

CURRICULUM VITAE
ASHWANI KUMAR SHARMA

Air Force Research Laboratory
3550 Aberdeen Avenue SE, Kirtland AFB NM 87117-5776
(505) 573-8536 ; ashwani.sharma@kirtland.af.mil

EDUCATION

Doctor of Philosophy in Engineering (Ph.D.),

University of New Mexico, 1999-2004

Dissertation title: "Effects of Dimensional Nanoscaling on the Optical and Electronic Properties of Silicon Films-Walls-Wires."

Master of Science in Electrical Engineering (M.S.E.E.),

University of New Mexico, 1992-1994

Thesis title: "Enhancement in Near-IR Response in High Speed Ni-Si-Ni Detectors."

Bachelor of Science in Electrical Engineering (B.S.E.E.)

University of New Mexico, 1990

NATIONAL ACADEMY OF SCIENCES's FELLOWSHIP RESEARCH ADVISOR

Fellowship Research Advisor of the National Academy of Sciences' National Research Council (NRC) 2015 Fellowships Programs for Postdoctoral Candidates in the area of Physics of Nanoscaling Semiconductor Devices;

<http://nrc58.nas.edu/RAPLab10/Opportunity/Opportunity.aspx?LabCode=13&ROPCD=134001&RONum=B8159>

GUEST EDITOR FOR THE EUROPEAN JOURNAL INSTITUTE OF ENGINEERING AND TECHNOLOGY, IET CIRCUITS, DEVICES & SYSTEMS

Special Section: Quantum dots and Nanowires (2007 – 2010)

PUBLISHED BOOK

"Carbon-Based Electronics: Transistors and Interconnects at the Nanoscale" Ashok Srivastava, Jose Mauricio Marulanda, Yao Xu, Ashwani Sharma, CRC Press (2015)
ISBN 978-981-4613-10-1

PROFESSIONAL EXPERIENCE

Air Force Research Laboratory, Kirtland AFB NM

Tenured DoD civilian research engineer DR-III (September 1994 – Present)

- Headed the development and management of Nanoscience and Nanotechnology Programs for the Space Electronics Branch (1997 – Present)
- Deputy Group Leader (2010-2013) of Electronics Foundations Research Group within the Space Electronics Branch.

- AFRL's Space Scholar Program Advisor for College graduate and undergraduate students. (2007 – present) website: <http://afrlscholars.usra.edu>
- Under Educational Partnership Agreement (EPA) AFRL/UNM currently teaching four regular courses per academic year at ECE Department.

University of New Mexico

Research Professor (In-process, beginning Dec 2015)

Adjunct Professor (2014 – Present)

Research Associate Professor (2013 – 2014)

Research Assistant Professor (2006 – 2013)

Research Associate (1994-1997)

Research Assistant (1992-1994)

Industry

National Research Laboratories Inc. (1991 fall internship)

Terra Avionics Inc. (1991 summer internship)

Gardner Zemke Co., (1990-1991)

TEACHING EXPERIENCE

University of New Mexico: Latest IDEA Teaching Scores: ECE570 - **4.4/5.0** and ECE564 - **4.2/5.0**

Graduate level microelectronics processing course ECE574/ECE474 (Fall 2015)

Graduate level Junction Devices course ECE595 (Fall 2015)

Graduate level microelectronic devices course ECE576 (Spring 2015)

Graduate level microelectronics processing course ECE574/ECE474 (Spring 2015)

Graduate level guided wave optics course ECE564 (Fall 2014)

Graduate level semiconductor materials and devices core course ECE570 (Fall 2014)

Graduate level microelectronic devices course ECE576/ (Spring 2014)

Graduate level microelectronics processing course ECE574/ECE474 (Spring 2014)

Graduate level semiconductor materials and devices core course ECE570 (Fall 2013)

Graduate level microelectronics processing course ECE574/ECE474 (Spring 2013)

Undergraduate level semiconductor processing course EECE472L (Spring 1997)

Graduate level semiconductor processing course EECE574L (Fall 1996)

COMMITTEE MEMBER OF MASTERS AND PHD STUDENTS

MSEE student Lloyd P. Alego (Graduated in Spring 2015)

MSEE student Preyom Kanti Dey (Graduated in Spring 2015)

MSEE student Rajesh Vasireddy (Graduated in Summer 2015)

MSEE student Duncan McClure (Graduated in Summer 2015)

PHD Candidate Mohammad Uzzal (Graduating in Spring 2016)

PHD Candidate student Erin Vaughan (Graduating in Fall 2016)

PHD Candidate student Preyom Kanti Dey (Graduating in Spring 2017)

PROFESSIONAL INTERESTS

Radiation hardened electronics, optoelectronics, nanoscale materials and devices for next generation of low-voltage, high-power, high optical sensitivity and high-speed applications for space satellites.

