Curriculum Vitae

ADDRESS

Dr. A. P. GNANA PRAKASH M.Sc., M.Phil., Ph.D., PDF (USA & Taiwan).
Vice-Chancellor, Karnataka State Open University (KSOU), Mysuru
Senior Professor & Former Chairman
Department of Studies in Physics
Former Registrar (Evaluation)
University of Mysore, Manasagangotri
Mysuru-570 006, Karnataka, India
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EDUCATION

1. ***Doctor of Philosophy, Ph.D., (Physics):*** **1997-2002,** Mangalore University, India
   Research Topic: Studies on Effects of High Energy Radiation on N-Channel MOSFETs and NPN Transistors
   Research Guide: Prof. K. Siddappa, Former Vice-Chancellor, Bangalore University
2. ***Master of Philosophy, M.Phil., (Physics):*** **1995-1996,** Gulbarga University, India
   Research Topic: Macromolecular Behavior of Polystyrene
   Specialization: Solid State Physics
3. ***Master of Science, M.Sc., (Physics):*** **1993-1995,** Gulbarga University, India
   Specialization: Solid State Physics

AWARDS AND FELLOWSHIPS

- Sir. C. V. Raman Young Scientist State Award in Physical Sciences from Government of Karnataka (2022)
- Post Doctoral Fellowship, Georgia Institute of Technology, Atlanta, USA (August 2004 to July 2006)
- Post Doctoral Fellowship, National Science Council, Government of Taiwan, ROC (February 2003 to July 2004)
- Student Travel Award from Electrochemical Society, USA to attend International Semiconductor Technology Conference (ISTC-2001), Shanghai, China (2001)
- Senior Research Fellowship awarded from DAE-BRNS, Government of India (1999-2001)
- Junior Research Fellowship awarded from DAE-BRNS, Government of India (1997-1999)

ACADEMIC AND ADMINISTRARTIVE EXPERIENCE

1. 2026-Till Date: Vice-Chancellor, Karnataka State Open Univesity (KSOU), Mysuru (25th June 2026 Onwards)
2. 2025-2026: **Chairman**, Department of Studies in Physics, University of Mysore, Manasagangotri, Mysuru (8th February 2025 to 25th June 2026)

3. 2020-23: **Registrar (Evaluation)**, **Director for Out Reach Programs, Syndicate Member, Academic Council Member, Finance Committee Member, Director for Vijnana Bhavan etc.**, University of Mysore (23rd December, 2020 to 28th March 2023)
4. 2023 onwards: **Senior Professor,** Department of Studies in Physics, University of Mysore, Manasagangotri, Mysuru (14th July 2023 Onwards)
5. 2022-2025: **Chairman**, Board of Studies (BoS) in Physics (UG&PG), University of Mysore, Mysuru (7th December 2022 to 7th December 2025)
6. 2013-2023: **Professor,** Department of Studies in Physics, University of Mysore, Manasagangotri, Mysuru (14th July 2013 to 13th July 2023)
7. 2010-2013: **Associate Professor**, Department of Studies in Physics, University of Mysore, Mysuru (14th July 2010 to 13th July 2013)
8. 2007-2010: **Reader**, Department of Studies in Physics, University of Mysore, Manasagangotri, Mysuru (13th July, 2007 to 13th July 2010)
9. 2006-2007: **Assistant Professor**, Department of Physics, Srinivas Institute of Technology, Mangalore (August 2006-June 2007)
10. 2004-2006: **Post Doctoral Fellow**, School of Electrical and Computer Engineering, Georgia Institute of Technology, Atlanta, GA, USA (August 2nd 2004-July 31st 2006).
11. 2003-2004: **Post Doctoral Fellow**, Department of Physics, National Dong Hwa University, Hualien, Taiwan, ROC (1st February, 2003 to 31st July, 2004).
12. 2002-2003: **Lecturer**, Department of Physics, BMS Institute of Technology, Bangalore.
13. 1999-2002: **Senior Research Fellow (SRF)** – Microtron Accelerator, Department of Physics, Mangalore University, Mangalore.
14. 1997-1999: **Junior Research Fellow (JRF)** – Microtron Accelerator, Department of Physics, Mangalore University, Mangalore.

RESEARCH INTERESTS

- Fabrication of Silicon based semiconductor devices like SiGe HBTs, CMOS, Silicon detectors and other novel devices
- Characterization of semiconductor devices using I-V, C-V, DLTS and other electrical techniques
- Reliability studies on semiconductor devices and circuits
- Low temperature and high temperature studies on semiconductor devices
- High energy radiation effects on semiconductor devices and circuits (space/high energy physics applications)
- Growth and characterization of NLO crystals
- Synthesis of nano-particles and its characterization

HIGHLIGHTS

- Working on IBM SiGe HBTs/BiCMOS devices and circuits reliability/radiation effects issues
- Working with the scientists related to Georgia Institute of Technology, NASA, IBM, Bharath Electronics Limited and other semiconductor groups
- Experience in the field of high energy radiation effects on different semiconductor devices and analyzing the effect of high energy radiation in semiconductors and

semiconductor devices

- Completed 8 sponsored research projects (DST, UGC, DAE-BRNS, IUAC etc)
- 29 years of research/teaching experience at various levels, about 325 publications at reputed international/national journals & conferences
- Teaching experience for Electrical and Computer Engineering graduate students at Georgia Institute of Technology, USA and Physics Courses at BMSIT, Bangalore, SIT, Mangalore and M. Sc courses at University of Mysore
- Presented research papers at Dubai (UAE), Brazil, USA, The Netherlands, Taiwan and China
- Recognized as a Ph.D. guide from Department of Physics and Department of Electronics, University of Mysore
- Recognized as Radiation Safety Officer (RSO) from AERB, Mumbai to handle Co-60 gamma radiation sources

TEACHING COURSES

Magnetic Properties of Materials, Mathematical Methods in Physics (Rotation Groups, Special functions), Semiconductor Devices, Dielectrics and Ferroelectrics, Classical & Quantum Statistics, Continuum Mechanics and Fluid Dynamics, Analog and Digital Electronics.

