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Publications

Book Chapter

Kumar S., Sharma T. K. (2021) On-Chip Carbon Nanotube Interconnects: Adaptation to Multi-gate Transistors. In: Kaneko S. et al. (eds) Carbon Related Materials. Springer, Singapore. https://doi.org/10.1007/978-981-15-7610-2_7 [Recognition of Nobel Lecture by Prof. Akira Suzuki in IUMRS-ICAM-17]

Journals



SCI: THOMSON REUTERS

- Suman Kumar, **S. Kumar** and B. Bhowmik, "Low Energy Room Temperature Ni Functionalized ZnO-TiO₂ Ternary Nanocomposite Thin Film Transistor Formaldehyde Sensor", IEEE Sensor Journal (Published) doi: 10.1109/JSEN.2026.3681895
- P. Sharma and **S. Kumar**, "Source/drain series resistance and fabrication-induced variabilities in the characteristics of gate-all-around junctionless silicon nanowire FET and associated CMOS circuit", *Physica Scripta*, 100 (11), 115920 (2025).
- **S. Kumar**, A. Rai and S. S. A. Askari, "Interdiffusion induced changes in the absorption spectra of III-V quantum dot systems", *Optik - International Journal for Light and Electron Optics*, **321**, 172159 (2025).
- P. Kumar, K. Koley, A. Maurya and **S. Kumar**, "Heavy ions and alpha particles irradiation impact on III-V broken-gap gate-all-around TFET", *Microelectronics Reliability*, **158**, 115426 (2024).
- Pankaj Kumar, K. Koley and **S. Kumar**, "Comparative analysis of heavy ions and alpha particles impact on gate-all-around TFETs and gate-all-around MOSFETs" *Micro and Nanostructures*, **192**, 207875 (2024).
- P. Sharma and **S. Kumar** and P. Kumar, "Proposal for variability-induced effective radius of elliptical gate-all-around junctionless transistors and its applicability in hydrogen gas sensors", *AEU-International Journal of Electronics and Communications*, **180**, 155337 (2024).
- P. Sharma and **S. Kumar**, "Gaussian Doping Profile in the Channel Region: A Technology Booster for Junctionless Transistors", *AEU-International Journal of Electronics and Communications*, **169**, 154749 (2023).
- P. Kumar, K. Koley and **S. Kumar**, "Impact of Hole trap-detrap Mechanism on X-ray Irradiation Induced Threshold Voltage Shift of Radiation-Hardened GAA TFET device", *Microelectronics Reliability*, **145**, 114980 (2023).
- P. Kumar, K. Koley, S. S. A. Askari, A. Maurya and **S. Kumar**, "Assessment of Negative Bias Temperature Instability due to Interface and Oxide Trapped Charges in Gate-all-around TFET Devices," in *IEEE Transactions on Nanotechnology*, **22**, 157-165 (2023).
- P. Kumar, K. Koley, S. S. A. Askari, A. Maurya and **S. Kumar**, "Assessment of interface trapped charge induced threshold voltage hysteresis effect in gate-all-around TFET", *Micro and Nanostructures*, **175**, 207502 (2023).

