetic Metals**, vol. 155, pp. 1-10 (2005).
132. "Optoelectronic Properties of Poly (florene) co-polymer Light-Emitting Devices on a Plastic Substrate," J. Kanicki, S.-J. Lee, Y. Hong and C.-C. Su, **Journal of SID (Society for Inf. Display)**, vol. 13/12, pp. 993-1002 (2005).
133. "White LED Based on Polyfluorene Co-Polymers Blend on Plastic Substrate," H. Lee, A.R. Johnson and J. Kanicki, **IEEE Trans. Elec. Dev.**, vol. 53, pp. 427-434 (2006).
134. "Solution-Processed Nickel Tetrabenzoporphyrin Thin-Film Transistors," P.B. Shea, J. Kanicki, L.R. Pattison, P. Petroff, M. Kawano, H. Yamada and N. Ono, **J. Appl. Phys.**, vol. 100, pp. 034502-1-034502-7 (2006).
135. "Asymmetric Electrical Properties of Corbino *a*-Si:H TFT and Concepts of Its Application to Flat Panel Displays," H. Lee, J. S. Yoo, C.-D. Kim, I.-J. Chung and J. Kanicki, **IEEE Trans. Elec. Dev.**, vol. 54, pp. 654-662 (2007).
136. "Current-Scaling *a*-Si:H TFT Pixel-Electrode Circuit for AM-OLEDs: Electrical Properties and Stability," H. Lee, Y.-C. Lin, H.-P.D. Shieh and J. Kanicki, **IEEE Trans. Elec. Dev.**, vol. 54, pp. 2403-2410 (2007).
137. "Novel Current-Scaling Current-Mirror Hydrogenated Amorphous Silicon Thin-Film Transistor Pixel Electrode Circuit with Cascade Capacitor for Active-Matrix Organic Light-Emitting Devices," H. Lee, J.S. Yoo, C.-D. Kim, I.-J. Chung and J. Kanicki, **Jpn. J. Appl. Phys.**, vol. 46, pp. 1343-1349 (2007).

138. "Solution-Processed Polycrystalline Copper Tetrabenzoporphyrin Thin-Film Transistors," P.B. Shea, L.R. Pattison, M. Kawano, C. Chen, J. Chen, P. Petroff, D. Martin, H. Yamada and N. Ono, and J. Kanicki, **Synthetic Metals**, vol. 157, pp. 190-197 (2007).
139. "Polycrystalline Tetrabenzoporphyrin Organic Field-Effect Transistors with Nanostructured Channels," P.B. Shea, C. Chen, and J. Kanicki, L.R. Pattison and P. Petroff, H. Yamada and N. Ono, **Appl. Phys. Lett.**, vol. 90, pp. 233107-1-233107-3 (2007).
140. "Absolute Photoluminescence Quantum Efficiency Measurement of Light-Emitting Thin Films," A.R. Johnson, S.-J. Lee, J. Klein, and J. Kanicki, **Rev. Sci. Instruments**, vol. 78, pp. 096101-1 – 096101-3 (2007).
141. "Novel *a*-Si:H TFT Pixel Circuit for Electrically Stable Top-Anode Light-Emitting AMOLEDs," J.S. Yoo, H. Lee, J. Kanicki, C.-D. Kim and I.-J. Chung, **Journal of SID**, vol. 15/8, pp. 545-551 (2007).
142. "Hexagonal *a*-Si:H TFTs: A New Advanced Technology for Flat-Panel Displays," H. Lee, J.-S. Yoo, C.-D. Kim, In-B. Kang, and J. Kanicki, **IEEE Trans. Elec. Dev.**, vol. 55, pp. 329-336 (2008).
143. "Advanced Multilayer Amorphous Silicon Thin-Film Transistor Structure: Film Thickness Effect on Its Electrical Performance and Contact Resistance," A. Kuo, T. K. Won, and J. Kanicki, **Jpn. J. Appl. Phys.**, vol. 47, pp. 3362-3367 (2008).
144. "Advanced Amorphous Silicon Thin-Film Transistors for AM-OLEDs: Electrical Performance and Stability," A. Kuo, T. K. Won, and J. Kanicki, **IEEE Trans. Elec. Dev.**, vol. 55, pp. 1621-1629 (2008).
145. "Dynamic Response of Normal and Corbino *a*-Si:H TFTs for AM-OLEDs," H. Lee, C.-S. Chiang, and J. Kanicki, **IEEE Trans. Elec. Dev.**, vol. 55, pp. 2338-2347 (2008).
146. "Photofield-Effect in Amorphous In-Ga-Zn-O (*a*-IGZO) Thin-Film Transistors," T.-C. Fung, C.-S. Chuang, K. Nomura, H.-P. D. Shieh, H. Hosono, and J. Kanicki, **Journal of Information Display**, vol. 9, pp. 21-29 (2008).
147. "Asymmetric Electrical Properties of Fork *a*-Si:H Thin-Film Transistor and Its Application to Flat Panel Displays," H. Lee, G. Yoo, J. Yoo, and J. Kanicki, **J. Appl. Phys.**, vol. 105, pp. 124522, 2009.
148. "*a*-InGaZnO Thin-Film Transistors for AMOLEDs: Electrical Stability and Pixel-Circuit Simulation," C. Chen, K. Abe, H. Kumomi, and J. Kanicki, **Journal of SID**, vol. 17/6, pp. 525-534, 2009.

149. "Amorphous In–Ga–Zn–O Thin Film Transistor Current-Scaling Pixel Electrode Circuit for Active-Matrix Organic Light-Emitting Displays," C. Chen, K. Abe, T.-C. Fung, H. Kumomi, and J. Kanicki, **Japanese Journal of Appl. Phys.**, vol. 48, pp. 03B025-1-03B025-7, 2009.
150. "Density of States of *a*-InGaZnO From Temperature-Dependent Field-Effect Studies," C. Chen, K. Abe, H. Kumomi, and J. Kanicki, **IEEE Trans. Elec. Dev.**, vol. 56, pp. 1177-1183, 2009.
151. "Electrical Instability of RF Sputter Amorphous In-Ga-Zn-O Thin-Film Transistors," T.-C. Fung, K. Abe, H. Kumomi, and J. Kanicki, **Journal of Display Technology**, vol. 5, pp. 452-461, 2009.
152. "Two-Dimensional Numerical Simulation of Radio Frequency Sputter Amorphous In–Ga–Zn–O Thin-Film Transistors," T.-C. Fung, C.-S. Chuang, C. Chen, K. Abe, R. Cottle, M. Townsend, H. Kumomi, and J. Kanicki, **J. Appl. Phys.**, vol. 106, pp. 084511, 2009.
153. "A Maskless Laser-Write Lithography Processing of Thin-Film Transistors on a Hemispherical Surface," G. Yoo, H. Lee, D. Radtke, M. Stumpf, U. Zeitner and J. Kanicki, **Microelectronic Engineering**, vol. 87, pp. 83 - 87, 2010.
154. "Surface Potential Study of Amorphous In-Ga-Zn-O Thin – Film Transistors," C. Chen and J. Kanicki, **J. Appl. Phys.**, vol. 108, pp. 1145508-1 – 114508-5, 2010.
155. "Electrical Stability of Hexagonal *a*-Si:H TFTs," G. Yoo, H. Lee and J. Kanicki, **IEEE Elect. Dev. Lett.**, vol. 31, pp. 53 - 55, 2010.
156. "Hemispherical Thin-Film Transistor Passive Pixel Sensors," G. Yoo, T.-C. Fung, D. Radtke, M. Stumpf, U. Zeitner and J. Kanicki, **Sensors and Actuators A**, vol. 158, pp. 280 - 283, 2010.
157. "Low Frequency Noise in Long Channel Amorphous In-Ga-Zn-O Thin Film Transistors," T.-C. Fung, G. Baek and J. Kanicki, **J. Appl. Phys.**, vol. 108, pp. 074518-1 – 074518-10, 2010.
158. "Asymmetric Electrical Properties of Half Corbino Hydrogenated Amorphous Silicon Thin-Film Transistor and Its Applications to Flat Panel Displays," H. Lee, C.-H. Liu and J. Kanicki, **Jpn. J. Appl. Phys.**, vol. 50, pp. 074203-1 – 074203-8, 2011.
159. "Electrical Stability of Power Efficient Half Corbino Hydrogenated Amorphous Silicon Thin-Film Transistors," H. Lee, H. Jung, K.-Y Choi and J. Kanicki, **Jpn. J. Appl. Phys.**, vol. 50, pp. 120203-1 – 120203-3, 2011.
160. "Crystalline In-Ga-Zn-O Density of States and Energy Band Structure Calculation Using Density Function Theory," C. Chen, K.-C. Cheng, E.