RESEARCH PROJECTS

1. **TCAD Modeling and Characterization of Hydrogen and Helium ion irradiated MOS and Bipolar Devices (2023-2026)**
   Funding Agency: UGC-DAE Consortium for Scientific Research, Kolkata (Co-Investigator)
   Total Grant: 4 Lakhs

2. **Reliability Study of Semiconductor Devices for Extreme Environment Electronics (2021-2024)**
   Funding Agency: IUAC/UGC, New Delhi (Principal Investigator)
   Total Grant: 10.74 Lakhs

3. **Studies on the Effects of High Energy Proton, Electron and Neutron Irradiation on NPN *RF* Power Transistors, SiGe HBTs and N-Channel MOSFETs (2014-2018)**
   Funding agency: DAE-BRNS, Mumbai (Principal Investigator)
   Total Grant: 30.22 Lakhs

4. **Reliability Study of Silicon-Germanium Heterojunction Bipolar Transistors for Extreme Environment Electronic Applications (2013-2016)**
   Funding agency: DST, New Delhi (Principal Investigator)
   Total Grant: 50.0 Lakhs

5. **Studies on the Growth and Characterization of Technologically Important Nonlinear Optical (NLO) Single Crystals (2012-2015)**
   Funding agency: UGC, New Delhi (Principal Investigator)

Total Grant: 12.5 Lakhs

6. **Synthesis and Characterization of Some Nematic Liquid Crystals (2012-2015)**
   Funding agency: UGC, New Delhi (Co- Investigator)
   Total Grant: 10.3 Lakhs

7. **Studies on the Effects of Hydrogen Ion on Semiconductor Devices (2013-2016)**
   Funding Agency: UGC-DAE Consortium for Scientific Research, Kolkata (Principal Investigator)
   Total Grant: 6.55 Lakhs
8. **Studies on the Effects of High Energy Radiation on NPN RF Power Transistors and N-channel MOSFETs** (2010-2013)
   Funding agency: DAE/BRNS, Mumbai (Co-Investigator)
   Total Grant: 21.05 Lakhs

9. **High-Energy Ion Irradiation Studies on SiGe Heterojunction Bipolar Transistors Using IV/CV/DLTS Techniques (2007-2012)**
   Funding Agency: IUAC/UGC, New Delhi (Principal Investigator)
   Total Grant: 4.13 Lakhs

PhD Students
Completed: 11

1. Dr. R. Manimozhi (28/10/2022)- Synthesis, Characterization and Photocatalytic Applications of Some Metal Oxide Nanocomposites (Physics)
2. Dr. H. M. Gayitri (01/02/2021)- Investigation on Opto-Electrical, Thermal and Morphological Behaviours of Nanostructured Filler Embedded Polymer Nanocomposites (Electronics)
3. Dr. T. M. Pradeep (01/02/2021)- Studies on the Effects of High Energy Radiation on NPN Silicon Transistors and Silicon Solar Cells (Electronics)
4. Dr. B. C. Hemaraju (27/07/2019)- Studies on the Growth and Characterization of Organic and Semi-Organic Single Crystals for Nonlinear Optical Applications (Physics)
5. Dr. Vinayakprasanna Narayana Hegde (23/05/2019)- Reliability Study of Silicon-Germanium Heterojunction Bipolar Transistors for Extreme Environment Electronic Applications (Physics)
6. Dr. M. C. Rajalaxmi (16/11/2018)- Multi-Level Optimization and Efficient Power Comprehensive Schema for Enhancing Lifetime of Large Scale Wireless Sensor Network (Electronics)
7. Dr. M. N. Bharathi (31/10/2017)- An Investigation of High Dose Proton, Electron and Different High Energy Ion Irradiation Effects on the Electrical Characteristics of Silicon NPN Transistors (Electronics)
8. Dr. Y. P. Prabhakara Rao (25/2/2015)- Study of Spectral Response and Radiation Effects on Silicon Photodiodes Fabricated with Different Dielectrics as Anti Reflective Coating (Electronics)
9. Dr. M. N. Ravishankar (11/8/2014)- Synthesis, Growth and Characterization of Non-Linear Optical (NLO) Based Semi-Organic Single Crystals (Physics)

10. Dr. Ahlam Motea Abdo Ali (24/1/2014)- Studies on the Growth and Characterization of Technologically Important Nonlinear Optical (NLO) Crystals (Physics)
11. Dr. K. C. Praveen (9/10/2013)- An Investigation of High Dose Gamma and Ion Irradiation Effects on the Electrical Characteristics of Silicon-Germanium Heterojunction Bipolar Transistors (Physics)

Persuing: 7

12. Ms. Madhura N Talwar (Electronics) - Fabrication of sensors
13. Mrs. Arshiya Anjum (Physics) - Reliability of MOS devices
14. Mrs. M. Supreetha (Electronics) - EM shielding
15. Mrs. Chandrakala (Physics) - Synthesis of nanomaterials
16. Ms. Asha P. Shirni (Physics) - C
17. Mr. H. B. Shiva (Physics) - Synthesis of nanomaterials
18. Mr. M. Darshan (Physics) - Radiation effects on semiconductor devices
19. Mr. M. Lokesh (Physics) - Synthesis of nanomaterials

BOOK: 1

N. Pushpa and **A. P. Gnana Prakash**, ***Application of Pelletron Accelerator to Study Total Dose Radiation Effects on MOS and Bipolar Devices*****,** Lambert Academic Publishing, Germany (ISBN: 978-3-659-92596-2), 2016.

RESEARCH PUBLICATIONS

Refereed International and National Journal Papers: 156 (As on 04-07-2026)
(Citations: 2513, h-index: 26, i10-index: 65)

1. M. Supreetha, Anitha S. Prasad, U. Meghana, M. G. Veena, Pawandeep Kaur, S. Bindya, H. C. Shubhada and **A. P. Gnana Prakash**, "Lightweight, flexible nanocomposite films: PVA/PANI/HNT@ GNP for EMI shielding application", Materials Science and Engineering: B, Vol. 330, pp 119543, July 2026 (DOI: 10.1016/j.mseb.2026.119543). (**Impact factor-5.7**)
   ISSN: 0921-5107; Citations: 0
2. R. Sai Prasad Goud, S. V. S. Nageswara Rao, Arshiya Anjum, **A. P. Gnana Prakash**, A. P. Pathak and Arun Nimmala, "Effects of gamma irradiation and reliability of HfO_2 based RRAM devices", Radiation Effects and Defects in Solids, Vol. 181(1-2), pp 142-151, May 2026. (**Impact factor-1.024**)
   ISSN: 1042-0150; Citations: 0
3. M. Darshan, Arshiya Anjum, N. Pushpa, R. C. Meena, Ambuj Tripathi, **A. P. Gnana Prakash**, "The Effect of 80 MeV Nitrogen Ion Irradiation on NPN Bipolar Junction Transistors at Different Biasing Condition", Radiation Physics and Chemistry, Vol. 247, pp 114004, May 2026 (DOI: https://doi.org/10.1016/j.radphyschem.2026.114004).
   ISSN: 0969-806X; Citation: 0
4. Priya Mittal, Manish Saini, Arshiya Anjum, **A. P. Gnana Prakash**, Vaibhav Kandwal, Govind Gupta, M. Durga Ganesh, Pamu Dobbidi, Srinivasa Rao Nelamarri, "Study of structural stability and photoluminescence behavior of $ZnTiO_3$ thin films using gamma irradiation", Applied Physics A, Vol. 132 (5), pp 371, April 2026.