- A. Rai, S. S. A. Askari, M. K. Das and **S. Kumar**, "Efficiency enhancement of solar cells using multi-layer interdiffused InGaAs/GaAs quantum dots: A numerical approach", *Micro and Nanostructures*, **172**, 207445 (2022). 
- P. Kumar, K. Koley, B. C. Mech, A. Maurya and S. Kumar "Analog and RF performance optimization for gate all around tunnel FET using broken-gap material", *Nature: Scientific Reports* **12(1)**, 1-15 (2022). 
- S. S. K. Sinha, A. Rai, **S. Kumar**, and S. S. A. Askari "On the spectral response of interdiffused quantum dot ensembles embedded in the intrinsic region of InGaAs/GaAs quantum dot solar cells", *Physica E: Low-dimensional Systems and Nanostructures* **134**, 114810 (2021). 
- S. S. K. Sinha, **S. Kumar**, and M. K. Das "Dot size variability induced changes in the optical absorption spectra of interdiffused quantum dot systems", *Applied Physics A* **125(11)**, 774 (2019). 
- A. Kumari, **S. Kumar**, T. K. Sharma and M. K. Das "On the C-V characteristics of nanoscale strained gate-all-around Si/SiGe MOSFETs", *Solid State Electronics* **154**, 36-42 (2019). 
- Md. Aref Billaha, Mukul K. Das and **S. Kumar** "Effect of doping on the performance of multiple quantum well infrared photodetector" *IET Circuits, Devices & Systems* **12(5)**, 551 (2018). 
- Prakash Pareek, Mukul K. Das and **S. Kumar** "Responsivity calculation of group IV-based interband MQWIP" *Journal of Computational Electronics* **17(1)**, 319 (2018). 
- Ravi Ranjan, Mukul K. Das and S. Kumar "Performance analysis of tin-incorporated group-IV alloy based transistor laser", *Optics and Laser Technology*, **106**, 228, (2018). 
- 8. Prakash Pareek, Mukul K. Das and S. Kumar, "Numerical Analysis of SiGeSn/GeSn Quantum Well Infrared Photodetector", *Opto-Electronics Review*, **26**, 149 (2018). 
- R. Bhattacharya, **S. Kumar** and S. Biswas "Fault Diagnosis in Switched-Linear Systems by Emulation of Behavioral Models on FPGA: A case study of current-mode buck converter" *International Journal of Numerical Modelling: Electronic Networks, Devices and Fields* (2017), **31(5)**, DOI: 10.1002/jnm.2314 
- R. Bhattacharya, **S. Kumar** and S. Biswas "Resource Optimization for Emulation of Behavioral Models of Mixed Signal Circuits on FPGA: A case study of DC-DC buck converter" *International Journal of Circuit Theory and Applications* (2017), **45(11)**, 1701. DOI: 10.1002/cta.2323 
- **S. Kumar**, A. Kumari and M. K. Das "Modeling Gate-All-Around Si/SiGe MOSFETs and circuits for digital applications" *Journal of Computational Electronics* **16**, 47 (2017). 
- Prakash Pareek, Mukul K. Das and **S. Kumar** "Theoretical analysis of tin incorporated group IV alloy based QWIP" *Superlattices and Microstructures* **104**, 128 (2017). 
- **S. Kumar**, A. Kumari and M. K. Das "Strain induced changes in the performance of strained-Si/strained-Si_{1-y}Ge_y/relaxed-Si_{1-x}Ge_x MOSFETs and circuits for digital applications" *J. Cent. South Univ.* **24(6)**, 1233 (2017). 
- Md. Aref Billaha, Mukul K. Das and **S. Kumar** "Doping dependent frequency response of MQW infrared photodetector" *Superlattices and Microstructures* **108**, 128 (2017). 
- **S. Kumar**, A. Kumari and M. K. Das "Development of a Simulator for analyzing some Performance Parameters of Nanoscale Strained Silicon MOSFET-based CMOS Inverters" *Microelectronics Journal* **55**, 8 (2016). 
- B. Priyadarshini, M. K. Das, M. Sen, **S. Kumar** "Radial Microwire Array Solar Cell with Pyramidal Structure" *Superlattices and Microstructures* **98**, 208 (2016). 
- **S. Kumar**, S. Sen and M. K. Das "A comparative analysis of the photoluminescence spectra of annealed ultrasmall In-rich InGa_N/Ga_N quantum dots and wells" *Optik - International Journal for Light and Electron Optics* **127**, 8654 (2016). 
- S. Jha and **S. Kumar** "Comment on 'A compact drain current model of short-channel cylindrical gate-all-around MOSFETs'", *Semicond. Sci. Technol.*, **29**, 038001 (2014). 
- **S. Kumar** and S. Jha "Impact of elliptical crosssection on the propagation delay of multi-channel gate-all-around MOSFET based inverters", *Microelectronics Journal* **44**, 844 (2013). 
- S. Jha, A. Kumar and **S. Kumar** "Impact of elliptical cross section on some electrical properties of gate-all-around MOSFETs", *Bonfring International Journal of Power Systems & Integrated Circuits* **2(3)**, 18 (2012).