- Chagarov and J. Kanicki, **Jpn. J. Appl. Phys.**, vol. 50, pp. 091102-1 – 091102-10, 2011.
161. “*Back Channel Etch Chemistry of Advanced a-Si:H TFTs*,” A. Kuo, T.K. Won and J. Kanicki, **Microelectronic Engineering**, vol. 88, pp. 207 – 212, 2011.
162. “*Electrical Properties and Stability of Dual-Gate Coplanar Homojunction DC Sputtered Amorphous Indium-Gallium-Zinc-Oxide Thin – Film Transistors and Its Application to AM-OLEDs*,” G. Baek, K. Abe, A. Kuo, H. Kumomi and J. Kanicki, **IEEE Trans. Elec. Dev.**, vol. 58, pp. 4344 – 4353, 2011.
163. “*Analyte Selective Response in Solution – Deposited Tetrabenzoporphyrin Thin – Film Field – Effect Transistor Sensors*,” J.E. Royer, S. Lee, C. Chen, B. Ahn, W.C. Trogler, J. Kanicki and A.C. Kummel, **Sensors and Actuators B**, vol. 158, pp. 333 – 339, 2011.

CONFERENCE PROCEEDINGS

1. "*Organic Photovoltaic Materials: Polyacetylene*," J. Kanicki, P. Fedorko, S. Boue and E. Vander Donckt, **Fourth E.C. Photovoltaic Solar Energy Conf. Proc.**, (D. Reidel Publishing Company, Boston, 1982), pp. 562-567.
2. "*Hydrogenated Amorphous Silicon Schottky Barrier Structures Prepared by Homogeneous Chemical Vapor Deposition*," J. Kanicki, J.F. Nijs, B.A. Scott, et al., **J. Electrochem. Soc.**, vol. 130, C319 (1983).
3. "*Schottky Barrier Formation at Metal-Hydrogenated Amorphous Silicon Interfaces*," J. Kanicki, M. Osama Aboelfotoh and W. Bauhofer, **Proc. 17th Int. Conf. Phys. Semicon.**, (Springer-Verlag, New York), pp.183-187 (1985).
4. "*Minority Carrier Injection and Series Resistance Effects in Hydrogenated Amorphous Silicon Schottky Diodes*," J. Kanicki, **Mat. Res. Soc. Symp. Proc.**, vol. 49, pp. 101-109 (1985).
5. "*Amorphous Hydrogenated Silicon Solar Cells with the Homogeneous CVD Technique*," J.F. Nijs, J. Kanicki, B.S. Meyerson, B.A. Scott and R.M. Plecenik, **Proc. Fifth E.C. Photovoltaic Solar Energy Conf. Proc.**, (North Holland, 1986), pp.788-793.
6. "*Chemical and Mechanical Properties of Hydrogenated Amorphous Silicon Nitride Films Deposited in Various PECVD Systems*," J. Kanicki and N. Voke, **Mat. Res. Soc. Symp. Proc.**, vol. 68, pp. 167-173 (1986).
7. "*Optical and Electrical Properties of Hydrogenated Amorphous Silicon Nitride Films Deposited in Various PECVD Systems*," N. Voke and J. Kanicki, **Mat. Res. Soc. Symp. Proc.**, vol. 68, pp. 175-181(1986).
8. "*Ohmic and Quasi-Ohmic Contacts to Hydrogenated Amorphous Silicon Thin Films*," J. Kanicki and D. Bullock, **Mat. Res. Soc. Symp. Proc.**, vol. 70, pp. 379-386 (1986).
9. "*Comparative Study of PECVD Nitride Films*," J. Kanicki and P. Wagner, **ECS Symp. Proc.**, vol. PV 87-10, pp. 261-274 (1987).
10. "*Metal / Hydrogenated Amorphous Silicon Interfaces*," J. Kanicki, **Mat. Res. Soc. Symp. Proc.**, vol. 95, pp. 399-411(1987).
11. "*Electron Spin Resonance Study of Defects in PECVD Silicon Nitride*," D. Jousse, J. Kanicki, D.T. Krick, **J. Electrochem. Soc.**, vol. 134, p. C431 (1987).

12. "Stable Photoinduced Paramagnetic Defects in Hydrogenated Amorphous Silicon Nitride," D.T. Krick, J. Kanicki, and P.M. Lenahan, **J. Electrochem. Soc.**, vol. 134, p. C444 (1987).
13. "Comparative Study of Silicon Dioxide Films Deposited by Various Techniques," J. Kanicki, D.A. Buchanan and B. Robinson, **J. Electrochem. Soc.**, vol. 134, p. C481 (1987).
14. "*Electron Spin Resonance Study of Defects in PECVD Silicon Nitride*", D. Jousse, J. Kanicki, F. Mehran and P.M. Lenahan, **ECS Symp. Proc.**, vol. PV 88-15, pp. 290-298 (1988).
15. "*Role of Hydrogen in Silicon Nitride Films Prepared by Various Deposition Techniques*," J. Kanicki, **Mat. Res. Soc. Symp. Proc.**, vol. 118, pp. 671-677 (1988).
16. "*Electron Spin Resonance Spectroscopy of Defects in Low Temperature Dielectric Films*," D. Jousse, J. Kanicki, J. Stathis and Y. Cros, **SPIE Proc.**, vol. 946, pp. 227-231(1988).
17. "*Temperature Dependent Characteristics of Hydrogenated Amorphous Silicon Thin Film Transistors*," N. Lustig, J. Kanicki, R. Wisnieff and J. Griffith, **Mat. Res. Soc. Symp. Proc.**, vol. 118, pp. 267-272 (1988).
18. "Nature of the Dominant Deep Trap in Amorphous Silicon Nitride," D.T. Krick, P.M. Lenaha and J. Kanicki, **J. Electrochem. Soc.**, vol. 135, p. C362 (1988).
19. "High-Quality Nitrogen-Rich PECVD a-SiNx:H Films for Application in Thin-Film Transistors," W.S. Lau, S.J. Fonash and J. Kanicki, **J. Electrochem. Soc.**, vol. 135, p. C362 (1988).
20. "Mobile Ion Drift in High-Quality PECVD SiO₂ Films," G. Liu, W.S. Lau, S. Fonash and J. Kanicki, **J. Electrochem. Soc.**, vol. 135, p. C363 (1988).
21. "*Properties of High Conductivity Phosphorous Doped Hydrogenated Microcrystalline Silicon and Application in Thin Film Transistor Technology*," J. Kanicki, E. Hasan, J. Griffith, T. Takamori and J.C. Tsang, **Mat. Res. Soc. Symp. Proc.**, vol. 149, pp. 239-246 (1989).
22. "*Properties of Device Quality Nitrogen-Rich Silicon Nitride Thin Films*," J. Kanicki, **Symp. Digest (The Jpn. Soc. Appl. Phys. 36th Spring Meeting)** on "a-Si MIS Structure, pp. 8-15, (1989).
23. "*Properties and Application of Undoped Hydrogenated Microcrystalline Silicon Thin Films*," J. Kanicki, E. Hasan, D.F. Kotecki, T. Takamori and J.H. Griffith, **Mat. Res. Soc. Symp. Proc.**, vol. 149, pp. 173-179 (1989).