ISSN: 0947-8396; Citation: 0

5. N. Nagaraja, H. B. Shiva, Asha P. Shirni, Madhura N. Talwar, **A. P. Gnana Prakash**, and N. Pushpa, "Synthesis, characterization and thermoluminescence studies of CaO-SrO nanoparticles for dosimetry application", Journal of Luminescence, Vol. 294, PP 121845, June 2026 (DOI: https://doi.org/10.1016/j.jlumin.2026.121845). (**Impact factor-3.6**)
ISSN: 1872-7883; Citation: 0
6. K. R. Jyothi, B. R. Radha Krushna, I. S. Pruthviraj, G. Sharan Kumar, K. R. Bhagya, **A. P. Gnana Prakash**, and H. Nagabhushana, "Gamma Irradiation Effects on Thermoluminescence and Electrical Properties of Praseodymium-Doped Eucryptite Nanophosphors for Radiation Sensing and Space Applications", Materials Chemistry and Physics, Vol. 353, pp 132052, April 2026 (DOI: https://doi.org/10.1016/j.matchemphys.2026.132052). (**Impact factor-4.7**)
ISSN: 0254-0584; Citations: 0
7. T. P. Jyothi, Karthik Gopal, D. R. Lavanya, **A. P. Gnana Prakash**, and D. V. Sunitha, "Photoluminescence and thermoluminescence properties of Er^{3+} doped $MgGa_2O_4$ nanoparticles: a dual-mode visible-NIR phosphor for optoelectronic and dosimetric applications", RSC Advances, Vol. 16(13), pp 11918–11936, March 2026 (DOI: 10.1039/d5ra08839a). (**Impact factor-4.6**)
ISSN: 2046-2069; Citations: 0
8. Karthik Gopal, D. V. Sunitha, and **A. P. Gnana Prakash**, "PVP-driven surface engineered Ce^{3+} doped Dy_2O_3 nanoparticles for dual mode thermo and photoluminescence studies in TLD, forensic, anti-counterfeiting, and solid-state lighting applications", Nanoscale, Vol. 18 (11), pp 5831-5856, March 2026 (DOI: https://doi.org/10.1039/D5NR03399C). (**Impact factor-5.1**)
ISSN: 2040-3372; Citations: 0
9. Arshiya Anjum, N. Pushpa, J. B. M. Krishna and **A. P. Gnana Prakash**, "Reliability studies on the N-channel MOSFETs under 10 MeV electron irradiation", Nuclear Inst. and Methods in Physics Research, B, Vol. 572, pp 165977, March 2026 (DOI: https://doi.org/10.1016/j.nimb.2025.165977). (**Impact factor-1.4**)
ISSN: 0168-583X; Citations: 0
10. Basavajyothi Khapate, Bhavani Betadur, Madhura N. Talwar, Asha P. Shirni, Milana Nagaraj, Kotresh M. Goudar, **A. P. Gnana Prakash** and N. Pushpa, "Investigation of latent fingerprints on porous and non-porous surfaces using multi-walled carbon nanotube-assisted ZnO nanocomposites" Micro and Nanostructures, Vol. 210, pp 208513, Februaury 2026 (DOI: https://doi.org/10.1016/j.micrna.2025.208513). (**Impact factor-3**)
ISSN: 2773-0123; Citations: 0
11. Madhura N. Talwar, Asha P. Shirni, R. T. Rajendra Kumar and **A. P. Gnana Prakash**, "Highly selective ammonia gas sensor using Ga_2O_3/MoO_3 nanocomposite at ambient atmospheric conditions", Material Science and Engineering: B, Vol. 324, pp 119027, Februaury 2026 (DOI: https://doi.org/10.1016/j.mseb.2025.119027). (**Impact factor-3.9**)
ISSN: 0921-5107; Citations: 01
12. Karthik Gopal, Prasad Gonugunta, Peyman Taheri, D. S. Prem Kumar, A. P. Gnana Prakash and D. V. Sunitha, "High Efficiency Upconversion in PVP Passivated $Dy_2O_3:Er^{3+}$ Nanoparticles Enabling Solid-State Lighting, Radiation Sensing, Forensic Security and Anti-Counterfeiting Applications", Journal of Alloys and Compounds, Vol. 1052, pp 185961, January 2026. (**Impact factor-6.3**)
ISSN: 0925-8388; Citations: 0
13. M. Supreetha, M. G. Veena, B. S. Madhukar, Pawandeep Kaur and **A. P. Gnana Prakash**, "Polycarbonate nanocomposite thin films for EMI shielding: influence of $CeNiO_3$ and graphene nanoplatelets", Journal of Materials Science: Materials in Engineering, Vol. 20(142), pp 01-13, November 2025. (**Impact factor-3.9**)
ISSN: 3004-8958; Citations: 0
14. T. P. Jyothi, Kartik Gopal, D. V. Sunitha, D. Kavyashree, and **A. P. Gnana Prakash**,

"Optical tuning and dual luminescence behavior of $MgGa_2O_4:Dy^{3+}$ for optoelectronic and dosimetric applications", Ceramics International, Vol. 51(26), pp 50644-50657, Novembert 2025. (**Impact factor-5.1**)
ISSN: 0272-8842; Citations: 05