HONORS AND AWARDS

AFRL Best Publication Award 2010

Proc. IEEE Int'l Symposium on Electronic System Design, Best Paper Award 2010

USAF Arthur S. Flaming Award 2008

JAP (Special edition of high speed devices) 2007

RESEARCH ACCOMPLISHMENTS

Demonstrated "Optimum THz Pulse Amplitude in Low Temperature Grown Gallium Arsenide Photoconductive Switches for Power Applications" (2012)

Demonstrated the concept of "Carbon nanotubes for next generation very large scale integration interconnects" (Invited paper) special section on carbon nanotubes. (2010)

First demonstrated the effects of nanoscaling on the optical and electrical properties of crystalline Si thin (<10nm) films and published results in JAP which further submitted it for award in the special edition of ultra-high speed electronics (2007).

Designed/fabricated the first truly wrap-around gate MOSFET in SOI and published results in the IEE special edition nanoelectronics (2004).

Designed/fabricated a method to enhance visible a near-IR wavelength absorption in Si MSM Detectors (1993)

FUNDING AWARDS (2006 – current)

Title III \$33M (2015 PCD) under National Security Space (NSS) Industrial & Supplier Base (ISB) Risk Mitigation Program, EBDW System Project in Progress.

SMC \$5M 6.3 (2013 – 2018) Mask-less Elec-Beam DW System Development

SMC \$750K 6.2 (2013 – 2015) CNT Based Solution for Next Generation Logic

SMC \$850K 6.2 (2014 – 2016) Graphene-Based FLASH Memory

AFOSR 6.1 \$450K (2009 – 2012) Nanowire MOSFETs

AFOSR 6.1 \$300K (2010 – 2013) Self-Assembly Electronics

SEC 219 Funds WPAFB 6.2 \$225K (2012-2014) Bio-devices research

DTRA \$1.15M (2010 – 2014) Advanced III-V Nanowire MOSFETs

SMC \$750K 6.2 (2006 – 2009) Nanoscale Patterning

US PATENTS

- Title: “Method to Enhance Visible and Near-IR Performance of Si MSM Photodetectors.” US Patent 5,449,945
- Title: “Silicon metal-semiconductor-metal photodetector.” US Patent 5,691,563

PUBLISHED BOOK

“Carbon-Based Electronics: Transistors and Interconnects at the Nanoscale” Ashok Srivastava, Jose Mauricio Marulanda, Yao Xu, Ashwani Sharma, CRC Press (2015) Pan Stanford Publishing, ISBN 978-981-4613-10-1

LIST OF PUBLICATIONS

(Publication Updates: http://scholar.google.com/citations?user=X_HIsKkAAAAJ&hl=en)

1. “Analytical Current Transport Modeling of Graphene Nanoribbon Tunnel Field-Effect Transistors for Digital Circuit Design”, Md S Fahad, Ashok Srivastava, **Ashwani K. Sharma** and Clay Mayberry, (*Accepted for Publication in IEEE Trans. NANO*)
2. “Single Molecule Conduction: Brief Overview of Experimental Techniques and Theoretical Interpretations”, Biswanath Mukherjee, **Ashwani K. Sharma**, and Asim K. Ray, Submitted to the IET Research Journal Circuits, Devices and Systems Manuscript ID: CDS-2015-0120 (*Submitted*)
3. “Hybrid Nanocomposites of Lead Sulphide Quantum Dots/Metal Free Phthalocyanine For Bistable Switching”, Pal C, Ojeda J. J., **A. K. Sharma**, A. N. Cammidge, M. J. Cook, and A. K. Ray, Journal of Physical Chemistry C (*Submitted*)
4. “Study of dielectric relaxation processes in printable zinc oxide films on transparent substrates”, S. Paul, P. G. Harris, **A. K. Sharma** and A. K. Ray, Journal of Materials Science: Materials in Electronics 26 (9), 7109-7116 (2015)
5. “Characterization of carrier transport properties in strained crystalline Si wall-like structures as a function of scaling into the quasi-quantum regime”, C. S. Mayberry, Danhong Huang, G. Balakrishnan, C. Kouhestani, N. Islam, S. R. J. Brueck and **A. K. Sharma**, J. Appl. Phys. **118**, 134301 (2015)
6. “Dielectric Lens Design Concepts to Enhance Antenna Directivity and Gain”, Julian Baker, **Ashwani Sharma**, Bruno Camps-Raga, Clay Mayberry and N. E. Islam, Int'l Journal of Innovative Research in Computer and Communication Engineering (IJIRCCE) Vol. 3, Issue 2, (2015)
7. “Carbon-Based Electronics: Transistors and Interconnects at the Nanoscale” Ashok Srivastava, Jose Mauricio Marulanda, Yao Xu, **Ashwani Sharma**, CRC Press (2015) Pan Stanford Publishing, ISBN 978-981-4613-10-1
8. “Low cost zinc oxide memristors with high On-Off ratio”, S. Paul, P.G. Harris, **A. K. Sharma**, A. K. Ray, Materials Letters 130, 40-42 (2014) (**Cited by 5**)