24. "Investigation of the Silicon Nitride on Hydrogenated Amorphous Silicon Interface," A.V. Gelatos and J. Kanicki, **Mat. Res. Soc. Symp. Proc.**, vol. 149, pp. 729-734 (1989).
25. "Correlations Between Structural, Electrical, and Optical Properties of in-Situ Phosphorous Doped Hydrogenated Microcrystalline Silicon- Effects of Rapid Thermal Annealing on Material Properties," D.E. Kotecki, S.J. Jeng, J. Kanicki, C.C. Park, W. Rausch, K. Seshan and J. Tien, **Mat. Res. Soc. Symp.**, vol. 164, pp. 353-358 (1990).
26. "The Generation and Bleaching of Positive Charge in Gate-Quality Nitrogen-Rich Amorphous Silicon Nitride by Sub-bandgap Illumination," J. Kanicki and M. Sankaran, **Mat. Res. Soc. Symp.**, vol. 192, pp. 731-737 (1990).
27. "Light-Induced Electron Spin Resonance in Gate-Quality Nitrogen-Rich Amorphous Silicon Nitride: Photo-production and Photo-bleaching," E.D. Tober, M.S. Crowder and J. Kanicki, **Mat. Res. Soc. Symp.**, vol. 192, pp. 725-730 (1990).
28. "Effect of Gate Dielectric on Performance of Polysilicon Thin Film Transistors," M.K. Hatalis, J.H. Kung, J. Kanicki and A.A. Bright, **Mat. Res. Soc. Symp. Proc.**, vol. 182, pp. 357-362 (1990).
29. "Metastable Changes in Amorphous Silicon Nitride / Amorphous Silicon Structures Induced By Bias-Temperature Stress," A.V. Gelatos and J. Kanicki, , " **The Physics of Semiconductors**, eds. E.M. Anastassakis and J.D. Joannopoulos (World Scientific, New Jersey), vol. 3, pp. 2127-2130 (1990).
30. "The Generation and Bleaching of Light-Induced Positive Charge in Nitrogen-Rich Amorphous Silicon Nitride by Sub-bandgap Illumination," J. Kanicki and M. Sankaran, **The Physics of Semiconductors**, eds. F.M. Anastassakis and J.D. Joannopoulos (World Scientific, New Jersey), vol. 3, pp. 2131-2134 (1990).
31. "Influence of the Gate Bias and Temperature on Positive Charge Generation in TFT Gate-Quality Amorphous Silicon Nitride Films," J. Kanicki and M. Sankaran, **Mat. Res. Soc. Symp. Proc.**, vol. 219, pp. 363-368 (1991).
32. "Bias Stress Induced Instabilities in Amorphous Silicon Nitride / Crystalline Silicon and Amorphous Silicon Nitride /Amorphous Silicon Structures," J. Kanicki, C. Godet and A.V. Gelatos, **Mat. Res. Soc. Symp. Proc.**, vol. 219, pp. 45-50 (1991).
33. "Thermal Annealing of Light-Induced KO Centers in Hydrogenated Amorphous Silicon Nitride," E.D. Tober, E. Sigart, J. Kanicki and M.S. Crowder, **Mat. Res. Soc. Symp. Proc.**, vol. 219, pp. 129-134 (1991).

34. "*Hydrogenation of Polycrystalline Silicon Thin Film Transistors*," M.K. Hatalis, J.H. Kung and J. Kanicki, **Electrochem. Soc. Proc.**, vol. 91-1, pp. 629-630 (1991).
35. "*A Magnetic Resonance Investigation of Silicon Dangling-Bonds in Silicon Nitride*," W.L. Warren, P.M. Lenahan and J. Kanicki, **Electrochem. Soc. Proc.**, vol. 91-1, pp. 341-342 (1991).
36. "*Photocapacitance and Conductance Studies of α -SiN_{1.6} / c-Si Interface States Produced by Bias-Stressing*," C. Godet and J. Kanicki, **Proc. of Int. Semicon. Dev. Res. Symp.**, pp. 545-548 (1991).
37. "*Structure, Characteristics, and the Application of Phosphorus Doped Hydrogenated Microcrystalline Silicon*," S.J. Jeng, D.E. Kotecki, J. Kanicki, C.C. Park and J. Tien, **Mat. Res. Soc. Symp. Proc.**, vol. 242, pp. 693-697 (1992).
38. "*A Simple Polysilicon Thin Film Transistor Structure for Achieving high On/Off Current Ratio Independent of Gate Bias*," J. Kanicki and M. Hatalis, **Ext. Abs. 1992 Int. Conf. Sol. St. Dev. and Mat.**, pp. 52-54 (1992).
39. "*Nitrogen Dangling Bonds in Hydrogenated Amorphous Silicon Nitride Thin Films*," J. Kanicki, W.L. Warren and E.H. Poindexter, **Ext. Abs. 1992 Int. Conf. Sol. St. Dev. and Mat.**, pp. 146-148 (1992).
40. "*Bias-Stress-Induced Stretched Exponential Time Dependence of Charge Injection and Trapping in Amorphous Silicon Thin-Film Transistors*," F.R. Libsch and J. Kanicki, **Ext. Abs. 1992 Int. Conf. Sol. St. Dev. and Mat.**, pp. 155-157 (1992).
41. "*Photoluminescence in Nitrogen-Rich α -SiN_x:H*," D. Chen, J.M. Viner, P.C. Taylor and J. Kanicki, **Mat. Res. Soc. Proc.**, vol. 258, pp. 661-666 (1992).
42. "*Investigation of Hydrogen and Nitrogen Thermal Stability in PFCVD α -SiN_x:H*," M. Fitzner, J.R. Abelson and J. Kanicki, **Mat. Res. Soc. Proc.**, vol. 258, pp. 649-654 (1992).
43. "*A New Threshold Voltage Shift Estimation Method for Bias-Temperature-Stress of Amorphous Silicon Thin Film Transistors*," F.R. Libsch and J. Kanicki, **Proc. 12th Int. Display Res. Conf.**, pp. 443-446 (1992).
44. "*Optically Induced Paramagnetism in Amorphous Hydrogenated Silicon Nitride Thin Films*," W.L. Warren, J. Kanicki, F.C. Rong, W.R. Buchwald and M. Harmatz, **Mat. Res. Soc. Symp. Proc.**, vol. 242, pp. 687-692 (1992).