15. Asha P. Shirni, Madhura N. Talwar, K. S. Ashadevi, R. Sai Prasad Goud, Naresh Nalajala, Ganapati V. Shanbhag, S. V. S. Nageswara Rao, and **A. P. Gnana Prakash**, "Highly Porous CeO_2 Nanoparticles for Real-Time Hydrogen Gas Sensing Application at Room Temperature", Nanotechnology, Vol. 36(41), 415503, October 2025. (**Impact factor-2.8**)
ISSN: 1361-6528; Citations: 03
16. K. R. Jyothi, K. R. Bhagya, B. R. Radha Krushna, B. Daruka Prasad, S. C. Sharma, **A. P. Gnana Prakash**, G. Thejas Urs, N. M. Nagabhushana, C. Kavitha, and H. Nagabhushana, "Synthesis, conductivity and anti-counterfeiting applications of neodymium doped $LiAlSiO_4$ nanopowders", Ceramics International, Vol. 51(22), pp 36208-36222, September 2025 (DOI: https://doi.org/10.1016/j.ceramint.2025.05.340). (**Impact factor-5.1**)
ISSN: 0272-8842; Citations: 03
17. D. Prakash Prabhu, S. Ponnukumar, **A. P. Gnana Prakash**, R. Uthrakumar and Mir Wqas Alam, "Solid State Synthesis and Characterization of Novel $MnZr(PO_4)_2$ Materials for Gamma Ray Dosimetry", Journal of Radioanalytical and Nuclear Chemistry, Vol. 334, pp 4087-4096, May 2025 (DOI: https://doi.org/10.1007/s10967-025.10157-4). (**Impact factor-1.5**)
ISSN: 0236-5731; Citations: 01
18. Madhura N. Talwar, Mathankumar Manoharan, B. R. Sweekar, G. Akshatha and **A. P. Gnana Prakash**, "Impact of humidity on hydrothermally synthesised gallium oxide nanoparticles for ammonia gas sensing at room temperature", Material Science and Engineering: B, Vol. 317, pp 118195, March 2025 (DOI: https://doi.org/10.1016/j.mseb.2025.118195). (**Impact factor-3.9**)
ISSN: 0921-5107; Citations: 02
19. Arshiya Anjum, M. Darshan, N. Pushpa, R. C. Meena, Ambuj Tripathi and **A. P. Gnana Prakash**, "100 MeV sulphur ion irradiation effects on N-channel MOSFETs at different biasing conditions", AIP Conf. Proc, Vol. 3198(1), pp 020111, January 2025. (**Impact factor-0.5**)
ISSN: 1551-7616; Citations: 0
20. Madhura N. Talwar, Mathan kumar, Asha P. Shirni and **A. P. Gnana Prakash**, "Effect of humidity on ammonia gas sensing by hydrothermally synthesized gallium oxide nanoparticles", AIP Conf. Proc, Vol. 3198(1), pp 020034, January 2025. (**Impact factor-0.5**)
ISSN: 1551-7616; Citations: 0
21. H. B. Shiva and **A. P. Gnana Prakash**, "Thermoluminescence study of Co-60 gamma irradiated anhydrous polyhalite synthesized using hydrothermal method", AIP Conf. Proc, Vol. 3198(1), pp 020033, January 2025. (**Impact factor-0.5**)
ISSN: 1551-7616; Citations: 0
22. Asha P. Shirni, Milana Nagaraj, Madhura N. Talwar, N. Pushpa and **A. P. Gnana Prakash**, "Modification of the properties of α-Bi_2O_3 nanoparticles using ^{60}Co gamma radiation", AIP Conf. Proc, Vol. 3149, pp 020021-1-6, August 2024. (**Impact factor-0.5**)
ISSN: 1551-7616; Citations: 0
23. Milana Nagaraj, Asha P. Shirni, K. Basavajyothi, **A. P. Gnana Prakash**, and N. Pushpa, "Investigation on the effect of various fuelson the synthesis of strontium oxide nanoparticles", AIP Conf. Proc, Vol. 3149, pp 020020-1-5, August 2024. (**Impact factor-0.5**)
ISSN: 1551-7616; Citations: 01
24. T. M. Pradeep, Kamalan Kirubaharan, N. Arun, Vinayakprasanna N. Hegde, N. Pushpa and **A. P. Gnana Prakash**, "Fabrication and parametric degradation analysis on the silicon heterojunction solar cell under ^{60}Co gamma irradiation", Semiconductors, Vol. 58(6), pp

519-524, August 2024. (**Impact factor-0.5**)
ISSN: 1063-7826; Citations: 0

25. R. Sai Prasad Goud, Mangababu Akkanaboina, Sravani Machiboyina, Kanaka Ravi Kumar, Arshiya Anjum, Saif A. Khan, **A. P. Gnana Prakash**, A. P. Pathak and S. V. S. Nageswara Rao, "A study on the gamma and swift heavy ion irradiation-induced effects on the electrical properties of TaO_x-based MOS capacitors", Nuclear Inst. and Methods in Physics Research, B, Vol. 554, pp 165455, July 2024. (**Impact factor-1.4**)
ISSN: 0168-583X; Citations: 03
26. Madhura N. Talwar, Akshatha Gnagadhar, Mathankumar Manoharan, R. Manimozhi, S. Srikantaswamy, R. T. Rajendra Kumar and **A. P. Gnana Prakash**, "Humidity enhanced ammonia gas sensing by Ga_2O_3/MWCNT nanocomposite at room temperature", Material Science in Semiconductor Processing, Vol. 175, pp 108255, June 2024. (**Impact factor-4.51**)
ISSN: 1369-8001; Citations: 11
27. Kanaka Ravi Kumar, Dipanjan Banerjee, Mangababu Akkanaboina, R. Sai Prasad Goud, Arshiya Anjum, **A. P. Gnana Prakash**, Anand P. Pathak, Venugopal Rao Soma and S. V. S. Nageswara Rao, "New Aspects of Femtosecond Laser Ablation of Si in Water", Journal of Physics: Condensed Matter, Vol. 36(23), pp 235702, March 2024. (**Impact factor-2.7**)
ISSN: 0953-8984; Citations: 04
28. Arshiya Anjum, M. Darshan, N. Pushpa and **A. P. Gnana Prakash**, "An Investigation of ^{60}Co Gamma Radiation Induced Damage in N-channel MOSFETs at Cryogenic Temperature", Radiation Protection Dosimetry, Vol. 200(11-12), pp 1202-1206, January 2024. (**Impact factor-0.95**)
ISSN: 0144-8420; Citations: 01
29. M. Darshan, Arshiya Anjum, N. Pushpa and **A. P. Gnana Prakash**, "^{60}Co Gamma Radiation Effects on NPN Transistor at Cryogenic Temperature", Radiation Protection Dosimetry, Vol. 200(11-12), pp 1183-1188, January 2024. (**Impact factor-0.95**)
ISSN: 0144-8420; Citations: 03
30. Asha P. Shirni, Madhura N. Talwar, B. R. Sweekar and **A. P. Gnana Prakash**, "Influence of ^{60}Co Gamma Radiations on the Structural, Morphological and Optical Properties of Hydrothermally Synthesized MoO_3-CeO_2 Nanocomposite", Radiation Protection Dosimetry, Vol. 200(11-12), pp 1158-1162, January 2024. (**Impact factor-0.95**)
ISSN: 0144-8420; Citations: 0
31. Chandrakala S. Seegur, C. Mallikarjunaswamy, Madhura N. Talwar, Asha P. Shirni and **A. P. Gnana Prakash**, "Latent Fingerprint Imaging Using Irradiated Noval $Ba_2ZnAl_2O_9:Ce^{+2}$ Nanophosphor", Radiation Protection Dosimetry, Vol. 200(11-12), pp 1216-1219, January 2024. (**Impact factor-0.95**)
ISSN: 0144-8420; Citations: 0
32. Madhura N. Talwar, Asha P. Shirni, B. R. Sweekar and **A. P. Gnana Prakash**, "The Effect of ^{60}Co Gamma Iradiation on Hydrothermally Synthesised Ga_2O_3-TiO_2 Nanocomposites", Radiation Protection Dosimetry, Vol. 200(11-12), pp 1173-1177, January 2024. (**Impact factor-0.95)**
ISSN: 0144-8420; Citations: 01
33. K. V. Aneesh Kumar, **A. P. Gnana Prakash**, M. Raghavendra, S. Ningaraju, M. P. Boranna and H. B. Ravikumar, "Comparative study of electron beam and gamma ray irradiation effects in RPC glass detector materials by positron lifetime spectroscopy", Nuclear and Particle Physics Proceedings, Vol. 341, pp 12-14, December 2023. (**Impact factor-0.42**)
ISSN: 2405-6014; Citations: 0
34. Vinayakprasanna N. Hegde, J. D. Cressler and **A. P. Gnana Prakash**, "The effect of electrical stress and thermal annealing on swift heavy ion irradiated SiGe HBTs", Nuclear and Particle Physics Proceedings, Vol. 336-338, pp 37-40, August 2023. (**Impact factor-0.42**)
ISSN: 2405-6014; Citations: 02

