

# **Curriculum Vitae**

## **Contact Address:**

### **Office:**

Dr. Anil Kumar Gourishetty  
Associate Professor,  
Department of Physics,  
Indian Institute of Technology Roorkee  
Roorkee-247667, Uttarakhand, INDIA.

### **Residence**

C-203, Canal View Apartment, 39, Civil  
Lines I. I. T. Roorkee – 247667  
E-mail: anilgfph@iitr.ernet.in  
anilgouri@gmail.com  
Ph: 01332-285133 (O), 285162 (R)  
09458947442 (Mobile)  
Fax: 01332-286662

## **Permanent Address:**

Dr. Anil Kumar Gourishetty  
S/o Sri Goursihetty Sudhakar  
H. No. 13-2-110/1  
Near Jyothi Colony, Matwada  
Warangal - 506 002,  
Telangana, INDIA.



---

## **Working at Dept. of Physics, IIT Roorkee since 3<sup>rd</sup> January 2011**

Also, associated with Centre of Excellence in Disaster Mitigation and Management (CoEDMM).

IIT Roorkee since 2014

## **Research interests:**

- Growth and characterization of scintillators
- Nuclear Astrophysics
- Studies on intrinsic resolution of scintillators
- Development of GEANT4 codes for understanding response of radiation detectors
- Characterization of radiation detectors for different applications
- Radiation induced effects in materials
- Environmental radioactivity

## Research Experience

### Sponsored Research Projects

| S.No. | Title of Project                                                        | Funding Agency  | Financial Outlay | Year of start & total period | Name of P.I. and other investigators                                              | Status      |
|-------|-------------------------------------------------------------------------|-----------------|------------------|------------------------------|-----------------------------------------------------------------------------------|-------------|
| 1     | Studies with new scintillation detectors                                | DST             | 21 lakhs         | 2012 (3)                     | Self ONLY                                                                         | Completed   |
| 2     | Studies on coincidence summing effects in scintillation detectors       | IIT Roorkee     | 4.9 lakhs        | 2012 (3)                     | Self ONLY                                                                         | Completed   |
| 3     | Mapping the low temperature and low spin phase diagram of atomic nuclei | DST Indo-Polish | 13 lakhs         | 2015 (3)                     | Dr. Arumugam (P.I.)<br>Self (Co-P.I.)<br>Prof. I. Mazumdar (Co-P.I.) TIFR, Mumbai | In progress |

### **Post Doctoral Fellow at *Institute of Nuclear Physics, Krakow, Poland*** **(worked with *Prof. Adam Maj*) (Oct 2009 – July 2010):**

- ✓ Detailed GEANT4 simulations of PARIS (Photon Array for studies with Radioactive Ion and Stable beams) array which will be one of the new important detectors for the pan-European facility SPIRAL2, to be located in France.
- ✓ Testing of performance of LaBr<sub>3</sub>:Ce detectors of different sizes
- ✓ Participation in experiments at Heavy Ion Laboratory, Warsaw, Poland
- ✓ Participated in first AGATA experiment at Legnaro National Laboratory, Italy.

### **Post Doctoral Fellow at *Tata Institute of Fundamental Research, Mumbai, India*** **(worked with *Prof. Indranil Mazumdar*) (May 2007 – Oct 2009):**

- ✓ Response of new 4 $\pi$  sum-spin spectrometer consisting of 32 conical NaI(Tl) detectors, 14 NaI(Tl) detectors packed in castle geometry, 7 NaI(Tl) detectors in honeycomb configuration: Experimental measurements and GEANT4 simulations.
- ✓ True coincidence summing correction for large arrays of NaI(Tl) detectors and for a LaBr<sub>3</sub>(Ce) detector: Experimental measurements and GEANT4 simulations.
- ✓ Experimental studies on a LaBr<sub>3</sub>(Ce)-NaI(Tl) phoswich detector for X-ray and low energy  $\gamma$ -ray astronomy.
- ✓ Fold to multiplicity calculations for detector arrays in different configurations.
- ✓ Participated in two experiments
  1. Study of giant dipole resonance decay from hot rotating <sup>192</sup>Pt.
  2. High spin structure of nuclei with A ~ 130.
- ✓ Augmentation of plastic scintillator for cosmic ray shielding using optical fiber.
- ✓ Participated in extensive testing of NaI(Tl) detectors of different sizes, different shapes and related electronics.

**Ph. D. student at Indian Institute of Technology (I. I. T.), Kharagpur**  
**(Supervisor: Prof. S. L. Sharma) (March 2002 – July 2006):**

- ✓ Development of Monte Carlo codes for simulations of response of gas-filled ionization chambers and silicon surface barrier detectors for heavy ions.
- ✓ Computations of ballistic deficits for ionization chamber pulses for CR-RC<sup>n</sup> (n=1-6) shaping network, sine<sup>n</sup> network, ORTEC 472 spectroscopic amplifier, etc.
- ✓ Experiments with a gas-filled ionization chamber and a silicon surface barrier detector in Nuclear Physics Division, Bhabha Atomic Research Center, Mumbai.
- ✓ Low energy alpha induced fusion reactions with 3 MV Pelletron accelerator at Institute of Physics, Bhubaneswar and the data analysis.
- ✓ Experimental studies on gamma radiation induced effects in structural, electrical, optical properties of TeO<sub>2</sub> thin films for radiation sensor and dosimetric applications.