45. "*Performance of Polycrystalline Silicon Thin Film Transistors with Double Layer Gate Dielectric*," J.H. Kung, M. Hatalis and J. Kanicki, **Mat. Res. Soc. Symp. Proc.**, vol. 284, pp. 431-436 (1993).
46. "*Paramagnetic Nitrogen Defects in Silicon Nitride*," W.L. Warren, J. Kanicki, J. Robertson and E.H. Poindexter, **Mat. Res. Soc. Symp. Proc.**, vol. 284, pp. 101-105 (1993).
47. "*The Effect of UV light on IR Absorption in Chemically Vapor Deposited a-SiN_x:H Films*," C.H. Seager and J. Kanicki, **Mat. Res. Soc. Symp. Proc.**, vol. 284, pp. 89-94 (1993).
48. "*Low-Temperature Poly-Si TFTs on Corning Code 1734 and 1735 Glass Substrates*," M.K. Hatalis, D.N. Kouvatsos, J.-H. Kung, A.T. Voutsas, F.P. Fehlner and J. Kanicki, **SID (Society for Inf. Display) 93 Digest**, pp. 724-727 (1993).
49. "*TFT Lifetime in LCD Operation*," F.R. Libsch and J. Kanicki, **SID (Society for Inf. Display) 93 Digest**, pp. 455-458 (1993).
50. "*Electro-optic Effect in an Amorphous Silicon Core Waveguide Structure*," M. Zelikson, J. Salzman, K. Weiser and J. Kanicki, **Proc. 21st Int. Conf. On Physics of Semiconductors**, (1993).
51. "*Effect of Grain Size and Device Structure on Poly-Si TFT*," M.K. Hatalis, D.N. Kouvatsos, J.-H. Kung, A.T. Voutsas, S.H. Lin and J. Kanicki, **Proc. of AMLCDs '93 Symp.**, pp. 22-25 (1993).
52. "*DC and Pulsed Reliability of a-Si:H TFTs in XGA LCD Operation*," F.R. Libsch and J. Kanicki, **Proc. of AMLCDs '93 Symp.**, pp. 77-80 (1993).
53. "*Bias Stress-Induced Instabilities in Amorphous Silicon Thin Film Transistors: Charge Trapping or Carrier Induced Defect Creation*," J. Kanicki and F.R. Libsch, **Proc. of 1993 Int. Semicon. Dev. Res. Symp.**, vol.1, pp. 33-36 (1993).
54. "*Photobleaching of PL and Temperature Dependence of ESR in Nitrogen-Rich Amorphous Silicon Nitride Films*," D. Chen, J.M. Viner, P.C. Taylor and J. Kanicki, **Mat. Res. Soc. Symp. Proc.**, vol. 336, pp. 619-624 (1994).
55. "*Interface States in Top Gate Metal-Silicon Nitride-Silicon Structures*" J. Kanicki, S. Backert and N. Picard, **Ext. Abs. of the 1992 Int. Conf on Sol. State Dev. and Mat.**, pp.137 (1995).
56. "*UV-light Induced Changes in Polyimide LC Alignment Films*," J. Lu, S. Deshpande, J. Kanicki, A. Lien, R.A. John and W.L. Warren, **AM-LCD '95 Digest**, pp. 97-100 (1995).

57. *"Simulation of the High Performance a-Si:H TFT for High-Definition LCDs,"* C.-Y. Chen and J. Kanicki, **AM-LCD '95 Digest**, pp. 145-148 (1995).
58. *"Electrical Performance of Top-Gate Amorphous Silicon Thin-Film Transistors,"* C.-S. Chiang, J. Kanicki and F. R. Libsch, **Proc. of 2nd Int. Workshop on AMLCD**, pp. 33-36, (1995).
59. *"Simulation of Influence of Density of States in a-SiH on Electrical Performance of a-Si:H Thin-Film Transistors,"* C.-Y. Chen and J. Kanicki, **Proc. of 2nd Int. Workshop on AMLCD**, pp. 46-49 (1995).
60. *"An Alternative Transparent Conducting Oxide to ITO for the a-Si:H TFT-LCD Applications,"* J.-H. Lan, J. Kanicki, A. Catalano and J. Keane, **Proc. of 2nd Int. Workshop on AMLCD**, pp. 54-57 (1995).
61. *"Investigation of Hydrogen Evolution and Dangling Bonds Creation Mechanism in Amorphous Silicon Nitride Thin Films,"* T. Li, J. Kanicki, M. Fitzner and W.L. Warren, **Proc. of 2nd Int. Workshop on AMLCD**, pp.123-126 (1995).
62. *"Low Temperature Deposition of Polycrystalline Silicon Thin Films by Hot-Wire CVD,"* S. Yu, S. Deshpande, E. Gulari and J. Kanicki, **Mat. Res. Soc. Symp. Proc.**, vol. 377, pp. 69-74 (1995).
63. *"High-Performance a-Si:H TFT for Large-Area AMLCDs,"* C.-Y. Chen, and J. Kanicki, **Proc of the 26th European Solid State Dev. Reas. Conf.**, pp. 1023-1031 (1996).
64. *"AMLCD Lifetime Evaluation Based on A.C. Electrical Instability of Amorphous Silicon Thin-Film Transistors,"* C.-S. Chiang, J. Kanicki, S. Nishida and K. Takechi, **Proc. of 16th Int. Dev. Reas. Conf.**, pp. 13-16 (1996).
65. *"Electrical Performance and Instability of High Field-Effect Mobility a-Si:H TFTs Fabricated from High Deposition-Rate PECVD Materials,"* C.-Y. Chen and J. Kanicki, **Proc. of 1996 Int. Active Matrix Workshop**, pp. 9-12 (1996).
66. *"Electrical Performance and Instability of High Field-Effect Mobility a-Si:H TFTs Made from High Deposition-Rate PECVD Materials,"* C.-Y. Chen, C.-S. Chiang, C. Malone and J. Kanicki, **Proc. of 3rd Int. Display Workshops**, vol. 1, pp. 37-40 (1996).
67. *"a-Si:H TFT - LCD Lifetime Evaluation with Gate-Line Delay Consideration,"* C.-S. Chiang, J. Kanicki, S. Nishida, and K. Takechi, **Proc. of 3rd Int. Display Workshops**, vol. 1, pp. 265-268 (1996).

68. "Poly/bithiazol(e)s: A New Class of Conjugated Polymers for Polymer-Based Light -Emitting Diodes," J.K. Politis, J. Nanos, Y. He, J. Kanicki and M.D. Curtis, **Mat. Res. Soc. Symp. Proc.**, vol. 424, pp. 495-500 (1997).
69. "Gated-Four Probe TFT Structure: a New Technique to Measure the Intrinsic Performance of a-Si:H TFT," C.-Y. Chen and J. Kanicki, **SPIE Proc.**, vol. 3014, pp. 70-77 (1997).
70. "High-Rate Deposited Amorphous Silicon Nitride for the Hydrogenated Amorphous Silicon Thin-Film Transistor Structures," T. Li, C.-Y. Chen, C. Malone and J. Kanicki, **Mat. Res. Soc. Symp. Proc.**, vol. 424, pp. 43-51 (1997).
71. "Influence of the Density of States and Series Resistance on the Field-Effect Activation Energy in a-Si:H TFT," C.-Y. Chen and J. Kanicki, **Mat. Res. Soc. Symp. Proc.**, vol. 424, pp. 77-83 (1997).
72. "Atomic Hydrogen Effects on the Optical and Electrical Properties of Transparent Conduction Oxide for a-Si:H TFT-LCDs," J.-H. Lan and J. Kanicki, **Mat. Res. Soc. Symp. Proc.**, vol. 424, pp. 347-354 (1997).
73. "Electric Stability of Short-Channel poly-Si TFTs Fabricated by SPC and ELA for AMLCDs," B.-H. Min, J.-H. Kim and J. Kanicki, **SID '97 Digest**, pp. 469-472 (1997).
74. "Aluminum Gate Metallization for High-Performance a-Si:H TFTs Fabricated from High-Deposition Rate PECVD Materials," J.-H. Kim, C.-Y. Chen, B.-H. Min and J. Kanicki, **Proc. of 1997 Int. Display Res. Conf.**, pp. 49-52 (1997).
75. "Electrical Characteristics of Top-Gate a-Si:H TFTs for AMLCDs," C.-S. Chiang and J. Kanicki, **Proc. of 1997 Int. Display Res. Conf.**, pp. 57-60 (1997).
76. "Analysis of Amorphous Silicon Thin Film Transistors Behavior in the Dark and Under Illumination: Sensitivity to Geometric Parameters," S. Martin, J. Kanicki, N. Szydlo and A. Rolland, **Proc. of 1997 Int. Display Res. Conf.**, pp. 266-269 (1997).
77. "Gated-Four-Probe a-Si:H TFT Structure: a New Technique to Measure the Intrinsic Performance of a-SiH TFT," C.-S. Chiang, C.-Y. Chen and J. Kanicki, **AM-LCD '97 Digest**, pp. 67-70 (1997).
78. "Analysis of the Amorphous Silicon Thin Film Transistors Behavior Under Illumination," S. Martin, J. Kanicki, N. Szydlo and A. Rolland, **AM-LCD '97 Digest**, pp. 211-214 (1997).
79. "Electrical Characteristics and Instability of Top-Gate a-Si:H TFTs," C.-S. Chiang and J. Kanicki, **AM-LCD '97 Digest**, pp. 219-222 (1997).