9. "Characterization of MWCNT VLSI Interconnect with Self-Heating Induced Scatterings", K. M. Mohsin, A. Srivastava, **A. K. Sharma**, C. Mayberry, VLSI (ISVLSI), 2014 IEEE Computer Society Annual Symposium, 368-373 **(Cited by 1)**
10. "Effects of annealing on device parameters of organic field effect transistors using liquid crystalline tetrasubstituted zinc phthalocyanine", T. Faris, T. Basova, N.B. Chaure, **A. K. Sharma**, M. Durmus, V. Ahsen and A. K. Ray, EPL (Europhysics Letters) 106 (5) 58002 (2014) **(Cited by 1)**
11. "Octaoctyl Substituted Lutetium Bisphthalocyanine for NADH Biosensing", C. Pal, **A. K. Sharma**, A. N. Cammidge, M. J. Cook, and A. K. Ray A, The Journal of Physical Chemistry B 117 (48), 15033-15040 (2013) **(Cited by 4)**
12. "Charge transport in solution processed thin films of Zinc Oxide", P. Harris, S. Paul, C. Pal, **A. K. Sharma**, and A. K. Ray, The 25th International Conference on Amorphous and Nano-crystalline Semiconductors. Aug 18-23, 2013 Toronto, Ontario Canada.
13. "Current transport model of graphene nanoribbon tunnel transistor in variable and constant field", M. S. Fahad, A. Srivastava, **A. K. Sharma**, C. Mayberry, SPIE NanoScience+Engineering, 88140L-88140L-8 (2013)
14. "Current transport in graphene tunnel field transistor under constant electric field", Md. Fahad, A. Srivastava, **A. K. Sharma** and C. Mayberry, SPIE 2013 NanoScience+Engineering: Carbon Nanotubes, Graphene and Associated Devices VI (OP109), 25-29 August 2013, San Diego Convention Center, San Diego, CA., communicated. **(Cited by 2)**
15. "A thermal model for carbon nanotube interconnects", K. M. Mohsin, A. Srivastava, **A. K. Sharma** and C. Mayberry, nanomaterials 3 (2), 229-241, (2013) **(Cited by 6)**
16. "Current transport in graphene tunnel field effect transistor for RF integrated circuits", Md. S. Fahad, A. Srivastava, **A. K. Sharma** and C. Mayberry, IEEE MTT-S International Wireless Symposium (IWS), 13-18 April 2013 **(Cited by 2)**
17. "CMOS LC voltage controlled oscillator design using multiwalled and single-walled carbon nanotube wire inductors" A. Srivastava, Y. Xu, Y. Liu, **A. K. Sharma**, C. Mayberry, ACM Journal on Emerging Technologies in Computing Systems (JETC) 8 (3), 15 (2012) **(Cited by 1)**
18. "Morphological and Elemental Studies on Titania Thin Films Electrodeposited at Different Bath Temperatures", Cruz Blanco, Pal C., Ojeda J. J., Ray A. K. and **Sharma A. K.**, Journal of Electrochemical Society **159(2)** E30-E36. DOI: 10.1149/2.016202jes (2012)
19. "Inherently Radiation Hardened Electronics: An Examination of III-V Nanowire Transistor and Spin-Based Logic Devices", Donald A. Telesca, **Ashwani Sharma**, Clay Mayberry, Hannan Deryb, Hui Wu, Berkehan Ciftcioglu, Michael Huang, Yang Song, Ronald Kawakami, Jing Shi, Ilya Krivorotov, Igor Zutic and Lu J. Sham, NSTI-Nanotech 2012, ISBN 978-1-4665-6275-2 Vol.2, 2012