## Education

|                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• <b>Ph. D.</b> in Nuclear Physics<br/>(March 2002- January 2007) at<br/>Indian Institute of Technology,<br/>Kharagpur, India<br/><u>Degree awarded in 2008</u></li> </ul> | <p><b>Thesis Title:</b><br/> <i>“Some studies on important aspects of charged particle spectroscopy with ionization detectors and some aspects of alpha induced fusion reactions with <sup>27</sup>Al”</i> under the supervision of Prof. S. L. Sharma.</p> |
| <ul style="list-style-type: none"> <li>• <b>M. Tech.</b> in Solid State Technology<br/>(Jul. 2000- Jan. 2002) at<br/>Indian Institute of Technology,<br/>Kharagpur, India</li> </ul>                              | <p><b>Project Title:</b><br/> <i>“Simulation of detector response for energetic heavy ions”</i> under the supervision of Prof. S. L. Sharma</p> <p>CGPA: <b>8.91</b> (in a scale of <b>10</b>)</p>                                                          |
| <ul style="list-style-type: none"> <li>• <b>M. Sc.</b> in Physics<br/>(July 1996-July 1998)<br/>Kakatiya University, Warangal,<br/>Andhra Pradesh, India</li> </ul>                                               | <p>Percentage of marks: <b>75%</b></p>                                                                                                                                                                                                                      |
| <ul style="list-style-type: none"> <li>• <b>B. Sc.</b> in Mathematics, Physics and Chemistry<br/>(July 1993- April 1996)<br/>Kakatiya University, Warangal,<br/>Andhra Pradesh, India</li> </ul>                  | <p>Percentage of marks: <b>75%</b></p>                                                                                                                                                                                                                      |

## Professional Experience

- ✓ Currently working as Assistant Professor in the Department of Physics, Indian Institute of Technology Roorkee, Roorkee since 3<sup>rd</sup> January 2011.
- ✓ Two years experience (July 1998 – June 2000) as a lecturer in physics at Chaitanya Degree and Post Graduate College, Hanamkonda. I have also conducted laboratory classes for undergraduate students during this period.

## **Collaborations**

1. PARIS collaboration, Europe
2. BARC, Mumbai
3. TIFR, Mumbai

## **Awards and Honors**

- ✓ Shortlisted in top 15 faculty members at institute level for outstanding teacher award, in 2018, based on student feedback score. Best faculty score obtained till now is 4.57/5

## **Reviewer of journals:**

1. IEEE Transactions on Nuclear Science
2. Journal of Applied Physics
3. Nuclear Instruments and Methods in Physics Research–A
4. Review of Scientific Instruments
5. Journal of Radio analytical and Nuclear Chemistry
6. Pramana-Journal of Physics

## **Teaching, Guidance and Mentorship**

1. Taught EM theory, Special theory of relativity, Nuclear Physics, Modern Physics and Reactor Physics at IIT Roorkee at UG and PG level.
2. Mentored one post doctoral fellow (Dr. Mukesh Prasad) during 2017-18
3. One PhD student (Monalisha Dhibar) has received PhD degree on 10<sup>th</sup> May 2018. The title of her thesis was “Studies in nuclear structure and big bang nucleosynthesis using proton beams”. He co-guide is Prof. Indranil Mazumdar, TIFR.
4. Currently guiding, 4 PhD, 2 M. Tech, 3 M. Sc. and 2 B.Tech. student in their dissertation works.
5. Guided 8 M. Tech. and 10 M.Sc. students in their dissertation works.
6. Mentored 3 students of IIT Kharagpur as part of Alumni mentorship program.

## **Contributions at Institutional level at IIT Roorkee (since 2011):**

- Convener, Institute Lecture Series Committee (January 2014-ongoing). Took lead role in organizing 46 institute lectures.
- Coordinator, Sanskrit club, IIT Roorkee (January 2015- ongoing). Organized 6 guest lectures and 2 workshops.
- Secretary, Indian Physics Association, Roorkee chapter (2011-14 and 2016-ongoing). Organized 16 guest lectures by faculty members and 24 seminars by PhD students.
- Member, ABN school management committee (2015- 2018)
- Member of IPR Chair on Scientific Validation of Traditional Knowledge at IIT Roorkee
- Faculty Advisor, Electronics Section, Hobbies Club (2016-17)
- Program officer, National Service Scheme (2014-15)

## **Additional Information**

- ✓ Secretary, Indian Physics Association (Roorkee Chapter)
- ✓ Member of Institute of Electrical and Electronics Engineers (IEEE) during 2004-2017
- ✓ Life member of International Radiation Physics Society (IRPS)
- ✓ Life member of the Indian Physical Society
- ✓ Life member of the Indian Physics Association (LM-12299)
- ✓ Life member of the Indian Nuclear Society

- ✓ Life member of the Materials Research Society of India (L0839)