80. "Aluminum Gate Metallization for AMLCDs," J.-H. Kim, J. Kanicki and W. den Boer, **Mat. Res. Soc. Symp. Proc.**, vol. 471, pp. 111-116 (1997).
81. "Electrical Characteristics of New LDD poly-Si TFT with Mis-Alignment Tolerant Structure for AMLCDs," B.-H. Min and J. Kanicki, **Mat. Res. Soc. Symp. Proc.**, vol. 471, pp. 137-141 (1997).
82. "Gated-Four-Probe *a*-Si:H Thin-Film Transistor Structure," C.-Y. Chen, C.-S. Chiang and J. Kanicki, **Proc. of 55th Dev. Res. Conf.**, pp. 52-53 (1997).
83. "Planarization Technology of *a*-Si:H TFTs for AM-LCDs," J.-H. Lan and J. Kanicki, **Proc. of SPIE**, vol. 3421, pp. 170-182 (1998).
84. "A Novel Viewing Angle Twisted-Nematic LCD Structure," S. Gong, G. Xu and J. Kanicki, **AM-LCD '98 Digest**, pp. 47-48 (1998).
85. "Amorphous Silicon Thickness Dependence of Top-Gate Thin-Film Transistors," S. Martin, C.-S. Chiang, J. Kanicki, Y. Ugai, T. Yukawa and S. Takeuchi, **AM-LCD '98 Digest**, pp. 65-68 (1998).
86. "Fully Planarized *a*-Si:H TFTs for AM-LCDs," J.-H. Lan, J. Kanicki and M. Radler, **AM-LCD '98 Digest**, pp. 77-80 (1998).
87. "Two-Dimensional Simulation of Solid-Phase-Crystallized Polysilicon TFT Characteristics," T.-K. Chou and J. Kanicki, **Ext. Abs. of 1998 Int. Conf. on Solid State Dev. and Mat.**, pp. 442-443 (1998).
88. "High-Performance Top-Gate *a*-Si:H TFTs for AMLCDs," C.-S. Chiang, S. Martin, J.-Y. Nahm, J. Kanicki, Y. Ugai, Y. Yukawa and S. Takeuchi, **SID '98 Digest**, pp. 383-386 (1998).
89. "Full-Color Light-Emitting Devices Based on π - and σ -Conjugated Polymer Materials," R. Hattori, Y. He, J. Kanicki, T. Sugano and T. Fujiki, **SID '98 Digest**, pp. 663-666 (1998).
90. "UV-Light-Modified Polyimide Films for Liquid-Crystal Alignment," S. Gong, J. Kanicki, L. Ma and J.Z.Z. Zhong, **SID '98 Digest**, pp. 722-725 (1998).
91. "Top-Gate *a*-Si:H TFT-LCD Technology: Past, Present and Future," J. Kanicki, S. Martin and Y. Ugai, **Asia Display '98 Digest**, pp. 99-104 (1998).
92. "Amorphous Silicon Thin-Film Transistor Active-Matrix Cholesteric Liquid Crystal Display," J.Y. Nahm, T. Goda, B.H. Min, T.K. Chou, J. Kanicki, X.Y. Huang, N. Miller, V. Sergan, P. Bos and J.W. Doane, **Asia Display '98 Digest**, pp. 979-982 (1998).

93. "OLED Based Display for Automotive Applications," Y. He, S. Gong, R. Hattori and J. Kanicki, **Asia Display '98 Digest**, pp. 1095-1098 (1998).
94. "Planarized Copper Gate Hydrogenated Amorphous Silicon Thin-Film Transistors for AM-LCDs," J.-H. Lan and J. Kanicki, **Proc. of 56th Dev. Res. Conf.**, pp. 130-131 (1998).
95. "Effects of Ultraviolet-Light on Polyimide Films for Liquid Crystal Alignment," S. Gong, J. Kanicki, L. Ma and J.Z.Z. Zhong, **Mat. Res. Soc. Symp. Proc.**, (1998).
96. "Longitudinal Vibrational Absorption Modes of Hydrogenated Amorphous Silicon Nitride Thin Films," T. Li and J. Kanicki, **Mat. Res. Soc. Symp. Proc.**, vol. 507, pp. 535-540 (1998).
97. "The Effect of Secondary Radiations on the Performance of Digital Radiographic Detectors," M. Flynn, S. Wilderman, and J. Kanicki, **SPIE Proc.**, vol. 3334, (1998).
98. "Evolution of the Signature of Nitrogen Related Defects in the X-ray Absorption Spectra of N-rich $a\text{-SiN}_x\text{:H}$ Films," E.C. Paloura and J. Kanicki, **Electrochemical Society Proc.**, vol. 98-22, pp. 316-326 (1998).
99. "Electrical Instabilities of Top-Gate $a\text{-Si:H}$ TFTs for AMLCDs," S. Martin, J. Kanicki and Y. Ugai, **AM-LCD '99 Digest**, pp. 161-164 (1999).
100. "Buried Busline $a\text{-Si:H}$ TFT Structures for AM-LCDs," J.-H. Lan, J.-Y. Nahm and J. Kanicki, **AM-LCD '99 Digest**, pp. 209-212 (1999).
101. "Small-Spot Contrast Measurements in High-Performance Displays," A. Badano, M.J. Flynn and J. Kanicki, **SID '99 Digest**, pp. 516-519 (1999).
102. "High-Efficiency Organic Polymer Light-Emitting Heterostructure Devices on Flexible Plastic Substrates," Y. He and J. Kanicki, **The 19th IDRC Proc. (EuroDisplay '99)**, pp. 143-146 (1999).
103. "Top-Gate $a\text{-Si:H}$ TFTs for AM-LCDs: $a\text{-Si:H}$ Thickness Effect and Electrical Instabilities," S. Martin, J. Kanicki and Y. Ugai, **The 19th IDRC Proc. (EuroDisplay '99)**, pp. 45-48 (1999).
104. "Buried Busline Structure for Large-Area, High-Resolution, and High-Aperture-Ratio AM-LCDs," J.-H. Lan, J.-Y. Nahm and J. Kanicki, **The 19th IDRC Proc., (EuroDisplay '99)**, pp. 357-360 (1999).
105. "Organic Polymer Light-Emitting Devices on the Plastic Substrates," Y. He, S. Gong and J. Kanicki, **Proc. of SPIE**, vol. 3669, pp. 330-335 (1999).