- **S. Kumar** and S. Kabi "Dependence of the Absorption Spectra of III-V Semiconductor Quantum Dots on the Fundamental Parameters", *International Journal of Nanoscience* **9** (4), 345 (2010).
- **S. Kumar**, S. Kabi and D. Biswas, "Dependence of the photoluminescence of annealed III-V semiconductor quantum dots on their shape and dimension", *J. Appl. Phys.* **104**, 086102 (2008). 
- **S. Kumar**, D. Biswas and T. Das, "Dependence of the Absorption Spectra of III-V Semiconductor Quantum Dots on the Size Distribution", *Advanced Materials Research*, **31**, 59 (2008).
- D. Biswas, T. Das, S. Kabi and **S. Kumar**, "Conspicuous Presence of Higher Order Transitions in the Photoluminescence of $\text{In}_x\text{Ga}_{1-x}\text{N}/\text{GaN}$ Quantum Wells", *Advanced Materials Research*, **31** 62 (2008).
- **S. Kumar** and D. Biswas, "Effects of a Gaussian size distribution on the absorption spectra of III-V semiconductor quantum dots", *J. Appl. Phys.* **102**, 084305 (2007). 
- D. Biswas, **S. Kumar** and T. Das, "Unusual changes observed in the photoluminescence of annealed $\text{In}_x\text{Ga}_{1-x}\text{N}/\text{GaN}$ quantum wells explained", *Materials Letters* **61**, 5282 (2007). 
- D. Biswas, **S. Kumar** and T. Das, "Band Offsets of $\text{In}_x\text{Ga}_{1-x}\text{N} / \text{GaN}$ Quantum Wells Reestimated" *Thin Solid Films* **515** 4488 (2007). 
- D. Biswas, **S. Kumar** and T. Das, "Interdiffusion induced changes in the photoluminescence of $\text{In}_x\text{Ga}_{1-x}\text{As}/\text{GaAs}$ quantum dots interpreted", *J. Appl. Phys.* **101**, 026108 (2007). 

Conferences:

- ❖ P. Sharma and S. Kumar, "Impact of Interface-trapped Charges on the Performance of Gaussian-doped Gate-all-around Junctionless MOSFET," *2025 IEEE Silchar Subsection Conference (SILCON)*, Chumukedima, Dimapur, India, 2025, pp. 1-5, doi: 10.1109/SILCON67893.2025.11327017.
- ❖ S. C. Khan, Anup Dnyaneshwar Dongre, R. Kumar, and **S. Kumar**. "Impact of Barrier on the Absorption Spectra of Size Distributed III-V Quantum Dot Systems." In *2023 IEEE Workshop on Recent Advances in Photonics (WRAP)*, pp. 1-3. IEEE, 2023.
- ❖ A. Rai, Syed Sadique Anwer Askari, **S. Kumar** and M. K. Das, "Effect of Band Parameters on the Performance of Interdiffused InGa_N/Ga_N Quantum Dot Solar Cells," *IEEE International Conference on Nanoelectronics, Nanophotonics, Nanomaterials, Nanobioscience and Nanotechnology(5NANO 2023)*.
- ❖ P. Kumar, K. Koley, R. Goswami, A. Maurya, and **S. Kumar**, "Assessment of hot carrier stress induced threshold voltage shift in gate-all-around MOSFETs," *IEEE 19th India Council International Conference (INDICON)*, Kochi, India, 2022, pp. 1-4, doi: 10.1109/INDICON56171.2022.10039693.
- ❖ P. Kumar, K. Koley, R. Goswami, A. Maurya, and **S. Kumar**, 2022, October. Electrical Noise Behaviour of High-k Gate-All-Around MOSFET Based on Two-Port Device Network Analysis. *2022 14th International Conference on Information Technology and Electrical Engineering (ICITEE)*, Indonesia, pp. 68-72, Oct. 2022.
- ❖ Anjali Rai, **S. Kumar**, "Effects of Shape and Gaussian size distribution on the Absorption spectra of Strained III-V Quantum Dot ensembles," *International Conference on Advanced Nanomaterial and Nanotechnology (ICANN)*, 2019 at IIT Guwahati.
- ❖ **INVITED TALK: S. Kumar**, Tarun Kumar Sharma, Vatsala Raj, Neeta Bharti and Princy Sharma, "Adapting Carbon-based Interconnect Technology to Non-Classical FET Drivers for Enhanced Performance", *International Union of Materials Research Societies – International Conference on Electronic Materials 2018 (IUMRS-ICEM 2018)* held during August 19 – 24, 2018 at Daejeon, Korea.
- ❖ **INVITED TALK: S. Kumar**, A. Saikia, A. Kumari, T. Sharma and P. Chauhan, "Performance Evaluation of Carbon-based Interconnects in presence of Non-Conventional FET Drivers", *The 15th International Conference of Advanced Materials (IUMRS-ICAM)* held during August 27 – September 01, 2017 at Kyoto University, Kyoto, Japan.
- ❖ R. Bhattacharya, S. H. M. Ragamai, and **S. Kumar**, "SFG Based Fault Simulation of Linear Analog Circuits Using Fault Classification and Sensitivity Analysis" In *Proc. 21st International Symposium on VLSI Design and Test (VDATE) 2017*, CCIS 711, Springer, pp. 179-190, 2017.
- ❖ R. Bhattacharya and **S. Kumar**, "A New Approach for Modeling Parametric Faults in Linear Analog VLSI Circuits" In *Proc. 6th IEEE International Conference on Computers and Devices for Communication (CODEC)*, December 16-18, 2015, pp.1-4.