### **List of Publications in refereed journals**

1. S Mukesh Prasad, **G. Anil Kumar**, S. K. Sahoo, R. C. Ramola, "Health risks associated with the exposure to uranium and heavy metals through potable groundwater in Uttarakhand state of India", *Journal of Radioanalytical and Nuclear Chemistry*, 319 (2019) 13-21.
2. M. Narsimhulu, **G. Anil Kumar**, G. Bhargavi, B. Srinivas, K. A. Hussain, "*Synthesis, crystal structure, thermal, photoluminescent and magnetic properties of a new material: Na<sub>2</sub>[Ni(C<sub>2</sub>O<sub>4</sub>)<sub>2</sub>(H<sub>2</sub>O)<sub>2</sub>].6H<sub>2</sub>O*", *Journal of Molecular Structure*, 1178 (2019) 155-161.
3. S. Rawat, M. Tyagi, **G. Anil Kumar**, S. C. Gadkari, "Efficiency studies on Gd<sub>3</sub>Ga<sub>3</sub>Al<sub>2</sub>O<sub>12</sub>:Ce scintillators: Simulations and measurements", *IEEE Trans. on Nucl. Sci.*, 65 (2018) 2109-2113.
4. Mukesh Prasad, **G. Anil Kumar**, B. K. Sahoo, R. C. Ramola, "A comprehensive study of radon levels and associated radiation doses in Himalayan groundwater", *Acta Geophysica*, 2018 (In press, <https://link.springer.com/article/10.1007/s11600-018-0135-0>).
5. Mukesh Prasad, Peter Bossew, **G. Anil Kumar**, Rosaline Mishra, R. C. Ramola, "Dose assessment from the exposure to attached and unattached progeny of radon and thoron in indoor environment", *Acta Geophysica*, 2018 (<https://doi.org/10.1007/s11600-018-0111-8>).
6. V. Ranga, S. Rawat, Snigdha Sharma, Mukesh Prasad, S. Panwar, K. Thakur, M. Dhibar, **G. Anil Kumar**, "Intrinsic resolution of Compton electrons in CeBr<sub>3</sub> scintillator using compact CCT". *IEEE Transactions on Nuclear Science* 65 (January 2018) 616-620.
7. M. Dhibar, I. Mazumdar, P. B. Chavan, S. M. Patel, **G. Anil Kumar**, "Characterization of a 2 × 2 array of large square bars of LaBr<sub>3</sub>:Ce detectors with gamma-rays up to 22.5 MeV", *Nucl. Instr. and Meth. in Phys. Res. – A* 883 (2018) 183.
8. S. Rawat, Mohit Tyagi, P. K. Netrakanti, V. K. S. Kashyap, A. Mitra, A. K. Singh, D. G. Desai, **G. Anil Kumar**, S. C. Gadkari, "Pulse shape discrimination properties of Gd<sub>3</sub>Ga<sub>3</sub>Al<sub>2</sub>O<sub>12</sub>:Ce single crystal in comparison with CsI:TI", *Nucl. Instr. and Meth. in Phys. Res. – A* 840 (December 2016) 186-191.
9. M. Dhibar, D. Mankad, I. Mazumdar, **G. Anil Kumar**, "Efficiency calibration and coincidence summing correction for a large volume (946 cm<sup>3</sup>) LaBr<sub>3</sub>(Ce) detector: GEANT4 simulations and experimental measurements", *Applied Radiation and Isotopes* 118 (December 2016) 32-37.
10. K. Hadyńska-Klęk, P. J. Napiorkowski, M. Zielińska, J. Srebrny, A. Maj, F. Azaiez, J. J. Valiente Dobón, M. Kicińska-Habior, F. Nowacki, H. Naïdja, B. Bounthong, T. R. Rodríguez, G. de Angelis, T. Abraham, **G. Anil Kumar**, D. Bazzacco, M. Bellato, D. Bortolato, P. Bednarczyk, G. Benzoni, L. Berti, B. Birkenbach, B. Bruyneel, S. Brambilla, F. Camera, J. Chavas, B. Cederwall, L. Charles, M. Ciemała, P. Cocconi, P. Coleman-Smith, A. Colombo, A. Corsi, F. C. L. Crespi, D. M. Cullen, A. Czermak, P. Désesquelles, D. T. Doherty, B. Dulny, J. Eberth, E. Farnea, B. Fornal, S. Franchoo, A. Gadea, A. Giaz, A. Gottardo, X. Grave, J. Grębosz, A. Görgen, M. Gulmini, T. Habermann, H. Hess, R. Isocrate, J. Iwanicki, G. Jaworski, D. S. Judson, A. Jungclaus, N. Karkour, M. Kmiecik, D. Karpiński, M. Kisieliński, N. Kondratyev, A. Korichi, M. Komorowska, M. Kowalczyk, W. Korten, M. Krzysiek, G. Lehaut, S. Leoni, J. Ljungvall, A. Lopez-Martens, S. Lunardi, G. Maron, K. Mazurek, R. Menegazzo, D. Mengoni, E. Merchán, W. Męczyński, C. Michelagnoli, J. Mierzejewski, B. Million, S.