106. “*Monte Carlo Modeling Method for Light Transport in Organic Thin Film Light Emitting Devices,*” A. Badano and J. Kanicki, **Tech. Digest of OSA Conf. on “Organic Thin Films for Photonics Applications,”** pp. 205-207 (1999).
107. “*Hydrogenated Amorphous Silicon Thin Film Transistor Structure with the Buried Field Plate,*” J.-Y. Nahm, J.-H. Lan and J. Kanicki, **IEDM 99 Tech. Digest,** pp. 309-312 (1999).
108. “*Fingerprint Imager Based on a-Si:H Active-Matrix Photo-Diode Arrays,*” J. Lan, A. Cole, J. VanZandt, A. Dickinson, F. van de Ven, N. Bird, A. Badano and J. Kanicki, **IEDM 00 Tech. Digest,** pp. 419-422 (2000).
109. “*A High-Voltage Hydrogenated Amorphous Silicon Thin-Film Transistor for Reflective Active-Matrix Cholesteric LCD,*” J.Y. Nahm, J.H. Lan and J. Kanicki, **Mat. Res. Soc. Symp. Proc.,** vol. 558, pp. 125-128 (2000).
110. “*Five-terminal Thin Film Transistor Structure,*” S. Martin, Y. Feillens and J. Kanicki, **Conf. Records of the 20th Int. Display Res. Conf.,** pp. 127-130 (2000).
111. “*Organic Light Emitting Devices on Plastic Flexible Substrates: New Cathode and Light Emissive Materials,*” Y. Hong, Z. Hong, M.D. Curtis and J. Kanicki, ,” **Conf. Records of the SID 20th Int. Display Res. Conf.,** pp. 183-186 (2000).
112. “*Electrical Reliability of Two- and Four-a-Si:H TFT Pixel Electrode Circuits for Active-Matrix OLEDs,*” Y. He, R. Hattori and J. Kanicki, **Conf. Records of the SID 20th Int. Display Res. Conf.,** pp. 354-357 (2000).
113. “*Many-body Universal Approach to a-Si:H TFTs Electrical Instabilities,*” S. Martin, J.Y. Nahm, J. Kim and J. Kanicki, **Conf. Records of the SID 20th Int. Display Res. Conf.,** pp. 423-426 (2000).
114. “*Gate Planarized a-Si:H TFT with the Silicon-based Flowable Oxide,*” J.-H. Kim, E.S. Moyer, K. Chung and J. Kanicki, **Conf. Records of the SID 20th Int. Display Res. Conf.,** pp. 443-446 (2000).
115. “*Polyfluorene Light Emitting Devices on Flexible Plastic Substrates,*” Y. He and J. Kanicki, **Proc. of SPIE,** vol. 4105, pp. 143-151 (2001).
116. “*Materials and Devices Structures for High Performance Poly OLEDs on Flexible Plastic Substrates,*” Y. Hong, Z. Hong and J. Kanicki, **Proc. of SPIE,** vol. 4105, pp. 356-361 (2001).
117. “*a-Si:H Pixel Electrode Circuits for AM-OLEDs,*” J. Kanicki, Y. He and R. Hattori, **Proc. of SPIE,** vol. 4295, pp. 147-158 (2001).

118. *“Characterization of Crosstalk in High-Resolution Active-Matrix Liquid Crystal Displays for Medical Imaging,”* A. Badano and J. Kanicki, **Proc. of SPIE**, vol. 4295, pp. 248-253 (2001).
119. *“Organic Polymer Light-Emitting Devices on Flexible Plastic Substrates for AM-OLED,”* Y. Hong and J. Kanicki, **Proc. of Asia Display / IDW '01**, pp. 1443-1446 (2001).
120. *“Bidirectional Reflectance of Organic Light-Emitting Displays,”* A. Badano, S.-J. Lee, J. Kanicki, E.F. Kelley and R.J. Jennings, **Proc. Of Asia Display / IDW '01**, pp. 1511-1514 (2001).
121. *“Two Photo-Mask Fully Self-Aligned Al Bottom-Gate a-Si:H TFTs,”* J.-H. Kim and J. Kanicki, **Proc. of Asia Display / IDW '01**, pp. 439-442 (2001).
122. *“Photosensitivity of a-Si:H TFTs,”* J.-D. Gallezot, S. Martin and J. Kanicki, **Proc. of Asia Display / IDW '01**, pp. 407-410 (2001).
123. *“Amorphous Silicon Thin-Film Transistors Based Active-Matrix Organic Light-Emitting Displays,”* J. Kanicki, J.-H. Kim, J.Y. Nahm, Y. He and R. Hattori, **Proc. of Asia Display / IDW '01**, pp. 315-318 (2001).
124. *“Advanced Amorphous Silicon Thin Film Transistor Active-Matrix Organic Light-Emitting Displays Design for Medical Imaging,”* J.-H. Kim and J. Kanicki, **Proc. Of SPIE**, vol. 4319, pp. 306-318 (2001).
125. *“Analog-Circuit Simulation of the Current-Programmed Active-Matrix Pixel Electrode Circuits Based on Poly-Si TFT for Organic-Emitting Displays,”* R. Hattori, Y. Kuroki and J. Kanicki, **Proc. of AM-LCD '01**, pp. 223-226 (2001).
126. *“Color and Contrast Perception in Monochrome Medical Imaging Flat-Panel Displays,”* A. Badano and J. Kanicki, **Proc. of SPIE**, vol. 4324, pp. 1-7 (2001).
127. *“Optimal Color for Supra-threshold and Threshold Contrast Perception,”* A. Badano, J. Kim and J. Kanicki, **Proc. of Medical Image Perception Conf. IX** (2001).
128. *“Organic Polymer Light-Emitting Devices (OLEDs) on Plastic Substrates for Active-Matrix Organic Polymer Light-Emitting Displays (AM-OLEDs),”* J. Kanicki, Y. Hong, S.-J. Lee and Z. He, **Ext. Abs. of the 1st Int. Conf. on the Science and Technology of Emissive Displays and Lighting**, pp. 119-122 (2001).

129. "Active-Matrix Pixel Electrode Circuits for 500 dpi Organic Light-Emitting Displays," J.-H. Kim and J. Kanicki, **Proc. of 3rd Int. Conf. on Electroluminescence of Molecular Materials and Related Phenomena**, pp. O-50 (2001).
130. "Monte Carlo Simulation of Spectral Photon Emission of the Organic Polymer Light-Emitting Devices," S.-J. Lee, A. Badano, Y. Hong and J. Kanicki, **Proc. of 3rd Int. Conf. on Electroluminescence of Molecular Materials and Related Phenomena**, pp. P-76 (2001).
131. "Active-Matrix Pixel Electrode Circuits for 500 dpi Organic Light-Emitting Displays," J.-H. Kim and J. Kanicki, **Proc. of 3rd Int. Conf. on Electroluminescence of Molecular Materials and Related Phenomena**, pp. O-50 (2001).
132. "Optimization of the Organic Polymer Red Light-Emitting Devices on Flexible Plastic Substrates," Y. Hong, S.-J. Lee and J. Kanicki, **Proc. of 3rd Int. Conf. on Electroluminescence of Molecular Materials and Related Phenomena**, pp. P-77 (2001).
133. "Air-stable Organic Polymer Red Light-Emitting Devices on Flexible Plastic Substrates," Y. Hong, Z. He, S. Lee and J. Kanicki, **Proc. of SPIE**, vol. 4464, pp. 329-335 (2002).
134. "Amorphous Silicon Thin-Film Transistors-based Active-Matrix Organic Light-Emitting Displays for Medical Imaging," J.-H. Kim and J. Kanicki, **Proc. of SPIE**, vol. 4681, pp. 314-320 (2002).
135. "Characterization of a High Quality Monochrome AM-LCD Monitor for Digital Radiology," S. Martin, A. Badano and J. Kanicki, **Proc. of SPIE**, vol. 4681, pp. 293-304 (2002).
136. "Three-Amorphous Silicon Thin-Film Transistors-based Active-Matrix Organic Polymer Light-Emitting Displays," J.-H. Kim, D. Lee and J. Kanicki, **Proc. of 11th Int. Workshop on Inorganic and Organic Electroluminescence**, pp. 507-508 (2002).
137. "Three α -Si:H TFT Pixel Electrode Circuit for AM-OLEDs," J. Kanicki and J. Kim, **Proc. of AM-LCD '02**, pp. 81-8 (2002).
138. "Amorphous Silicon Thin-Film Transistors-based Active-Matrix Organic Light-Emitting Displays," J.-H. Kim and J. Kanicki, **SID Digest 02 (Society for Inf. Display)**, pp. 614-617 (2002).