35. Vinayakprasanna N. Hegde, T. M. Pradeep, M. N. Bharathi, J. D. Cressler and **A. P. Gnana Prakash**, "Reliability studies on bipolar transistors under different particles radiation", Solid-State Electronics, Vol. 206, pp 108671, August 2023. (**Impact factor-1.916**)
ISSN: 0038-1101; Citations: 07
36. Vinayakprasanna N. Hegde, M. N. Bharathi, T. M. Pradeep and **A. P. Gnana Prakash**, "The Dependence of Proton Energy on the Parametric Degradation in Silicon Bipolar Junction Transistors", Radiation Effects and Defects in Solids, Vol. 178, No.7-8, pp 1012-1024, July 2023. (**Impact factor-1.024**)
ISSN: 1042-0150; Citations: 0
37. Sai Prasad Goud, Mangababu Akkanaboina, Arshiya Anjum, K. Ravi Kumar **A. P. Gnana Prakash**, S. V. S. Nageswara Rao and A. P. Pathak, "Radiation Tolerance and Defect Dynamics of ALD Grown Hf TiO_x Based MOS Capacitors", Radiation Effects and Defects in Solids, Vol. 178, No.1-2, pp 83-93, May 2023. (**Impact factor-1.024**)
ISSN: 1042-0150; Citations: 04
38. M. Rakesh, B. R. Narendra Babu, **A. P. Gnana Prakash**, N. S. Prema, C. Ashwin Gowda, B. S. Madhukar, M. G. Vijay Kashimatt, T. M. Pradeep, B. V. Suresh Kumar, P. Madhusudan, "Fabrication of Lead Zirconate Titanate-Based Polyvinylidene Fluoride Polymer Nano-Composites: Microcrystalline, Morphological and Electrical Studies", Journal of Materials Science: Materials in Electronics, Vol. 34(5), pp 1-15, February 2023. (**Impact factor-2.779**)
ISSN: 0957-4522; Citations: 08
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2. H. Ankitha Kanekal, Arshiya Anjum, M. Darshan, Asha P. Shirni, N. Pushpa, R. C. Meena, Ambuj Tripathi, J. B. M. Krishna and **A. P. Gnana Prakash**, "130 MeV Copper ion and ^{60}Co gamma irradiation impact on electrical characteristics of N-channel depletion MOSFETs", IUAC Annual Report, Page no.108-109, 2023-2024.
3. M. Darshan, Arshiya Anjum, Madhura N. Talwar, N. Pushpa, R. C. Meena, Ambuj Tripathi and **A. P. Gnana Prakash**, "Cryogenic and high temperature effects on NPN transistors irradiated with 150 MeV iron ion", IUAC Annual Report, Page no.109-110, 2023-2024.
4. Arshiya Anjum, M. Darshan, N. Pushpa, R. C. Meena, Ambuj Tripathi and **A. P. Gnana Prakash**, "150 MeV Iron ion irradiation effects on N-channel MOSFETs at low temperature", IUAC Annual Report, Page no.110-111, 2023-2024.
5. Arshiya Anjum, M. Darshan, N. Pushpa, R. C. Meena, Ambuj Tripathi and **A. P. Gnana Prakash**, "Swift heavy ion induced modification at the Si/SiO_2 interface of MOS devices at different gate biasing conditions", IUAC Annual Report, Page no.125-126, 2023-2024.
6. Arshiya Anjum, M. Darshan, N. Pushpa, R. C. Meena, Ambuj Tripathi and **A. P. Gnana Prakash**, "The effect of gate biasing during swift heavy ion irradiation on N-channel depletion MOSFETs", IUAC Annual Report, Page no.131, 2022-2023.
7. M. Darshan, Arshiya Anjum, N. Pushpa, R. C. Meena, Ambuj Tripathi and **A. P. Gnana Prakash**, "Cryogenic temperature effects on NPN transistors irradiated with 80 MeV Nitrogen ion", IUAC Annual Report, Page no.130-131, 2022-2023.
8. Arshiya Anjum, M. Darshan, N. Pushpa, R. C. Meena, Ambuj Tripathi and **A. P. Gnana Prakash**, "A comparison of low temperature and room temperature swift heavy ion irradiation effects on N-channel MOSFETs", IUAC Annual Report, Page no.129-130, 2022-2023.
9. M. Darshan, Arshiya Anjum, N. Pushpa, R. C. Meena, Ambuj Tripathi and **A. P. Gnana Prakash**, "Sulfur ion irradiation studies on PNP transistors at different biasing conditions", IUAC Annual Report, Page no.128-129, 2022-2023.
10. Vinayakaprasanna N. Hegde, T. M. Pradeep, Arshiya Anjum, J. D. Cressler, Ambuj Tripathi and **A. P. Gnana Prakash**, "50 MeV Lithium Ion Irradiation Studies on 200GHz SiGe HBTs at Low Temperature", IUAC Annual Report, Page no.121-122, 2021-2022.
11. T. M. Pradeep, Vinayakaprasanna N. Hegde, Arshiya Anjum, N. Pushpa, Ambuj Tripathi and **A. P. Gnana Prakash**, "The Effects of Swift Heavy Ion Irradiation on Silicon NPN Transistors", IUAC Annual Report, Page no.120-121, 2021-2022.
12. Arshiya Anjum, T. M. Pradeep, Vinayakprasanna N. Hegde, N. Pushpa, Ambuj Tripathi and **A. P. Gnana Prakash**, "Analysis of 140 MeV Copper and 160 MeV Bromine Ion Irradiation Effects on N-Channel MOSFETs", IUAC Annual Report, Page no.116, 2018-2019.
13. T. M. Pradeep, Vinayakaprasanna N. Hegde, N. Pushpa, Ambuj Tripathi and **A. P. Gnana Prakash**, "An In-situ Investigation of Bromine and Copper Ion Irradiation on NPN Transistors", IUAC Annual Report, Page no.113-114, 2018-2019.
14. Vinayakaprasanna N. Hegde, T. M. Pradeep, J. D. Cressler, Ambuj Tripathi, K. Asokan, and **A. P. Gnana Prakash**, "Studies on the Low Temperature Lithium Ion Irradiation Effects on SiGe HBTs", IUAC Annual Report, Page no.139-140, 2017-2018.
15. Vinayakaprasanna N. Hegde, K. C. Praveen, T. M. Pradeep, B. C. Hemaraju, Arshiya Anjum, J. D. Cressler, Ambuj Tripathi, K. Asokan, K.G. Bhushan and **A. P. Gnana Prakash**, "80 MeV Nitrogen Ion Irradiation Effects on DC Electrical Characteristics of 200 GHz SiGe HBTs", IUAC Annual Report, Page no.158-159, 2015-2016.
16. Arshiya Anjum, Vinayakaprasanna N. Hegde, K. C. Praveen, T. M. Pradeep, B. C. Hemaraju, N. Pushpa, Ambuj Tripathi, K. Asokan, J. B. M. Krishna, and **A. P. Gnana Prakash**, "Swift heavy ion induced radiation effects at Si/SiO_2 interface of MOS devices", IUAC Annual Report, Page no.157-158, 2015-2016.
17. T. M. Pradeep, N. H. Vinayakaprasanna, K. C. Praveen, B. C. Hemaraju, Arshiya Anjum, N. Pushpa, K. Asokan, Ambuj Tripathi, K. G. Bhushan and **A. P. Gnana Prakash**, "80 MeV Nitrogen ion irradiation effects on the I-V characteristics of NPN *rf* Power Transistors", IUAC Annual Report, Page no.156-157, 2015-2016.
18. Vinayakaprasanna N. Hegde, K. C. Praveen, T. M. Pradeep, B. C. Hemaraju, Arshiya Anjum,