- Myalski, D. R. Napoli, R. Nicolini, M. Niikura, A. Obertelli, S. F. Özmen, M. Palacz, L. Próchniak, A. Pullia, B. Quintana, G. Rampazzo, F. Recchia, N. Redon, P. Reiter, D. Rosso, K. Rusek, E. Sahin, M.-D. Salsac, P.-A. Söderström, I. Stefan, O. Stézowski, J. Styczeń, Ch. Theisen, N. Toniolo, C. A. Ur, V. Vandone, R. Wadsworth, B. Wasilewska, A. Wiens, J. L. Wood, K. Wrzosek-Lipska, and M. Ziębliński, "Superdeformed and Triaxial States in  $^{42}\text{Ca}$ ", *Phys. Rev. Lett.*, 117 (2016) 062501(1-6).
11. Deepika Choudhury, A. K. Jain, **G. Anil Kumar**, Suresh Kumar, Sukhjeet Singh, P. Singh, M. Sainath, T Trivedi, J. Sethi, S. Saha, S. K. Jadav, B. S. Naidu, R. Palit, H. C. Jain, L. Chaturvedi, and S. C. Pancholi, "Multiple anti-magnetic rotation bands in odd-A  $^{107}\text{Cd}$ ", *Physical Review C*, 87(March 2013) 034304.
  12. I. Mazumdar, D.A. Gothe, **G. Anil Kumar**, N. Yadav, P. B. Chavan, S. M. Patel, "Studying the properties and response of a large volume ( $946\text{ cm}^3$ )  $\text{LaBr}_3\text{:Ce}$  detector with  $\gamma$ -rays up to  $22.5\text{ MeV}$ ", *Nuclear Instruments and Methods in Physics Research – A* 705 (March 2013) 85-92.
  13. Manisha Mohil, **G. Anil Kumar**, "Gamma Radiation Induced Effects in  $\text{TeO}_2$  Thin Films", *Journal of Nano-And Electronic Physics*, Vol. 5, No 2, (May 2013) 02018 (3pp).
  14. K. Hadynska-Klek, P.J. Napiorkowski, A. Majc, F. Azaiez, M. Kicinska-Habior, J.J. Valiente-Dobón, G. de Angelis, T. Abraham, G. Anil Kumar, B.-Q. Arnés, D. Bazzacco, M. Bellato, D. Bortolato, P. Bednarczyk, G. Benzoni, L. Berti, B. Birkenbach, B. Bruyneel, S. Brambillai, F. Camera, J. Chavas, M. Ciemala, P. Cocconi, P. Coleman-Smith, A. Colombo, A. Corsi, F.C.L. Crespi, D.M. Cullen, A. Czermak, P. Désesquelles, B. Dulny, J. Eberth, E. Farnea, B. Fornal, S. Franchoo, A. Gadea, A. Giaz, A. Gottardo, X. Grave, J. Grebosz, M. Gulmini, T. Habermann, R. Isocrate, J. Iwanicki, G. Jaworski, A. Jungclaus, N. Karkour, M. Kmiecik, D. Karpinski, M. Kisielinski, N. Kondratyeva, A. Korichi, M. Komorowska, M. Kowalczyk, W. Korten, M. Krzysiek, G. Lehaut, S. Leoni, A. Lopez-Martens, S. Lunardi, G. Maron, K. Mazurek, R. Menegazzo, D. Mengoni, E. Merchán, W. Meczynski, C. Michelagnoli, J. Mierzejewski, B. Million, P. Molini, S. Myalski, D.R. Napoli, R. Nicolini, M. Niikura, A. Obertelli, S.F. Özmen, M. Palacz, A. Pullia, G. Rampazzo, F. Recchia, N. Redon, P. Reiter, D. Rosso, K. Rusek, E. Sahin, M.-D. Salsac, P.-A. Söderström, J. Srebrny, I. Stefan, O. Stézowski, J. Styczeń, Ch. Theisen, N. Toniolo, C.A. Ur, V. Vandone, R. Wadsworth, B. Wasilewska, A. Wiens, K. Wrzosek-Lipska, M. Zielinska, M. Zieblinski, "Towards the determination of super deformation in  $^{42}\text{Ca}^*$ ", *Acta Physica Polonica B* 44 (March 2011) 617-625.
  15. I. Mazumdar, D.A. Gothe, **G. Anil Kumar**, M. Aggarwal, "Shape transitions and isovector giant quadrupole resonance decay in hot rotating nuclei", *Acta Physica Polonica B* 42 (March 2011) 643-652.
  16. K. Hadynska-Klek, P.J. Napiorkowski, A. Maj, F. Azaiez, J.J. Valiente-Dobon, G. de Angelis, **G. Anil Kumar**, D. Bartolato, D. Bazzacco, P. Bednarczyk, M. Bellato, G. Benzoni, L. Berti, B. Bruyneel, F. Camera, M.Ciemala, P.Cocconi, A. Colombo, A. Corsi, F. Crespi, A. Czermak, B. Dulny, E. Farnea, B. Fornal, S.Franchoo, A.Gadea, A. Giaz, A. Gottardo, X. Grave, J.Grebosz, M.Gulmini, H. Hess, R. Isocrate, G.Jaworski, M. Kicinska-Habior, M. Kmiecik, N. Kondratyev, A. Korichi, W. Korten, G. Lehaut, S.Lenzi, S.Leoni, S.Lunardi, G. Maron, R. Menegazzo, D.Mengoni, E.Merchan, W.Me,czyński, C.Miechelagnoli, P.Molini, D. Napoli, R.Nicolini, M. Niikura, M.Palacz, G. Rampazzo, F.Recchia, N. Redon, P.Reiter, D. Rosso, E. Sahin, J.Srebrny, I. Stefan, O. Stezowski, J.Styczeń, N.Toniolo, C.A. Ur, V. Vandone,

- B.Wadsworth, A.Wiens, K. Wrzosek-Lipska M.Zielińska, M.Zieblinski, "Refinement of  $^{42}\text{Ca}$  level scheme. Preliminary results from the first AGATA demonstrator experiment", *Acta Physica Polonica B* 42 (March 2011) 817-824.
17. I. Mazumdar, **G. Anil Kumar**, D. A. Gothe, R. K. Manchanda, "A  $\text{LaBr}_3(\text{Ce})$ - $\text{NaI}(\text{TI})$  phoswich for X-ray and low energy  $\gamma$ -ray astronomy", *Nuclear Instruments and Methods in Physics Research-A* 623 (November 2010) 995-998.
  18. **G. Anil Kumar**, I. Mazumdar and D. A. Gothe, "Efficiency calibration and coincidence summing correction for large arrays of  $\text{NaI}(\text{TI})$  detectors in soccer-ball and castle geometries" *Nuclear Instruments and Methods in Physics Research-A* 611 (November 2009) 76-83.
  19. **G. Anil Kumar**, I. Mazumdar and D. A. Gothe, "Experiments measurements and GEANT4 simulations for a comparative study of efficiencies of  $\text{LaBr}_3$ ,  $\text{NaI}(\text{TI})$  and  $\text{BaF}_2$ ", *Nuclear Instruments and Methods in Physics Research-A* 610 (November 2009) 522-529.
  20. **G. Anil Kumar**, I. Mazumdar and D. A. Gothe, "Efficiency calibration and simulation of a  $\text{LaBr}_3(\text{Ce})$  detector in close-geometry", *Nuclear Instruments and Methods in Physics Research -A* 609 (October 2009) 183-186.
  21. I. Mazumdar, D.A. Gothe, **G. Anil Kumar**, M. Aggarwal, P. K. Joshi, R. Palit, H. C. Jain, "Search for rare shape transition and GQR decay in hot rotating  $^{188}\text{Os}$  nucleus", *Acta Physica Polonica B* 40 (March 2009) 545-553.
  22. A. Maj, F. Azaiez, D. Jenkins, Ch. Schmitt, O. Stezowski, J.P. Wieleczko, D. Balabanski, P. Bednarczyk, S. Brambilla, F. Camera, D.R. Chakrabarty, M. Chelstowska, M. Ciemala, S. Courtine, M. Csatlos, Z. Dombradi, O. Dorvaux, J. Dudek, M.N. Erduran, S. Ertürk, B. Fornal, S. Franchoo, G. Georgiev, J. Gulyás, S. Harissopoulos, P. Joshi, M. Kicińska-Habior, M. Kmiecik, A. Krasznahorkay, **G. Anil Kumar**, Suresh Kumar, M. Labiche, I. Mazumdar, K. Mazurek, W. Męczyński, S. Myalski, V. Nanal, P. Napiorkowski, J. Peyre, J. Pouthas, O. Roberts, M. Rousseau J.A. Scarpac, A. Smith, J. Strachan, D. Watts, M. Zieblinski, "The PARIS project", *Acta Physica Polonica B* 40 (March 2009) 565-575.
  23. **G. Anil Kumar**, S. L. Sharma and R. K. Choudhury, "Ballistic deficits for ionization chamber pulses in pulse shaping amplifiers", *IEEE Transactions on Nuclear Science* 54 (April 2007) 333-341.
  24. S. L. Sharma, **G. Anil Kumar**, R. K. Choudhury, "Some studies on the pulse-height loss due to capacitive decay in the detector-circuit of parallel plate ionization chambers", *Nuclear Instruments and Methods in Physics Research - A* 566 (October 2006) 540-551.
  25. P. Ganguly, J. C. Biswas, S. K. Lahiri, M. L. Nandagoshami, **G. Anil Kumar**, and S. L. Sharma, "Effects of gamma irradiation on erbium indiffused lithium niobate substrate" *Journal of Optics* 34 (2005) 145-152.
  26. S. L. Sharma, **G. Anil Kumar** and H. N. Acharya, "Optoelectronic properties of mercuric iodide crystals for radiation detection" *Indian Journal of Pure and Applied Physics* 42 (September 2004) 653-665.