139. "Novel Poly-Si TFT Pixel Electrode Circuits and Current Programmed Active-Matrix Driving Methods for AM-OLEDs," Y. Hong, J. Kanicki and R. Hattori, **SID Digest 02 (Society for Inf. Display)**, pp. 618-621 (2002).
140. "Organic Polymer Thin-Film Transistors for Active-Matrix Flat Panel Displays?," S. Martin and J. Kanicki, **Conf. Proc. of 22nd Int. Display Res. Conf. (EuroDisplay 2002)**, pp. 25-28 (2002).
141. *High-Resolution Medical Imaging AM-LCD: Contrast Performance Evaluation*," S. Martin, J. Kanicki and A. Badano, **Conf. Proc. of 22nd Int. Display Res. Conf. (EuroDisplay 2002)**, pp. 119-122 (2002).
142. "Three-Amorphous Silicon Thin-Film Transistors Based Organic Polymer Light-Emitting Displays," J.-H. Kim, D. Lee and J. Kanicki, **Conf. Proc. of 22nd Int. Display Res. Conf. (EuroDisplay 2002)**, pp. 601-604 (2002).
143. "Printed Micron-Scale Organic Polymer Light-Emitting Devices for AM-OLED," Y. Hong, X. Cheng, L.J. Gau and J. Kanicki, **Conf. Proc. of 22nd Int. Display Res. Conf. (EuroDisplay 2002)**, pp. 605-608 (2002).
144. "200 dpi 3-a-Si:H TFTs Voltage-Driven AM-PLEDs," J.-H. Kim and J. Kanicki, **SID 03 Digest (Society for Inf. Display)**, pp. 18-21 (2003).
145. "200 dpi 4-a-Si:H TFTs Current-Driven AM-PLEDs," Y. Hong, J.-Y. Nahm and J. Kanicki, **SID 03 Digest (Society for Inf. Display)**, pp. 22-25 (2003).
146. "Luminance Probes for Contrast Measurements in Medical Displays," A. Badano, S. Pappada, E.F. Kelley, M.J. Flynn, S. Martin and J. Kanicki, **SID 03 Digest (Society for Inf. Display)**, pp. 928-931 (2003).
147. "Efficient and Saturated Blue Organic Polymer Light Emitting Devices with an Oxadiazole Containing Poly(florene) Polymer Emissive Layer", S.-J. Lee, J.G. Gallegos, J. Klein, M.D. Curtis and J. Kanicki, **Proc. of SPIE**, vol. 4800, pp.123-129 (2003).
148. "Monte Carlo Modeling of Organic Polymer Light-Emitting Devices on Flexible Plastic Substrates," S.J. Lee, A. Badano and J. Kanicki, **Proc. of SPIE**, vol. 4800, pp. 156-163 (2003).
149. "Effect of Illumination on Organic Polymer Thin-Film Transistors," M. C. Hamilton, S. Martin and J. Kanicki, **Mat. Res. Soc. Symp. Proc.**, vol. 771, pp. 333-338 (2003).
150. "Source / Drain Contacts in Organic Polymer Thin Film Transistors," S. Martin, M. Hamilton and J. Kanicki, **Mat. Res. Soc. Symp. Proc.**, vol. 771, pp. 163-168 (2003).

151. “*Organic Polymer Thin-Film Photo-Transistors*,” M.C. Hamilton, S. Martin and J. Kanicki, **Proc. of SPIE**, vol. 5217, pp. 193-201 (2003).
152. “*Time Dependence of Organic Polymer Thin-Film Transistors Current*,” S. Martin, L. Dassas, M.C. Hamilton and J. Kanicki, **Proc. of SPIE**, vol. 5217, pp. 7-15 (2003).
153. “*Influence of Gate Dielectric on the Electrical Properties of F8T2 Polyfluorene Thin-Film Transistors*,” J. Swensen, J. Kanicki and A.J. Heeger, **Proc. of SPIE**, vol. 5217, pp. 159-165 (2003).
154. “*Structural Ordering in F8T2 Polyfluorene Thin-Film Transistors*,” L. Kinder, J. Kanicki, J. Swensen and P. Petroff, **Proc. of SPIE**, vol. 5217, pp. 35-42 (2003).
155. “*Effect of Monochromatic Illumination on Organic Polymer Thin-Film Transistors*,” M.C. Hamilton, S. Martin and J. Kanicki, **IDRC 03 (Int. Display Research Conf.)**, pp. 14-17 (2003).
156. “*Electrical Instabilities of Organic Polymer Thin-Film Transistors*,” S. Martin, L. Dassas, M. Hamilton and J. Kanicki, **IDRC 03 (Int. Display Research Conf.)**, pp. 22-25 (2003).
157. “*Monte Carlo Simulations and Opto-Electronic Properties of Polymer Light-Emitting Devices on Flexible Plastic Substrates*,” S.J. Lee, A. Badano and J. Kanicki, **IDRC 03 (Int. Display Research Conf.)**, pp. 26-29 (2003).
158. “*Organic Polymer Light-Emitting Devices on a Flexible Plastic Substrate*,” J. Kanicki, S.J. Lee, Y. Hong and C.C. Su, **Asia Display / IMID '04 Digest**, pp. 91-94 (2004).
159. “*Tetrabenzoporphyrin Organic Semiconductors for Flexible Organic Thin Film Transistors and Circuits*,” P.B. Shea, J. Kanicki and N. Ono, **Extended Abstracts of the 2005 Int. Conf. on Solid State Devices and Materials**, pp. 952-953 (2005).
160. “*White Light-Emitting Device on Flexible Plastic Substrates*,” H. Lee, J. Kanicki, **Extended Abstracts of the 2005 Int. Conf. on Solid State Devices and Materials**, pp. 968-969 (2005).
161. “*A Novel Current-Scaling a-Si:H TFT Pixel Electrode Circuit for Active-Matrix Organic Light-Emitting Displays*,” Y.-C. Lin, H.-P.D. Shieh, C.-C. Su, H. Lee and J. Kanicki, **SID (Society for Inf. Display) 05 Digest**, pp. 846-849 (2005).
162. “*Time and Temperature Dependence of the Drain Current of PF-based OFETs*,” M.C. Hamilton and J. Kanicki, **Proc. Of 63rd Annual Device Research Conference (DRC)** (2005).