20. "Maximizing THz Amplitude for Improved Pulse Parameters and High Power Applications", Omar A. Ibrahim, Sampad Ray, A. Alla, Haitham Al Saif, Phumin Kirawanich, Naz I. Islam, **Ashwani Sharma** and Clay Mayberry, 2012 IEEE International Symposium on Antennas and Propagation and USNC-URSI National Radio Science Conference (2012) **(Cited by 1)**
21. "Optimum Terahertz Pulse Amplitude in Low Temperature Grown Gallium Arsenide Photoconductive Switches for Power Applications", O. Ibrahim, Haitham Al Saif, **Ashwani Sharma**, Clay Mayberry, P. Kirawanich and N. E. Islam, 2012 IEEE International Power Modulator and High Voltage Conference (2012 IPMHVC), June 3-7, 2012 San Diego, CA, USA.
22. "CMOS LC Voltage Controlled Oscillator Design Using Carbon Nanotube Wire Inductors", Ashok Srivastava, Y. Xu, Y. Liu, **Ashwani Sharma**, Clay Mayberry, ACM J. Emerging Technologies in Computing Systems (**Special Issue**), vol. 8, no. 3, Article 15, pp. 15.1-15.9, August 2012 **(Cited by 1)**
23. "Electronic Current Transport in CNT-FET for Operation in Ballistic Region", A. Srivastava, Y. Xu, **Ashwani K. Sharma**, Clay Mayberry, Proc. SPIE Vol. 8344,834400-1, 2012
24. "Electronic current transport in CNT-FETs for operation in ballistic region", A. Srivastava, Y. Xu, **A. K. Sharma** and C. Mayberry, Proc. SPIE Conference 8344:Nano-, Bio-, and Info-Tech Sensors and Systems, vol. 8344, pp. 834400-1 to 834400-10, (San Diego, March 12-15, 2012)
25. "In situ chemichromic studies of interactions between a lutetium bis-octaalkyl substituted phthalocyanine and selected biological cofactors", C. Pay, A. N. Cammidge, M. J. Cook, J. H. Sosa-Sanchez, **A. K. Sharma**, and A. K. Ray, Journal of the Royal Society Interface **9(66)** 183-189. DOI: 10.1098/rsif.20100726 (2011) **(Cited by 3)**
26. "Morphological and Elemental Studies on Titania Thin Films Electrodeposited at Different Bath Temperatures", C.F.C. Blanco, C. Pal, J. J. Ojeda, A. K. Ray, **A. K. Sharma**, Journal of the Electrochemical Society 159 (2), E30-E36 (2011)
27. "Solution processed tetrasubstituted zincphthalocyanine as an active layer in organic field effect transistors", N. Chaure, T. Basova, M. Zahedi, A. Ray, M. Durmus, V. Ahsen and **A. K. Sharma**, J. Appl. Physics 107, 1 (2010) doi: 10.1063/1.3428386
28. "CMOS LC voltage-controlled oscillator design using carbon nanotube wire inductor", A. Srivastava, Y. Xu, Y. Liu, **A. K. Sharma** and C. Mayberry, Proc. Of The IASTED International Symposia on Circuits and Systems, pp. 171-176, (Maui, Hawaii, August 23-25, 2010) **(Cited by 1)**
29. "CMOS LC voltage-controlled oscillator design using multiwalled carbon nanotube wire conductor", A. Srivastava, Y. Xu, Y. Liu, **A. K. Sharma** and C. Mayberry, in Proc. IEEE International Symposium on Electronic System Design, (Bhubaneswar, India, December 20-22, 2010). **Best Paper Award**