### In Conferences/Symposia



1. Efficiency of CeBr<sub>3</sub> detector: Simulations and measurements using a positron emitter, S Panwar, V Ranga, **G. Anil Kumar**, DAE International Symposium on Nuclear Physics (Govt. of India), Vol. 63 (2018) 1198.
2. Study of Compton electrons in LaBr<sub>3</sub>:Ce using compact CCT, S. S. Kaintura, V. Ranga, S. Panwar, P. Sehgal, **G. Anil Kumar**, DAE International Symposium on Nuclear Physics (Govt. of India) Vol. 63 (2018) 1082.
3. Studies on angular correlation of gamma rays using GEANT4, V. Mendiratta, V. Ranga, S. Panwar, **G. Anil Kumar**, DAE International Symposium on Nuclear Physics (Govt. of India), Vol. 63 (2018) 1154.
4. Growth and scintillation properties of Tl doped Lil single crystal: A fast thermal neutron scintillator, Kalyani, S. Rawat, Awadh K. Singh, **G. Anil Kumar**, Mohit Tyagi, DAE International Symposium on Nuclear Physics (Govt. of India), Vol. 63 (2018) 1132.
5. An improvement of the pulse shape discrimination properties of Gd<sub>3</sub>Ga<sub>3</sub>Al<sub>2</sub>O<sub>12</sub>:Ce single crystal scintillator, S. Rawat, Mohit Tyagi, **G. Anil Kumar**, DAE International Symposium on Nuclear Physics (Govt. of India), Vol. 63 (2018) 1130.
6. Gamma ray spectrometric analysis of natural radionuclides in soil of Uttarakhand, India, *Mukesh Prasad*, **G. Anil Kumar**, *R. C. Ramola*, presented in 6<sup>th</sup> International Geo-hazards Research Symposium held during 4-9 March, 2018 in Dresden, Germany.
7. Radiological and chemical risk assessment from the exposure to uranium and heavy metals in drinking water, *Mukesh Prasad*, **G. Anil Kumar**, *R. C. Ramola*, presented in 6<sup>th</sup> International Geo-hazards Research Symposium held during 4-9 March, 2018 in Dresden, Germany.
8. Analysis of natural radionuclides in soil using High Purity Germanium detector based Gamma Ray Spectrometry, *Mukesh Prasad*, V. Ranga, **G. Anil Kumar**, *R. C. Ramola*, presented in International Conference (IARPIC-2018) on "Developments towards Improvements of Radiological Surveillance at Nuclear Facilities and Environment" held during 16-20 January, 2018 at BARC, Mumbai.
9. Studies on effect of coincidence time window on intrinsic energy resolution of NaI(Tl) Detector", V. Ranga, *Snigdha Sharma*, S. Rawat, **G. Anil Kumar**, DAE Symposium on Nuclear Physics (Govt. of India), Vol. 62 (2017) 1108.
10. A new phoswich design of CsI:Tl /GGAG:Ce,B scintillators for pulse shape discrimination", S. Rawat, M. Tyagi, **G. Anil Kumar**, S. C. Gadkari, DAE Symposium on Nuclear Physics (Govt. of India), Vol. 62 (2017) 1106.
11. Pulse shape discrimination properties of boron co-doped GGAG:Ce scintillator for charged particles and gamma rays, S. Rawat, M. Tyagi, Y. K. Gupta, D. C. Biswas, G. K. Prajapati, R. P. Vind, R. V. Jangale, B. V. John, **G. Anil Kumar**, S. C. Gadkari, DAE Symposium on Nuclear Physics (Govt. of India), Vol. 62 (2017) 1110.
12. Efficiency calibration of CeBr<sub>3</sub> scintillator in close-geometry: Simulations and measurements, **G. Anil Kumar**, A. Bhagwat, S. Panwar, *Snigdha Sharma*, V. Ranga, S. Rawat and M. Dhibar, presented in IEEE Nuclear Science Symposium and Medical Imaging Conference held in Atlanta, USA during 21-28 October 2017.
13. Intrinsic resolution of NaI(Tl) using PIXIE-4 data acquisition system, V. Ranga, *Snigdha Sharma*, S. Rawat, M. Dhibar, **G. Anil Kumar**, presented in IEEE Nuclear Science Symposium and Medical Imaging Conference held in Atlanta, USA during 21-28 October 2017.