163. *“Reliability Enhancement of Am-OLED with a-Si:H TFT and Top-Anode OLED Employing a New Pixel Circuit,”* J.S Yoo, H. Lee, J. Kanicki, C.-D. Kim and I.-J. Chung, **Conf. Record of 26th Int. Display Res. Conf. (IDRC)**, pp. 406-409 (2006).
164. *“Thermal and Electrical Instability of Amorphous Silicon Thin-Film Transistor for AM-FPDs,”* A. Kuo and J. Kanicki, **Digest of AM-FPD '06**, pp. 39-42 (2006).
165. *“Novel Current-Scaling-Mirror a-Si:H TFT Pixel Electrode Circuit with Cascade Capacitor for AM-OLEDs,”* H. Lee, J.-S. Yoo, C.-D. Kim, I.-J. Chung and J. Kanicki, **Digest of AM-FPD '06**, pp. 293-296 (2006).
166. *“Current-Scaling a-Si:H TFT Pixel Electrode Circuit for AM-OLEDs,”* H. Lee, J. Kanicki, Y.C. Lin, and H.-P. Shieh, **SID (Society for Inf. Display) '06 Digest**, pp. 1968-1971 (2006).
167. *“White Light-Emitting Device on Flexible Plastic Substrates,”* H. Lee and J. Kanicki, **2006 Vehicles and Photons Symp. – Digest of Technical Papers (Society for Inf. Display)**, pp. 57-58 (2006).
168. *“Low Temperature Encapsulation for PLEDs and OLEDs,”* A.R. Johnson and J. Kanicki, **2006 Vehicles and Photons Symp. – Digest of Technical Papers (Society of Inf. Display)**, pp. 61 (2006).
169. *“a-Si:H HEX-TFTs, a New Technology for Flat Panel Displays,”* H. Lee, J.S. Yoo, C.-D. Kim, I.B. Kang and J. Kanicki, **IDW '07**, pp. 1993-1994 (2007).
170. *“Novel Pixel Electrode Circuits and a-Si:H TFT Structures for AM-OLEDs,”* H. Lee, J.S. Yoo, C.-D. Kim, I. Kang and J. Kanicki, **Proc. Of IDMC 2007 (Int'l Display Manufacturing Conf.)**, pp. 423-426 (2007).
171. *“Novel Pixel Electrode Circuits and a-Si:H TFT Structures for AM-OLEDs,”* H. Lee, J.S. Yoo, C.-D. Kim, I. Kang and J. Kanicki, **2007 Vehicles and Photons Symp. – Digest of Technical Papers (Society for Information Display)**, pp. 37 (2007).
172. *“Low Temperature Encapsulation for OLEDs,”* A.R. Johnson and J. Kanicki, **2007 Vehicles and Photons Symp. – Digest of Technical Papers (Society for Information Display)**, pp. 41-44 (2007).
173. *“Thermal and Electrical Instability of Amorphous Silicon Thin-Film Transistors for AM-FPD's,”* A. Kuo and J. Kanicki, **“2007 Vehicles and Photons Symp. – Digest of Technical Papers (Society for Information Display)**, pp. 39 (2007).

174. *"Photosensitivity of Amorphous IGZO TFTs for Active-Matrix Flat-Panel Displays,"* C.-S. Chuang, T.-C. Fung, B. G. Mullins, K. Nomura, T. Kamiya, H.-P. D. Shieh, H. Hosono, and J. Kanicki, **Digest of Technical Papers, SID (Society for Information) Display International Symposium**, pp. 1215-1218 (2008).
175. *"Study of the Density of States of a-InGaZnO Using Field-Effect Technique,"* C. Chen, T.C. Fung, K. Abe, H. Kumomi and J. Kanicki, **66th DRC Conference Digest (Device Research Conference)**, pp. 151-152 (2008).
176. *"Study of the Density of States of a-InGaZnO Using Field-Effect Technique,"* C. Chen, T.C. Fung, K. Abe, H. Kumomi and J. Kanicki, **66th DRC Conference Digest (Device Research Conference)**, pp. 151-152 (2008).
177. *"a-InGaZnO TFT Current-Scaling Pixel Electrode Circuit for AM-OLEDs,"* C. Chen, K. Abe, T.C. Fung, H. Kumomi, and J. Kanicki, **AM-FPD 08 (The Fifteenth International Workshop on Active-Matrix Flat Panel Displays and Devices)**, TFT Technologies and FPD Materials, pp.153-156 (2008).
178. *"2-D Numerical Simulation of High Performance Amorphous In-Ga-Zn-O TFTs for Flat Panel Displays,"* T.C. Fung, C.S. Chuang, C. Chen, K. Abe, H. Kumomi and J. Kanicki, **AM-FPD 08 (The Fifteenth International Workshop on Active-Matrix Flatpanel Displays and Devices)**, TFT Technologies and FPD Materials, pp. 251-252 (2008).
179. *"Photofield-Effect in Amorphous InGaZnO TFTs,"* T.-C. Fung, C.-S. Chuang, B. G. Mullins, K. Nomura, T. Kamiya, H.-P. D. Shieh, H. Hosono, and J. Kanicki, **IMID 08, Digest of Technical Papers (Society for Information Display-International Meeting)**, pp 1208-1211 (2008).
180. *"PLD Amorphous In-Ga-Zn-O TFTs for Future Optoelectronics,"* T.-C. Fung, K. Nomura, H. Hosono, and J. Kanicki, **Digest of Technical Papers, SID (Society for Information)**, pp. 117-123 (2008).
181. *"RF Sputter a-InGaZnO Thin Film Transistors for Flat Panel Displays,"* C. Chen, K. Abe, H. Kumomi, J. Kumomi, and J. Kanicki, **Digest of Technical Papers, SID (Society for Information)**, pp.111-115 (2008).
182. *"Current Temperature Stress Study of RF Sputter a-InGaZnO TFTs,"* C. Chen, K. Abe, H. Kumomi, J. Kumomi, and J. Kanicki, **28th IDRC (International Display Research Conference)**, Conference Record, pp. 104-107 (2008).
183. *"Electrical Stability of Hexagonal a-Si:H TFTs,"* G. Yoo, H. Lee and J. Kanicki, **Proc. of the 29th International Display Res. Conf, EuroDisplay 2009**, pp. 277-279 (2009).

184. "A Maskless Laser-Write Lithography Processing of Thin-Film Transistors," G. Yoo, W. Salewski, J. Herrman and J. Kanicki, **Proc. of the 29th International Display Res. Conf, EuroDisplay 2009**, pp. 280-282 (2009).
185. "DC/AC Electrical Instability of R.F. Sputter Amorphous In-Ga-Zn-O TFTs," T.-C. Fung, K. Abe, H. Kumomi and J. Kanicki, **SID 09 Digest**, pp. 1117-1120 (2009).
186. "AM-OLED Pixel Circuits Based on a-InGaZnO Thin Film Transistors," C. Chen and J. Kanicki, **SID 09 Digest**, pp. 1128-1131 (2009).
187. "Electrical Stability of Advanced a-Si:H TFT Structures," G. Yoo, H. Lee and J. Kanicki, **Proceedings of the 6th International Thin-Film Transistor Conference (ITC)**, pp. 294 – 297 (2010).
188. "Electrical Properties and Stability of Dual-Gate Coplanar Homo Junction Amorphous Indium-Gallium-zinc-Oxide Thin – Film Transistor," G. Bark, A. Kuo, K. Abe, H. Kumomi and J. Kanicki, **SID 11 Digest**, pp. 1136 – 1139 (2011).
189. "Analytical Models of Synchronized Dual-Gate a-IGZO TFTs," G. Baek and J. Kanicki, **2011 Vehicle Displays and Interfaces Symposium Digest**, pp. 115-118 (2011).

SEMINAR AND WORKSHOP LECTURE NOTES

1. *“Organic Field-Effect Transistors for Flat-Panel Displays,”* J. Kanicki, E. Cagin, M. Hamilton, H. Lee and P. Shea, **2005 SID (Society for Inf. Display) Int. Symposium Seminar Lecture Notes**, pp. M-10/46 (2005) (ISSN 0887-915X).
2. *“Organic Field-Effect Transistors and Electronics,”* J. Kanicki, P.B. Shea and H. Lee, **Int. Display Res. Conf. (Society for Information Display)**, pp. T3-2/1 – T3-2/50 (2006).