30. "CMOS LC Voltage-Controlled Oscillator Design Using Multiwalled Carbon Nanotube Wire Inductor", A. Srivastava, Y. Xu, Y. Liu, **A. K. Sharma** and C. S. Mayberry, 2010 IEEE International Symposium on Electronic System Design, DOI 10.1109/ISED.2010.15
(Cited by 1)
31. "Negative differential resistance effects in spun films of substituted phthalocyanine derivatives", Satyahit Sahu, **Ashwani K. Sharma**, Michael J. Cook, Asim K. Ray, J. Mater Sci: Mater Electron (2010) 21:567-570 DOI 10.1007/s10854-009-0058-4
(Cited by 2)
32. "Carbon nanotubes for next generation very large scale integration interconnects", Ashok Srivastava, Yao Xu and **Ashwani K. Sharma**, (invited paper – online), special section on carbon nanotubes, vol. 4, 041690 (17 May 2010), pp. 1-26, 2010. DOI: 10.1117/1.3446896
(Cited by 1)
33. "Solution processed tetrasubstituted zinc phthalocyanine as an active layer in organic field effect transistors", N. B. Chauri, T. Basova, M. Zahedi, A. K. Ray, **A. K. Sharma**, M. Durmus, V. Ahsen, J. Appl. Physics 107, **(11)** 114503 – 5 (2010)
(Cited by 6)
34. "Emerging Carbon Nanotube Electronic Circuits, Modeling, and Performance", Y. Xu, A. Srivastava, **Ashwani K. Sharma**, Hindawi Publishing Corporation, VSLI Design, Vol. 2010, 7, Article ID 864165, 8 pages doi: 10.1155/2010/864165
(Cited by 12)
35. "Carbon nanotubes for next generation very large scale integration interconnects", Ashok Srivastava, Yao Xu and **Ashwani K. Sharma**, J. Nanophotonics, Vol. 4, (1) 041690-26 (17 May 2010) Invited Review Paper
(Cited by 35)
36. "Solution processed tetrasubstituted zincphthalocyanine as an active layer in organic field effect transistors", N. Chauri, T. Basova, M. Zahedi, A. Ray, M. Durmus, V. Ahsen and **A. K. Sharma**, J. Appl. Physics 107, 1 (2010) doi: 10.1063/1.3428386
37. "Current transport modeling of carbon nanotube field effect transistors", Ashok Srivastava, Jose M. Marulanda, Yao Xu and **Ashwani K. Sharma**, Phys. Status Solidi A, 1 – 10 (2009) DOI 10.1002/pssa.200824221
(Cited by 23)
38. "Design and performance analysis of a nano-scaled inverter based on wrap-around-gate nanowire MOSFETs", Ashkan Seyedi, Akeed A. Pavel, **A. K. Sharma**, N. E. Islam, IET Micro & Nano Letters, (2009), Vol. 4, (1) pp. 16 – 21, doi: 10.1049/mnl:20080046.R1
(Cited by 4)
39. "A model of multi-walled carbon nanotube interconnects", Y. Xu, A. Srivastava, **A. K. Sharma**, Circuits and Systems, 2009. MWSCAS'09. 52nd IEEE International Midwest Conference **(Cited by 10)**

40. "A simple hybrid inorganic-polymer photodiode", B. Pradhan, A. K. Sharma, A. K. Ray, Journal of Physics D: Applied Physics 42 (16), 165308 (2009)
(Cited by 18)
41. "Current transport modeling of carbon nanotube field effect transistors", A. Srivastava, J. Marulanda, Y. Xu and **A. K. Sharma**, physica status solidi (a), vol. 206, no. 7, pp.1569-1578, 2009
(Cited by 22)
42. "Nanoscale films of organic dyes for broadband environment sensing", B. Pradham, **A. K. Sharma**, A. Ray, J. Mater Sci: Mater Electron (2009) 20:267-271 DOI 10.1007/s10854-008-9718-x
(Cited by 4)
43. "Circuit modeling and performance analysis of carbon nanotube interconnects", Y. Xu, A. Srivastava, **A. K. Sharma** and R. K. Nahar, in Proc. of 15th International Workshop on the Physics of Semiconductor Devices, (Delhi, India, December 15 – 19, 2009)
44. "An Improved Model for Calculating Tunneling Current in Nano-Crystal Memory", Pavel Akeed, **Ashwani Sharma** and Naz Islam, IEEE Electron Device Letters, vol. 29, No. 12, 1370, Dec 2008
(Cited by 7)
45. "Current transport modeling in carbon nanotube field effect transistors (CNT-FETs) and bio-sensing applications", J. M. Marulanda, A. Srivastava and **A. K. Sharma**, Proc. SPIE Nano- and Micro-Sensor for Bio-Systems (SSNO6), vol. 6931, pp. 693108-1 to 693108-9 (San Diego, CA, March 9-13, 2008)
46. "A simply constructed lead phthalocyanine memory diode", Biswanath Mukherjee, Asim K. Ray, **Ashwani K. Sharma**, Michael J. Cook, and Isabelle Chambrier, J. Appl. Phys. **103**, 074507 (2008)
(Cited by 20)
47. "Current transport modeling in carbon nanotube field effect transistors (CNT-FETs) and biosensing applications", J. M. Marulanda, A. Srivastava, **A. K. Sharma**, The 15th International Symposium on: Smart Structures and Materials (2008)
(Cited by 7)
48. "Threshold and saturation voltages modeling of carbon nanotube field effect transistors (CNT-FETs)", Jose M. Marulanda, Ashok Srivastava and **Ashwani K. Sharma**, NANO: Vol. 3, No. 3 (2008) 195-201
(Cited by 11)
49. "Conduction studies on chemical bath-deposited nanocrystalline CdS thin films", P. Pradhan, **A. K. Sharma**, A. K. Ray, Journal of crystal growth 304 (2), 388-392, (2007) **(Cited by 46)**
50. "An Improved Model for Calculating Tunneling Current in Nano-Crystal Memory", Pavel Akeed, **Ashwani Sharma** and Naz Islam, IEEE Electron Device Letters, vol. 29, No. 12, 1370, Dec 2008
(Cited by 9)