14. Radiation dose derived from the exposure to attached and unattached progeny of radon and thoron in Garhwal Himalaya. *Mukesh Prasad, Peter Bossew, G. Anil Kumar, Rosaline Mishra and R. C. Ramola, Proc. 13<sup>th</sup> National DAE-BRNS Symposium on Nuclear and Radiochemistry (NUCAR-2017), ISBN : 81-8372-080-3, Page No. 668-669.*
15. The radiological and chemical risk assessment from the exposure to uranium and heavy metals in drinkable groundwater, *Mukesh Prasad, G. Anil Kumar, R. C. Ramola*, presented in 2<sup>nd</sup> National Conference on Radiation Awareness and Detection in Natural Environment (RADNET-II) held during 25-27 September, 2017 in Gurukul Kangri Vishwavidyalaya Haridwar, Uttarakhand, India.
16. A comparative study of radon levels in Himalayan springs and hand pumps using scintillation detector based RnDuo and semiconductor detector based RAD7 monitors, *Mukesh Prasad, G. Anil Kumar, B.K. Sahoo, R. C. Ramola*, presented in 20<sup>th</sup> National Conference on Solid State Nuclear Track Detectors and Their Applications (SSNTDs-20) held during 26-28 October, 2017 at Vidya Vikas Institute of Engineering and Technology, (VVIET), Mysuru, India.
17. Dose assessment from the exposure to thoron and its progeny in the indoor environment, *Mukesh Prasad, G. Anil Kumar, R. C. Ramola*, presented in 20<sup>th</sup> National Conference on Solid State Nuclear Track Detectors and Their Applications (SSNTDs-20) held during 26-28 October, 2017 at Vidya Vikas Institute of Engineering and Technology, (VVIET), Mysuru, India
18. Efficiency studies on  $Gd_3Ga_3Al_2O_{12}$  scintillators: Simulations and measurements, S. Rawat, M. Tyagi, **G. Anil Kumar**, S. C. Gadkari, presented in SCINT-2017 held in France during 18-22 September 2017.
19. Activity Measurements of Co-60 Using Modified Sum-peak Method, S. Rawat, *M. Dhibar and G. Anil Kumar*, 20<sup>th</sup> National Seminar on Crystal Growth and Applications, BARC, Mumbai, (2016) 274.
20. Measurement of cross sections and S factors for  $d(p,\gamma)^3He$  at astrophysically relevant energies, *M. Dhibar, G. Anil Kumar, I. Mazumdar, A. K. Rhine Kumar, S. M. Patel, P. B. Chavan, C. D. Bagdia, K. V. Thulasi Ram, W. A. Fernandes, and L. C. Trivedi*, Proceedings of DAE Symposium on Nuclear Physics (Govt. of India), 61 (2016) 874.
21. Intrinsic resolution of Compton electrons in  $LaBr_3:Ce$  and  $LaCl_3:Ce$  detectors using Compton Coincidence Technique, *Snigdha Sharma, V. Ranga, M. Dhibar, S. Rawat, G. Anil Kumar*, Proceedings of DAE Symposium on Nuclear Physics (Govt. of India), 61 (2016) 1020.
22. Pulse shape discrimination in Boron codoped  $Gd_3Ga_3Al_2O_{12}(Ce)$  and  $CsI(Tl)$ : A comparative study, DAE Symposium on Nuclear Physics (Govt. of India), *S. Rawat, Mohit Tyagi, V. K. S. Kashyap, P. K. Netrakanti, A. K. Singh, D. G. Desai, A. Mitra, G. Anil Kumar, S. Sen, S. C. Gadkari*, 61 (2016) 1064.
23. GEANT4 Simulations and Experimental Measurements of Absolute Source Activity using modified Sum-Peak method, *Monalisha Dhibar, I. Mazumdar, G. Anil Kumar*, presented in 2015 IEEE Nuclear Science Symposium and Medical Imaging Conference, held at San Diego, USA.
24. Studies in Lanthanum Bromide detectors, *I. Mazumdar, S. Basu, P.B. Chavan, D.A. Gothe, S.M. Patel, S. Roy, M. Dhibar, G. Anil Kumar, M.W. Ahmed, A. Kafkarkou, J.M. Mueller, L.S. Myers, M.H. Sykora, H.R. Weller, W.R. Zimmerman*, presented COMEX-5, held at Krakow,

Poland.