J. D. Cressler, Ambuj Tripathi, K. Asokan, K. G. Bhushan and **A. P. Gnana Prakash**, "100 MeV Phosphorous Ion Induced Degradation in Electrical Characteristics of Advanced 200 GHz SiGe HBTs: An In-Situ Reliability Study", IUAC Annual Report, Page no.127-128, 2015-2016.

19. T. M. Pradeep, Vinayakaprasanna N. Hegde, K. C. Praveen, B. C. Hemaraju, Arshiya Anjum, N. Pushpa, K. Asokan, Ambuj Tripathi, K. G. Bhushan and **A. P. Gnana Prakash**, "An in-situ Investigation of 100 MeV Phosphorous ion irradiation on the Electrical Characteristics of NPN rf Power Transistors", IUAC Annual Report, Page no.126-127, 2015-2016.
20. K. C. Praveen, N. Pushpa, J. D Cressler, Ambuj Tripati and **A. P. Gnana Prakash**, "Assessment of 50 GHz SiGe HBTs for Harsh Radiation Environment by Heavy Ion Irradiation", IUAC Annual Report, Page no. 215-217, 2010-2011.
21. N. Pushpa, K. C. Praveen, **A. P. Gnana Prakash**, S. K. Gupta, Ambuj Tripati and D. Revannasiddaiah, "The effect of 140 MeV Silicon Ion Irradiation on Subthreshold and Transconductance Characteristics of N-channel Depletion MOSFETs", IUAC Annual Report, Page no. 214-215, 2010-2011.
22. N. Pushpa, K. C. Praveen, **A. P. Gnana Prakash**, Ambuj Tripati, S. K. Gupta and D. Revannasiddaiah, "140 MeV Silicon Ion Irradiation Effects on the I-V Characteristics of NPN RF Power Transistors", IUAC Annual Report, Page no. 213-214, 2010-2011.
23. N. Pushpa, K. C. Praveen, **A. P. Gnana Prakash**, Y. P. Prabhakara Rao, Ambuj Tripati and D. Revannasiddaiah, "Comparison of different LET high energy ion irradiation effects on Si BJTs", IUAC Annual Report, Page no. 203-205, 2009-2010.
24. N. Pushpa, K. C. Praveen, **A.P. Gnana Prakash**, Y. P. Prabhakara Rao, Ambuj Tripati, G. Govindaraj and D. Revannasiddaiah, "The effects of linear energy transfer on degradation of I-V characteristics of N-Channel MOSFETs", IUAC Annual Report, Page no. 201-203, 2009-2010.
25. K. C. Praveen, N. Pushpa, Y. P. Prabhakara Rao, Ambuj Tripati, Somya Gupta, Navakanta Bhat and **A. P. Gnana Prakash**, "Effect of 50 MeV Li^{3+} ion irradiation on 200 GHz SiGe Heterojunction Bipolar Transistors", IUAC Annual Report, Page no. 254-256, 2008-2009.
26. N. Pushpa, K. C. Praveen, **A. P. Gnana Prakash**, Ambuj Tripati, Y. P. Prabhakara Rao and D. Revannasiddaiah, "The Effect of 100 MeV Fluorine Ion Irradiation on Interface and Oxide Trapped Charge of MOS Devices", IUAC Annual Report, Page no. 252-253, 2008-2009.
27. N. Pushpa, K. C. Praveen, **A. P. Gnana Prakash**, Ambuj Tripati, Y. P. Prabhakara Rao and D. Revannasiddaiah, "The Effect of 50 MeV Li^{3+} ion irradiation on generation-recombination centers in SiO_2", IUAC Annual Report, Page no. 253-254, 2008-2009.