51. "Transfer characteristics and high frequency modeling of logic gates using carbon nanotube field effect transistors (CNT-FETs)", J. M. Marulanda, A. Srivastava and **A. K. Sharma**, Proc. 20th Symp. On Integrated Circuits and Systems Design (SBCCI2007), pp. 202 – 206, (Rio de Janeiro, Brazil, September 3 to 6, 2007)
(Cited by 6)
52. "Effects of dimensional nanoscaling on the optical and electrical properties of crystalline Si thin films", **A. K. Sharma**, P. C. Logofatu, C. S. Mayberry, S. R. J. Brueck and N. E. Islam, J. Appl. Phys. 101, 104914 (2007)
(Cited by 8)
53. "Use of DNA in the fabrication of solid state dye sensitized solar cells", A. Bandyopadhyay, A. K. Ray and **A. K. Sharma**, J. Appl. Phys. 102, 064508 (2007)
54. "Effects of Field-Dependent Trapping and Detrapping on the Responses of Compensated GaAs Photoconductive Switches", Kapil Kelkar, N. E. Islam, Phumin Kirawanich, Christopher M. Fessler, William C. Nunnally, William T. Kemp and **Ashwani K. Sharma**, IEEE Trans. Plasma Sci., vol. 35, no. 1, pp. 93 – 99, 2007
(Cited by 1)
55. "Charge transport through a neural network of DNA nanocomposites", A. Bandyopadhyay, A. K. Ray, **A. K. Sharma** and S. I. Khondaker, Nanotechnology 17 (2006) 227– 231
(Cited by 3)
56. "Field analysis to optimize charge collection in a sub-micron grated metal-semiconductor-metal photodetectors", **A. K. Sharma**, C. S. Mayberry, S. L. Lucero, S. Kache, N. S. Kranthi, O. Nizam, P. Kirawanich, R. W. McLaren and N. E. Islam, Progress in Electromagnetic Research, PIER 63, 75-88, 2006
(Cited by 3)
57. "Minimizing reflections and focusing of incident wave to enhance energy deposition in photodetector's active region", **A. K. Sharma**, C. S. Mayberry, S. L. Lucero, A. A. Pavel, P. Kirawanich and N. E. Islam Progress in Electromagnetics Research 65, 71-80 (2006)
(Cited by 4)
58. "Field analysis of enhanced charge collection in nanoscale grated photodetectors", N. S. Kranthi, M. O. Nizam, P. Kirawanich, N. E. Islam, **A. K. Sharma** and S. L. Lucero, Appl. Phys. Lett., Vol. 87, 244101, 2005
(Cited by 2)
59. "Effects of dimensional scaling on the electronic transport properties of silicon nanofilms and nanowires", **A. K. Sharma**, R. Prinja and S. R. J. Brueck, IEEE NANO 2005, 746-749
60. "Large response of a hybrid inorganic-polymer photodetector", Basudev Pradhan, Asim K. Ray and **Ashwani K. Sharma**, IEEE NANO 2005, 249-251
61. "Optical studies on chemical bath deposited nanocrystalline CdS thin films", Basudev Pradhan, **Ashwani K. Sharma** and Asim K. Ray, Journal of Nanoscience