25. Observation of rare shape-phase transitions in hot and rotating  $^{192}\text{Pt}$  nucleus, *I. Mazumdar, M. Dhibar, D.A. Gothe, P.B Chavan, G. Anil Kumar, A.K. Rhine Kumar, P. Arumugam*, DAE Symposium on Nuclear Physics (Govt. of India), 60 (2015) 114.
26. Timing measurements with  $\text{LaCl}_3(0.9\%\text{Ce})$  detectors and their application in the measurement of speed of light, *S. Rawat, A. Kamboj, G. Anil Kumar*, DAE Symposium on Nuclear Physics (Govt. of India), Vol. 60 (2015) 1056.
27. Standardization of gamma sources using  $\text{NaI}(\text{Tl})$  and  $\text{LaBr}_3(\text{Ce})$  detectors: Measurements and Simulations, *N.Goel, M. Dhibar, G. Anil Kumar*, DAE Symposium on Nuclear Physics (Govt. of India), 60 (2015) 1024.
28. Close-geometry efficiency calibration of  $\text{LaCl}_3:\text{Ce}$  detectors: Measurements and Simulations, *K. Thakur, S.K. Anand, S. Mittal, Abhishek, M. Dhibar, G Anil Kumar*, DAE Symposium on Nuclear Physics (Govt. of India) 60 (2015) 1034.
29. Characterisation of an array of large square bars of  $\text{LaBr}_3:\text{Ce}$  detectors up to 22.5 MeV, *I. Mazumdar, S. Basu, P.B Chavan, M. Dhibar, D.A Gothe, S.M. Patel, S. Roy, G. Anil Kumar*, DAE Symposium on Nuclear Physics (Govt. of India) 60 (2015) 1082.
30. Growth and characterization of  $\text{SrI}_2:\text{Eu}$  scintillators, *Monalisha Dhibar, G. Anil Kumar, S.G. Singh, S.C. Gadkari*, DAE Int. Symp. on Nuclear Physics (Govt. of India), Vol. 59 (2014) pp. 832-833, BHU, India.
31. First measurement of the response matrix of a large  $\text{LaBr}_3:\text{Ce}$  detector up to 30 MeV at the H $\gamma$ S facility, *I. Mazumdar, M.W.Ahmed, A. Kafkarkou, J.M. Mueller, L.S. Myers, M.H. Sikora, H.R. Weller, W.R. Zimmerman, G Anil Kumar*, DAE Int. Symp. on Nuclear Physics (Govt. of India), Vol. 59 (2014) pp. 860-861, BHU, India.
32. GEANT4 simulation of scintillation response of Xenon gas to low energy gamma-rays, *S. Roy, I. Mazumdar, P.B. Chavan, M. Dhibar, G. Anil Kumar*, DAE Int. Symp. on Nuclear Physics (Govt. of India), Vol. 59 (2014) pp. 994-995, BHU, India
33. True Coincidence Summing Correction in Scintillations Detectors: Measurements and Simulations, *Monalisha Dhibar, Chandan Singh, G. Anil Kumar*, DAE Int. Symp. on Nuclear Physics (Govt. of India), Vol. 58 (2013) pp. 956-957, BARC, Mumbai, India.
34. Gamma radiation induced effects in  $\text{TeO}_2$  thin films, *Manisha Mohil, G. Anil Kumar*, *International Symposium on Semiconductor Materials and Devices*, pp.42-45, January 31 – February 2, 2013, University of Jammu, India.
35. Novel band structure of odd-A  $^{107}\text{Cd}$ , *Deepika Choudhury, A. K. Jain, G. Anil Kumar, Suresh Kumar, Sukhjeet Singh, P. Singh, M. Sainath, T. Trivedi, J. Sethi, S. Saha, S. K. Jadav, B. S. Naidu, R. Palit, H. C. Jain, L. Chaturvedi, R. P. Singh*, DAE Symp. on Nuclear Physics (Govt. of India), Vol. 57 (2012) pp. 258-259, Delhi University, India.
36. First measurement of high energy 22.5 MeV gamma rays in a large  $\text{LaBr}_3:\text{Ce}$  detector, *I. Mazumdar, D. A. Gothe, P. B. Chavan, N. Yadav, G. Anil Kumar*, DAE Symp. on Nuclear Physics (Govt. of India), Vol. 56 (2011) pp. 1104-1105, Andhra University, Vishakhapatnam, India.
37. Search for Jacobi shape transition in hot rotating  $^{88}\text{Mo}$  nuclei with the GDR gamma decay, *M. Ciemala, M. Kmiecik, V.L. Kravchuk, A. Maj, S. Barlini, G. Casini, F. Gramegna, F. Camera, A. Corsi, L. Bardelli, P. Bednarczyk, B. Fornal, G. Anil Kumar, M. Matejska-Minda*,