- ❖ **S. Kumar**, S. S. K. Sinha and S. Sen, "Investigations on the optical transitions and linewidth of as-grown III-V quantum dot systems" *2015 International Conference on Microwave and Photonics (ICMAP)* held during December 11-13, 2015 at ISM Dhanbad, India.
- ❖ Jhuma Saha, S. Jha and **S. Kumar**, "Transient analysis of junctionless and junction based CMOS inverters", *XVIII International Workshop on the Physics of Semiconductor Devices (IWPSD 2015)* held during December 07-10, 2015 at IISc Bangalore, India.
- ❖ R. Bhattacharya and **S. Kumar**, "A new approach for modeling parametric faults in linear analog VLSI circuits", *6th International Conference on Computers and Devices for Communication (CODEC-15)* held during December 16-18, 2015 at Kolkata.
- ❖ Jhuma Saha, S. Jha and **S. Kumar**, "A comparative analysis of some multi gate junctionless transistors", *6th International Conference on Computers and Devices for Communication (CODEC-15)* held during December 16-18, 2015 at Kolkata.
- ❖ **INVITED TALK: S. Kumar** and S. Jha, "Ellipticity Induced Variability in Gate-All-Around MOSFET- based Circuits", *International Conference on Small Science (ICSS 20014)*, held during 8 – 11 Dec at Hong Kong.
- ❖ S. Jha, Jhuma Saha and **S. Kumar**, "Tuning the noise margins of Gate-All-Around MOSFET based inverters through non-circular multi-channel architecture", *International Conference on Advances in Electrical Engineering 2014 (ICAEE 2014)*, held during 9-11 Jan. 2014 at VIT University, Vellore. **The work received BEST PAPER AWARD**
- ❖ Amrita Kumari and **S. Kumar**, "Analysis of Nanoscale Strained-Si/SiGe MOSFETs including Source/Drain Series Resistance through a Multi-Iterative Technique", *27th International Conference on VLSI Design 2014 (VLSID 2014)*, held during 5-9 Jan. 2014 at IIT Bombay, Mumbai.
- ❖ Soumen Sen, S. S. K. Sinha and **S. Kumar**, "On the Optical absorption Spectra of as-grown III-V Quantum Dot Systems", *IEEE International Conference on Microwave and Photonics 2013 (ICMAP 2013)*, held during 13-15 Dec. 2013 at ISM Dhanbad.
- ❖ Jhuma Saha, Amrita Kumari, Shankaranand Jha and **S. Kumar**, "On the Voltage Transfer Characteristics (VTC) of some Nanoscale Metal-Oxide-Semiconductor Field-Effect-Transistors (MOSFETs)", *17th International Workshop on The Physics of Semiconductor Devices (IWPSD 2013)*, held during 10-13 Dec. 2013 at Amity University, Noida.
- ❖ Amrita Kumari and **S. Kumar**, "Impact of Some Important Parameters on the Drain Current and Threshold Voltage of Nanoscale Strained-Si MOSFETs", *3rd National Conference on Electronics, Communication and Signal Processing (NCECS-2013)* held on 19th Sept. 2013 at Siliguri institute of Technology, Siliguri, West Bengal, India.
- ❖ S. Jha and **S. Kumar**, "Impact of some important parameters on the propagation delay of elliptical gate-all-around MOSFET based inverters", *IEEE CONECCT 2013*, held at World Trade Centre, Bangalore, India during Jan 17-19, 2013.
- ❖ S. Jha, A. Kumar and **S. Kumar**, "On some Electrical Properties of Elliptical Gate-All-Around MOSFETs", *National Conference on Electronics, Communication & Signal Processing (NCECS-2012)*, held at Siliguri institute of Technology, Siliguri, West Bengal, India, on September 19, 2012.
- ❖ A. Kumar and **S. Kumar**, "On the Propagation Delay of Silicon Gate-All-Around MOSFET based Inverters", *National Conference on Frontiers in Electronics, Communication & Instrumentation technology (FECIT 2011)*, held at Indian School of Mines, Dhanbad, Jharkhand, India, during November 3 – 4, 2011. pp. 20.
- ❖ S. Sen and **S. Kumar**, "On the Photoluminescence of Annealed $\text{In}_x\text{Ga}_{1-x}\text{N}/\text{GaN}$ Quantum Wells", *National Conference on Frontiers in Electronics, Communication & Instrumentation technology (FECIT 2011)*, held at Indian School of Mines, Dhanbad, Jharkhand, India, during November 3 – 4, 2011. pp. 91.
- ❖ **S. Kumar** and S. Sen, "A Brief Review on the Photoluminescence of Interdiffused III-V Quantum Dots", *National Conference on Electronics, Communication & Signal Processing (NCECS-2011)*, held at Siliguri institute of Technology, Siliguri, West Bengal, India, on September 19, 2011.
- ❖ **S. Kumar** and Dharamvir Kumar, "Dependence of the Propagation Delay of Silicon Nanowire Metal-Oxide-Semiconductor Field-Effect Transistors on Some Important Parameters" *International Conference on Nanoelectronics (ICONE 2011)* held in the Department of Electronics and Communication Engineering College, Rasipuram, Tamilnadu, India from 24th to 26th February, 2011. pp 17
- ❖ **S. Kumar** and Soumen Sen, "Dependence of the Photoluminescence of annealed III-V Semiconductor Quantum Dots on the Fundamental Parameters", *Tenth International Conference on Fiber Optics and*

Photonics – PHOTONICS 2010, held at Indian Institute of Technology Guwahati, Guwahati, Assam, India, during December 11 – 15, 2010.