and Nanotechnology, Vol. 5 (7); 1130-1134, 2005

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62. "Mobility and transverse electric field effects in channel conduction of wrap-around-gate nanowire MOSFETs", **A. K. Sharma**, S. H. Zaidi, S. Lucero, S. R. J. Brueck and N. E. Islam, IEE Proc.-Circuits Devices Syst., (Special Edition on Nanoelectronics) Vol. 151, No. 5, pp. 422-430, Oct 2004
(Cited by 28)
63. "Micropatterning through reverse self-assembly using photolithographically produced templates", A. Bandyopadhyay, A. K. Ray and **A. Sharma**, Institute of Physics Publishing, Nanotechnology 15 (11) (2004) 1603 – 1608
(Cited by 1)
64. "Optical and electrical properties of nanostructured metal-silicon-metal photodetectors", **A. K. Sharma**, S. H. Zaidi, P. C. Logofatu and S. R. J. Brueck, IEEE Journal of Quantum Electronics, Vol. 38, No. 12, pp. 1651 – 1660, Dec 2002
(Cited by 17)
65. "Multiple Nanowire Gate Field Effect Transistors", S. H. Zaidi, **A. K. Sharma**, R. Marquardt, S. L. Lucero, P. M. Varangis, IEEE Proceedings of the Conference on Nanotechnology 2001, pp. 189 – 194
(Cited by 6)
66. "Enhanced optical and electrical characteristics of Si detectors integrated with periodic 1-D and 2-D semiconductor nanoscale structures", **A. K. Sharma**, S. H. Zaidi, G. Liechty, and S. R. J. Brueck, Proc. IEEE Nanotechnology, 2001, 368-373, 2001 **(Cited by 2)**
67. "Enhanced Photodetectors by Nanoscale Patterning", Saleem H. Zaidi, **A. K. Sharma**, P. Varangis and S. R. J. Brueck, SPIE 2000
68. "Enhanced Optical Detection in MSM Photodiodes with Nanoscale Gratings", **A. K. Sharma**, S. H. Zaidi, P. M. Varangis, G. Liechty, and S. R. J. Brueck, Lasers and Electro-Optics, OSA/CLEO 1999
69. "A Simple Monolithic X-Ray Tolerant Si Schottky Photodiode", P. M. Varangis, **A. K. Sharma**, S. H. Zaidi, R. Pugh, R. Tallon, J. Chavez, W. Shedd and S. R. J. Brueck, WSSR JB, Government Microcircuit Applications Conference Proceedings 1999
70. "Temperature Dependence of The Absorption Band Gap Edge of GaN", M. O. Manasreh and **A. K. Sharma**, Materials Research Society MRS 1995
(Cited by 1)
71. "Ion Implantation Enhanced Metal-Si-Metal Photodetectors", **Ashwani K. Sharma**, K. A. M. Scott, S. R. J. Brueck, J. C. Jolper, and D. R. Myers, IEEE Photonics Technology Letters, vol. 6, pp. 635-638, No. 5, May 1994
(Cited by 25)
72. "A High Resolution Si Position Sensor", K. A. M. Scott, **Ashwani K. Sharma**, C. Wilson, B. W. Mullins, S. F. Soares and S. R. J. Brueck, Appl. Phys. Lett., vol. 62, pp.3141 – 3143, June 1993
(Cited by 4)

73. "Ion Implanted Enhanced Metal-Si-Metal Photodetectors", **Ashwani K. Sharma**, K. A. M. Scott, J. C. Zolper, Dave Myers and S. R. J. Brueck, Conference on Lasers and Electro-Optics CLEO 1994.
(Cited by 5)
74. "A high resolution Si position sensor", K. A. M. Scott, **Ashwani K. Sharma** and S. R. J. Brueck, SEMATECH 1993.
75. "Method to Enhance Visible and Near-IR Wavelength Absorption in Silicon", **Ashwani K. Sharma**, K.A.M Scott, J. C. Zolper, D. R. Myers and S. R. J.Brueck, DARPA Review 1993.
76. "Large area 1D and 2D Si position sensors", K. A. M. Scott, **Ashwani K. Sharma**, C. Wilson and S. R. J. Brueck, Optical Society of America (OSA) 1992.