- K. Mazurek, W. Męczyński, S. Myalski, J. Styczeń, B. Szpak, M. Ziębliński, M. Cinausero, T. Marchi, V. Rizzi, G. Prete, M. Degerlier, G. Benzoni, N. Blasi, A. Bracco, S. Brambilla, F. Crespi, S. Leoni, B. Million, O. Wieland, D. Montanari, R. Nicolini, G. Baiocco, M. Bruno, M. D'Agostino, L. Morelli, G. Vannini, M. Chiari, A. Nannini, S. Piantelli, A. Chbihi, J.P. Wieleczko, I. Mazumdar, O. Roberts and J. Dudek, presented at the Zakopane conference on Nuclear Physics, August 30 – September 5, 2010, Zakopane, Poland.*
38. Studies in LaBr<sub>3</sub>:Ce detectors: Experiments and Simulations, *I. Mazumdar, G. Anil Kumar, D. A. Gothe*, DAE Symp. on Nuclear Physics (Govt. of India), Vol. 55 (2010) pp. 716-717, BITS Pilani, India.
  39. A LaBr<sub>3</sub>(Ce)-NaI(Tl) phoswich for X-ray and low energy  $\gamma$ -rays, *I. Mazumdar, G. Anil Kumar, D. A. Gothe*, DAE Symp. on Nuclear Physics (Govt. of India), Vol. 55 (2010) pp. 718-719, BITS Pilani, India.
  40. GEANT simulation of a new 4-pi sum-spin spectrometer at TIFR, *G. Anil Kumar, I. Mazumdar and D. A. Gothe*, 2008 IEEE Nuclear Science Symposium and Medical Imaging Conference, N17-1, pp. 1640-1642, Dresden, Germany.
  41. Development of a real-time gamma dosimeter of high sensitivity, *S. L. Sharma, T. K. Maity and G. Anil Kumar*, 2008 IEEE Nuclear Science Symposium and Medical Imaging Conference, N02-281, pp. 1066-1068, Dresden, Germany.
  42. Simulation of response and efficiency of a new 4-pi sum-spin spectrometer at TIFR, *G. Anil Kumar, I. Mazumdar and D. A. Gothe*, DAE Symp. on Nuclear Physics (Govt. of India), Vol. 53 (2008) pp. 683-684, Roorkee, India.
  43. The 4-pi sum-spin spectrometer, *I. Mazumdar, D.A. Gothe, G. Anil Kumar, P.K. Joshi, R. Palit, P.B. Chavan, S. Sinha, Y. Arora, and R.D. Chogale*, DAE Symp. on Nuclear Physics (Govt. of India), Vol. 53 (2008) pp. 713-714, Roorkee, India.
  44. GDR decay from hot rotating <sup>192</sup>Pt, *I. Mazumdar, G. Anil Kumar, D. A. Gothe, P. K. Joshi, R. Palit and M. M. Aggarwal*, DAE Symp. on Nuclear Physics (Govt. of India), Vol. 53 (2008) pp. 281-282, Roorkee, India.
  45. Elimination of ballistic deficits for ionization chamber pulses by using trapezoidal pulse shaper, *G. Anil Kumar, S. L. Sharma and R. K. Choudhury*, 2006 IEEE Nuclear Science Symposium Conference Record, N30-56, pp. 1044-1047, San Diego, California, USA.
  46. A simple technique for identifying natural alpha emitters, *S. L. Sharma, G. Anil Kumar and R. K. Choudhury*, 2006 IEEE Nuclear Science Symposium Conference Record, N30-40, pp. 1012-1016, San Diego, California, USA.
  47. Large pulse-height loss due to capacitive decay in the detector-circuit during collection of charges, *S. L. Sharma, G. Anil Kumar, D. C. Biswas and R. K. Choudhury*, 2006 IEEE Nuclear Science Symposium Conference Record, N30-46, pp. 1028-1031, San Diego, California, USA.
  48. Measurements of ballistic deficits for parallel plate ionization chambers, *S. L. Sharma, G. Anil Kumar, D. C. Biswas and R. K. Choudhury*, 2006 IEEE Nuclear Science Symposium Conference Record, N30-48, pp. 1032-1034, San Diego, California, USA.
  49. Some aspects of alpha induced fusion reactions with <sup>27</sup><sub>13</sub>Al, *G. Anil Kumar, S. L. Sharma and R. K. Choudhury*, DAE Symp. on Nuclear Physics (Govt. of India), Vol. 51 (2006), pp.427-428, Baroda, India.

50. Tellurium dioxide thin film as radiation dosimeter, *T. K. Maity, G. Anil Kumar and S. L. Sharma*, DAE Symp. on Nuclear Physics (Govt. of India), Vol. 51 (2006), pp.638-639, Baroda, India.
51. Gamma radiation-induced changes in the electrical properties of tellurium dioxide thin films, *G. Anil Kumar, T. K. Maity, Ashu Kumar and S. L. Sharma*, ICAMMP-2006: International conference on Advances in Materials and Materials Processing, pp. 913-917, I. I. T., Kharagpur.
52. Estimation of ballistic deficits for ionization chamber pulses in pulse shaping amplifiers, *G. Anil Kumar, S. L. Sharma and R. K. Choudhury*, 2005 IEEE Nuclear Science Symposium Conference Record, N2-8, pp. 49-53, Puerto Rico, USA.
53. Simulation of the effect of capacitive decay of detector-circuit on the detector response, *S. L. Sharma, G. Anil Kumar and R. K. Choudhury*, 2005 IEEE Nuclear Science Symposium Conference Record, N35-5, pp. 1248-1252, Puerto Rico, USA.
54. Monte Carlo Simulation of the response of some ionization chambers, *G. Anil Kumar, S. L. Sharma and R. K. Choudhury*, M & C-2005: International Topical meeting on Mathematics and Computation, Supercomputing, Reactor Physics and Nuclear and Biological Applications, American Nuclear Society, pp. 1-10, Avignon, France.
55. Ballistic deficits in main amplifiers with pulse shaping networks for pulses from cylindrical ionization chambers, *G. Anil Kumar, S. L. Sharma and R. K. Choudhury*, DAE Symp. on Nuclear Physics (Govt. of India), Vol. 50 (2005) p.456, Mumbai, India.
56. Some studies on TeO<sub>2</sub> thin films for radiation sensor applications, *T. K. Maity, G. Anil Kumar and S. L. Sharma*, International conference on MEMS and Semiconductor Nano technology, TM-8.3 (2005) pp. 1-5, I. I. T., Kharagpur.
57. Simulation of the response of a cylindrical ionization chamber, *G. Anil Kumar and S. L. Sharma*, DAE Symp. on Nuclear Physics (Govt. of India), Vol. 47B (2004) pp. 590-591, Varanasi, India.
58. Monte Carlo simulation of surface barrier detector, *G. Anil Kumar and S. L. Sharma*, DAE Symp. on Nuclear Physics (Govt. of India), Vol. 46B (2003) pp. 500-501, Mumbai.
59. A novel technique for measurement of natural alpha radioactivity, *S. L. Sharma and G. Anil Kumar*, DAE Symp. on Nuclear Physics (Govt. of India), Vol. 46B (2003) pp. 498-499, Mumbai, India.
60. Optoelectronic properties of mercuric iodide crystals for scintillation spectroscopy, *S. L. Sharma, G. Anil Kumar and H. N. Acharya*, National Conference on Materials and Devices (2003), Bareilly, India.
61. Monte Carlo simulation of ion chamber, *G. Anil Kumar and S. L. Sharma*, DAE Symp. on Nuclear Physics (Govt. of India), Vol. 45B (2002) pp. 454-455, Tirunelveli, India.

**Date: 22.02.2019**

**(Anil Kumar Gourishetty)**