- ❖ Sanjib Kabi, **S. Kumar**, Dipankar Biswas and Tapas Das, "Further support to the large band gap 1.95 eV of InN", *National workshop on Advanced Optoelectronic Materials and Devices*, held at BHU, Varanasi during 22 – 24 Dec, 2008. pp. 260.
- ❖ **S. Kumar** and Sanjib Kabi, "Dependence of the Absorption Spectra of III-V Semiconductor Quantum Dots on the Fundamental Parameters", *5th International Conference on Materials for Advanced Technologies (ICMAT 2009 & IUMRS-ICA 2009)*, Singapore, 2009. [also published in *International Journal of Nanoscience*]
- ❖ Sanjib Kabi, Siddhartha Panda, **S. Kumar** and Dipankar Biswas, "Complexities in the Interpretation of the Optical Measurements on InGaN/GaN Quantum Wells of High Indium Content", *5th International Conference on Materials for Advanced Technologies (ICMAT 2009 & IUMRS-ICA 2009)*, Singapore, 2009.
- ❖ **S. Kumar**, Sanjib Kabi, Tapas Das, and Dipankar Biswas, "Curious changes in the photoluminescence of In_xGa_{1-x}N/GaN quantum wells explained", *Ninth International Conference on Fiber Optics and Photonics (PHOTONICS 2008)*, held during December 13-13, 2008 at IIT Delhi and Habitat World Convention Center, New Delhi, India. pp. 462.
- ❖ Tapas Das, **S. Kumar** and Dipankar Biswas, "Effects of interdiffusion on the Photoluminescence of ternary and quaternary semiconductor nanostructures interpreted", *Proc. of the Fourteenth International Workshop on The Physics of Semiconductor Devices (IWPSD 2007)*, held during December 16-20, 2007, Mumbai, India.
- ❖ **S. Kumar**, Sanjib Kabi and Dipankar Biswas, "Effects of Shape, Dimension and Interdiffusion on the Photoluminescence of III-V Semiconductor Quantum Dots", *Proc. of the Fourteenth International Workshop on The Physics of Semiconductor Devices (IWPSD 2007)*, held during December 16-20, 2007, Mumbai, India.
- ❖ Dipankar Biswas, Tapas Das and **S. Kumar**, "Conspicuous Presence of Higher Order Transitions in the Photoluminescence of In_xGa_{1-x}N / GaN Quantum Wells", *Abs. Proc. of the 4th International Conference on Materials for Advanced Technologies*, 1 – 6 July 2007, Singapore. [also published in *Advanced Materials Research*]
- ❖ Dipankar Biswas, **S. Kumar** and Tapas Das, "Dependence of the Absorption Spectra of III-V Semiconductor Quantum Dots on the Size Distribution" *Abs. Proc. of the 4th International Conference on Materials for Advanced Technologies*, 1 – 6 July 2007, Singapore. [also published in *Advanced Materials Research*]
- ❖ **S. Kumar**, Dipankar Biswas and Tapas Das, "Effects of Size Distribution on the Absorption Spectra of III-V Semiconductor Quantum Dots" *Abs. Proc. of the International Conference on Computers and Devices for Communication (CODEC-06)*, organized by Institute of Radio Physics and Electronics (C. U), held during 18th – 20th December, 2006 at Kolkata, India. EDM pp. 136.
- ❖ Tapas Das, **S. Kumar**, and Dipankar Biswas, "Effects of Interdiffusion on Band Offset Ratios of Ternary and Quaternary Semiconductor Nanostructures" *Abs. Proc. of the International Conference on Computers and Devices for Communication (CODEC-06)*, organized by Institute of Radio Physics and Electronics (C. U), held during 18th – 20th December, 2006 at Kolkata, India. EDM pp. 135.
- ❖ **S. Kumar**, Tapas Das, and Dipankar Biswas, "A Comparative Study of Wet and Dry Capacitance-Voltage (C-V) Profiling of Semiconductor Quantum Wells", *Abs. Proc. of PHOTONICS 2006 organized jointly by University of Hyderabad, Optiwave Photonics and Defence Research Development Organization of India*, held during December 13 – 16, 2006 in Hyderabad, India. pp. 208.
- ❖ Tapas Das, **S. Kumar**, and Dipankar Biswas, "Dependence of the Photoluminescence from InGaN/GaN Quantum Wells on the Fundamental Parameters", *Abs. Proc. of PHOTONICS 2006 organized jointly by University of Hyderabad, Optiwave Photonics and Defence Research Development Organization of India*, held during December 13 – 16, 2006 in Hyderabad, India. pp. 202.
- ❖ **S. Kumar**, Tapas Das, and Dipankar Biswas, "Studies on Capacitance-Voltage (C-V) Profiling of Semiconductor Quantum Wells" *Proc. of the National Seminar on Devices, Circuits & Communication*, held during 2nd – 4th November, 2006 at Birla Institute of Technology, Mesra, Ranchi (Jharkhand), India. pp. 77.
- ❖ Tapas Das, **S. Kumar**, and Dipankar Biswas, "Effect of the bowing parameter and band offset ratio on the photoluminescence of In_xGa_{1-x}N/GaN nanostructures" *Proc. of the National Seminar on Devices, Circuits & Communication*, held during 2nd – 4th November, 2006 at Birla Institute of Technology, Mesra, Ranchi (Jharkhand), India. pp. 85.