Invited Talks/Special Lectures

1. "Raman Effect", Academy of Science and Environmental Education, Mandya, 28 February, 2026.
2. "Modification of Materials and Devices Using High Energy Ionizing Radiations", IUAC Acquaintance Programme, VSK University, Ballari, 15 July, 2025.
3. "Application of High Energy Swift Ions to Study Total Dose Radiation Effects on Nano Engineered SiGe HBTs", Workshop on Ion/Laser Beams in Nano-Science (WINS), Cenre for Nanotechnology, University of Hyderabad, 19-20 February, 2025.
4. "Evaluation of Radiation Hardness of Different Semiconductor Devices for Extreme Radiation Environments using High Energy Ion Accelerators", 8th Internation Conference on Ion Beams in Materials Engineering and Characterization (IBMEC-2024), Inter-University Accelerator Centre, New Delhi, 03-06 December, 2024.
5. "Evaluation of Nano-Engineered SiGe HBTs for Radiation Environments Using High Energy Ion and Electron Accelerators", National Conference on Frontiers of Ion Beam Science (FIBS-2024), 04-07, November 2024, IOP, Bhubaneswar.

6. "Radiation Effcets and Modification of the Properties of Semiconductor Devices", Applications of Radiation and Radioisotopes in Physical, Materials, Chemical and Biological Science Research (DST-STUTI), Mangalore Uniersity, 10-16 October, 2022.
7. "High Energy Swift Heavy Ion Irradiation Effects on Semiconductor Devices", Theme Meeting on Science & Engineering of Materials Using Ion Beams, UGC-DAE CSR/VECC, Kolkata, 16 July, 2021.
8. "Radiation Effects on Semiconductor Devices", Special Lecture, Veerasaiva College, Ballari, 22 February, 2020.
9. "High Energy Swift Heavy Ion Irradiation Effects on Semiconductor Devices", New Trends in Nuclear Reactions and Structure Studies (NTNRS-19), Department of Physics, University of Calicut, 6-7 December, 2019.
10. "Application of Nano-Engineered Semiconductor Devices for Low Temperature, High Temperature and Radiation Environments", International Conference on Recent Advances in Applied Sciences (ICRAAS-2019), Reva University, Bangalore, 17-18 October, 2019.
11. "Application of High Energy Ions to Study Total Dose Radiation Effects on Semiconductor Devices", National Symposium on Application of Radiation, Radiation Environment and Human Health, Department of Studies in Physics, University of Mysore, 19-23 December, 2016.
12. "Application of Pelletron Accelerator to Study High Total Dose Radiation Effects on Semiconductor Devices", International Conference on Ion Beams in Materials Engineering and Characterizations (IBMEC-2016), Inter-University Accelerator Center, New Delhi, 28th September – 1st October, 2016.
13. "Applications of Nano-Engineered Silicon-Germanium Heterojunction Bipolar Transistors for Extreme Environment Electronics", International Conference on Advanced Materials and Technology (ICMAT-2016), Sri Jayachamarajendra College of Engineering, Mysuru, 26-28 May, 2016.
14. "Application of Nano-Engineered Semiconductor Devices for Low Temperature, High Temperature and Radiation Environment", One Day Seminar on Materials Science and Nanotechnology, Vidya Vikas Institute of Engineering & Technology, Mysuru, 29 September, 2015.
15. "Application of Nano-Engineered SiGe HBTs for Extreme Environment Electronics", National Conference on Emerging Trends in Condensed Matter Physics, Bettampady, 5-6 September, 2013.
16. "Analysis of Silicon Germanium HBTs for Extreme Environment Electronics", One Day Workshop on Advanced Materials and their Applications, BMS Institute of Technology (BMSIT), Bangalore, 26 March, 2011.
17. "The Effects of 50 MeV Li^{+3} Ion Irradiation on SiGe Heterojunction Bipolar Transistors", IUAC Acquaintance Program, DOS in Physics, University of Mysore, 24 August, 2010.
18. "The Effects of 63 MeV Hydrogen Ion Irradiation on SiGe Heterojunction Bipolar Transistors", MCIA Workshop, Institute of Physics (IOP), Bhubaneswar, 31 March – 4 April, 2008.

Workshop/Conferences Organized

Chairman, National Symposium on Application of Radiation, Radiation Environment and Human Health, University of Mysore, Mysuru, 20-21 December, 2016.

Workshop/Conferences Attended

1. 10th Bengaluru India Nano, December 5-7, 2018.
2. One day seminar Radiation Physics, Department of Studies in Physics, University of Mysore, May 14, 2016.

3. Radiation-Its Applications in Physical, Chemical and Life Sciences, Mangalore University, June 24-25, 2015.
4. INUP Familiarization Workshop on Nanofabrication Technologies, IISc, Bangalore, January 28-30, 2015.
5. National Workshop on Science with ECR Based KeV Ion Beams, Variable Energy Cyclotron Centre, Kolkata, January 20-21, 2011.
6. IUAC Acquaintance Program, DOS in Physics, University of Mysore, August 24, 2010.
7. One day workshop on Statistical Mechanics in Biological Systems, DOS in Physics, University of Mysore, March 31, 2010.
8. Three-day workshop on Diffraction and Scattering, DOS in Physics, University of Mysore, Feb 26-28, 2010.
9. Three-day Lecture-Workshop on Statistical Thermodynamics, DOS in Physics, University of Mysore, Sept 7-9, 2007.
10. Symposium on Nanotechnology and Smart Materials, PES Institute of Technology, Bangalore, Sept 29, 2007.
11. One day Workshop on Super fluids, Superconductivity and X-ray Crystallography, DOS in Physics, University of Mysore, March 15, 2007.