- ❖ Dipankar Biswas, Tapas Das and **S. Kumar**, "Extraordinary photoluminescence changes observed in InGaN/GaN Quantum Wells interpreted" *Abs. Proc. of the XXVIIIth General Assembly of International Union of Radio Science (URSI)* October 23-29, 2005, New Delhi, India, pp. 208.
- ❖ Dipankar Biswas, **S. Kumar** and Tapas Das, "Studies on Interdiffusion Induced Changes in the Photoluminescence of $\text{In}_x\text{Ga}_{1-x}\text{As}$ based Quantum Wells and Dots", *Abs. Proc. of the XXVIIIth General Assembly of International Union of Radio Science (URSI 2005)* October 23-29, 2005, New Delhi, India, pp. 207.
- ❖ Dipankar Biswas, **S. Kumar** and Tapas Das, "Band Offsets of $\text{In}_x\text{Ga}_{1-x}\text{N}$ /GaN Quantum Wells Reestimated" *Abstracts, 3rd International Conference on Materials for Advanced Technologies and 9th International Conference on Advanced Materials*, 3 – 8 July 2005, Singapore. [Also published in *Thin Solid Films*]
- ❖ Dipankar Biswas, **S. Kumar** and Tapas Das, "Explanations of the interdiffusion induced changes in the photoluminescence of $\text{In}_x\text{Ga}_{1-x}\text{As}$ /GaAs Quantum Dots" *Abstracts, 3rd International Conference on Materials for Advanced Technologies and 9th International Conference on Advanced Materials*, 3 – 8 July 2005, Singapore.
- ❖ **S. Kumar**, "Influence of annealing and interdiffusion on the luminescence of Quantum Dot Nanostructures", *Abs. Proc. of the 23rd IPS Colloquium for Young Physicist (YPC 2005)*, Saha Institute of Nuclear Physics, Kolkata, India (25 – 26 August, 2005).
- ❖ Dipankar Biswas, Tapas Das and **S. Kumar**, "Explanations for the strange photoluminescence changes in InGaN/GaN quantum wells on annealing" *Proc. of the 7th International Conference on Optoelectronics, Fiber Optics & Photonics*, Cochi, India (9 – 11 Dec, 2004), OMD6.4.
- ❖ Dipankar Biswas, Tapas Das and **S. Kumar**, "Interdiffusion induced changes in the photoluminescence of III-V nanostructures" *Proc. of the 7th International Conference on Optoelectronics, Fiber Optics & Photonics*, Cochi, India (9 – 11 Dec, 2004), OMDP17.
- ❖ Dipankar Biswas and **S. Kumar**, "Effects of Interdiffusion on the Photoluminescence of III-V Nanostructures" *Proc. of National conference on Microwaves and Optoelectronics* (June 29 – 30, 2004), Dr. Babasaheb Ambedkar Marathwada University, Aurangabad, Maharashtra, India. pp. 416.