Resource Person for Refresher Course in Experimental Physics conducted by Indian Academy of Science, Bangalore and National Academy of Science, New Delhi

1. MG University: Nov 16-Dec 3, 2010
2. Mangalore University: June 1-16, 2009
3. Pondicherry University: July 07-23, 2008

Memberships

Member	IEEE, USA
Life member	Semiconductor Society India (SSI) (No. 200807586)
Life member	Indian Society for Radiation Physics (ISRP) (No. 914)
Life Member	Indian Association of Crystal Growth (IACG)-(No. 2010-002)
Life Member	Luminescence Society of India – Karnataka Chapter (LSIKC-No.068)
Life Member	Ion Beam Society of India (IBSI)

Academic/Administrative Experience

Vice-Chancellor	Karnataka State Open University (KSOU), Mysuru	2026-2029
Chairman	DoS in Physics, University of Mysore	2025-26
Chairman	BoS in Physics (UG&PG), Hassan University	2025-28
Member	BoE in Physics, Kuvempu University, Shankarahatta	2025-26
Member	BoS in Physics, Bharathiar University, Coimbatore	2025-27
Member	BoE in Physics, Davanagere University	2025-27

Chairman	BoS in Physics (CB), University of Mysore	2023-26
Member	Governing Body, JSS Womens College, Mysore	2024-26
Member	Governing Body, JSS College, Nangajanagudu	2022-24
Member	NAAC Peer Team	Since 2022
Registrar (Evaluation)	University of Mysore, Mysuru	2020-2023
Member	BOS in Physics, JSS College, Ooty Road	2020-23
Chairman	BOE in Physics, University of Mysore	2020-21
Member	Accelerator User Committee (AUC), Inter University Accelerator Center (IUAC), New Delhi	2019-23
Member	BOS in Physics, St. Philominas College, Mysuru	2019-22
Member	BOS in Physics, University of Mysore	2019-22
Member	BOS, Mandya University	2019-21
Member	BOE in Physics, Davanagere University	2019-20
Member	BOS in Physics & Electronics, Vijayanagara Sri Krishnadevaraya University, Ballari	2019-22
Member	BOS in Physics, Bengaluru North University	2018-20
Member	BOE in Physics, JSS College (PG), Mysuru	2018-20
Member	BOE in Physics, Bengaluru North University	2018-20
Member	BOE in Physics, Kuvempu University	2018-19
Member	BOE in Physics, Tumkur University	2017-18
Member	BOS in Organic Chemistry, University of Mysore	2016-19
Member	BOS in Electronics, University of Mysore	2016-22
Member	Advisory Board, Department of Physics, SIT, Tumkur	2015 to till Date
Chairman	BOE in Physics (PG)	2015-16
Chairman	Admission Committee, DOS in Electronics	2014-16
Member	BOS in Physics, University of Mysore	2013-16
Member	BOS in Physics, Tumkur University	2012-16
Member	Science and Technology of University of Mysore	2007-till date

LABORATORY FACILITIES

Gamma Chamber 1200:

Source: Co-60, Source capacity: 185 TBq 5000 Ci, Dose rate: 6 kGy/hr

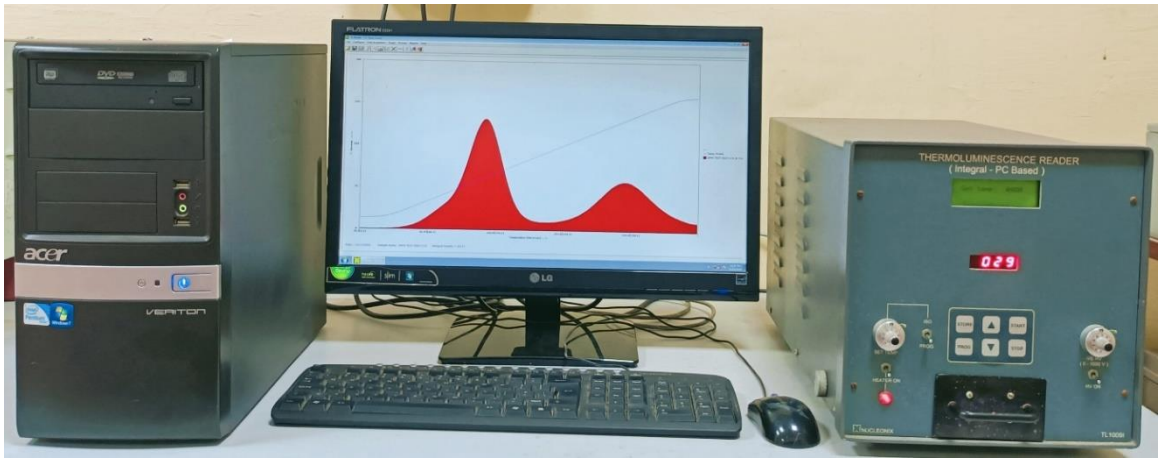
Keighley Dual Channel Source Meter 2636A:

The computer interfaced Keithley dual channel source meter 2636A can be used to characterize any semiconductor devices by DC I-V method.
Voltage range: 200 mV – 200 V and **Current range:** 100 pA – 10 A
Voltage measurement sensitivity: 5 µV and **Current measurement sensitivity:** 20 fA

Hioki -LCR 3532-50 Hitester:

Fifteen parameters can be measured by the instrument: Frequency-42 Hz to 5 MHz

Nucleonix TLD Reader



Micro Controller Based Integral System with PC controlled TL Reader.
Heating rates: 1˚C/s to 5˚C /s, **Max. Set temperature:** 400˚C, **Heating profile:** Linear, plateau heating

High Temperature Furnace (Upto 1000 °C):

High Temperature Oven (Up to 300 °C):

User Form for

Co-60 Gamma Chamber-1200, Keithley Dual SMU (DC), Hioki LCR (AC) and TLD Measurements

To

Dr. A. P. Gnana Prakash
Senior Professor
Department of Studies in Physics
University of Mysore, Manasagangotri, Mysuru -570 006
Phone: 0821-2419606, e-mail: gnanaprakash@physics.uni-mysore.ac.in

Sample Information

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Facilities Required

1) Keithley Dual Source Meter (DC I-V Measurement): Model 2636A &2636B
Number of Samples: .....
Voltage range and steps: ..... V .....steps

2) Hioki LCR Meter (AC Measurement): Model 3532-50
Number of samples: .....
Frequency range and steps: ..... Hz .....steps

3) ^{60}Co Gamma Chamber: Model GC-1200, Dose rate-6kGy/hr, Chamber-1200 CC
Number of samples: .....
Doses required: .....

4) TLD Reader: Nucleonix Model
Number of samples: .....
Temperature Range: .....

Previous experiments using above facilities
Attach details in separate sheet along with the list of publications

User Information

Name of the Principal Investigator: …….....

Designation: …….....……

Department /Institution: ……

Address: …….....…….....

Phone Number: ……..... E-mail Address: ……

Signature & Office Seal Date: