

# Curriculum Vitae

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## 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

- *Experimental Nuclear Physics*: Growth and characterization of scintillation detectors for different applications; Development of GEANT4 Monte Carlo simulation codes for understanding response of radiation detectors
- *Nuclear Astrophysics*
- *Nuclear radiation induced effects in materials*
- *Environmental radioactivity*

## Education

<ul style="list-style-type: none"><li>• <b>Ph. D.</b> in Nuclear Physics (March 2002- June 2006) at Indian Institute of Technology, Kharagpur, India <u>Degree awarded in 2008</u></li></ul>	<b>Thesis Title:</b> <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.
<ul style="list-style-type: none"><li>• <b>M. Tech.</b> in Solid State Technology (Jul. 2000- Jan. 2002) at Indian Institute of Technology, Kharagpur, India</li></ul>	<b>Project Title:</b> <i>“Simulation of detector response for energetic heavy ions”</i> under the supervision of Prof. S. L. Sharma  CGPA: <b>8.91</b> (in a scale of <b>10</b> )

<ul style="list-style-type: none"> <li>• <b>M. Sc.</b> in Physics (July 1996-July 1998) Kakatiya University, Warangal, Andhra Pradesh, India</li> </ul>	Percentage of marks: <b>75%</b>
<ul style="list-style-type: none"> <li>• <b>B. Sc.</b> in Mathematics, Physics and Chemistry (July 1993- April 1996) Kakatiya University, Warangal, Andhra Pradesh, India</li> </ul>	Percentage of marks: <b>75%</b>

### **Professional Experience**

- ✓ Currently working as Associate Professor in the Department of Physics, Indian Institute of Technology Roorkee since 22<sup>nd</sup> December 2018.
- ✓ Worked as Assistant Professor from 23<sup>rd</sup> October 2012 to 21<sup>st</sup> December 2018 in the Department of Physics, Indian Institute of Technology Roorkee.
- ✓ Worked as Assistant Professor (On contract) from 3<sup>rd</sup> January 2011 to 22<sup>nd</sup> October 2012 in the Department of Physics, Indian Institute of Technology Roorkee.
- ✓ 5 months experience (16<sup>th</sup> July 2010 to 15<sup>th</sup> December 2010) as a lecturer in Physics at National Institute of Technology, Warangal, Telangana, India.
- ✓ Two years experience (July 1998 – June 2000) as a lecturer in physics at Chaitanya Degree and Post Graduate College, Hanamkonda, Telangana. I have also conducted laboratory classes for undergraduate students during this period.

### **Research Experience**

#### **Post Doctoral Fellow at *Institute of Nuclear Physics, Krakow, Poland* (worked with *Prof. Adam Maj*) (30<sup>th</sup> September 2009 – 28<sup>th</sup> September 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*) (9<sup>th</sup> May 2007 – 29<sup>th</sup> September 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  $^{192}\text{Pt}$ .
  2. High spin structure of nuclei with  $A \sim 130$ .
- ✓ 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.

**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, 2019 and 2020, based on student feedback score. Best faculty score obtained till now is 4.59/5 (For UG 1<sup>st</sup> year course of 177 students)

**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

## 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.) Self (Co-P.I.) Prof. I. Mazumdar (Co-P.I.)TIFR, Mumbai	Completed
4	IGZO – Flexible Thin Film Transistor (TFT) for Assessing Dose in Proton Therapy: Fabrication, Material Characterization and Correlation to TFT Characteristics	DST-SERB (SUPRA	97.21 lakhs	2021	Dr. Arnab Dutta as PI and myself Co-PI	Submitted
5	A green and physical approach to fabricate bio-based, and biodegradable cost-effective nonwoven agrotexile using Ionizing radiation.	National Technical Textiles Mission, Ministry of Textiles, Govt. of India	88.32 lakhs	2021	Self (P.I.) Dr. P. K. Maji (Co P.I.)  Prof. Y. S. Negi (Co P.I)	Submitted

## Teaching, Guidance and Mentorship

1. Taught EM theory, Special theory of relativity, Nuclear Physics and its Applications, Modern Physics and Reactor Physics at IIT Roorkee at UG and PG level.
2. Mentored one National Post Doctoral Fellow (Dr. Mukesh Prasad) during 2017-18 and presently mentoring one institute post doctoral fellow (Dr. Ashish Kumar).
3. First PhD student (Monalisha Dhibar) has received PhD degree in October 2018. The title of her thesis was “Studies in nuclear structure and big bang nucleosynthesis using proton beams”. Her co-guide is Prof. Indranil Mazumdar, TIFR.
4. Second PhD student (Sheetal Rawat) has received PhD degree in October 2019. The title of her thesis was “Studies on Pulse Shape Discrimination and Efficiency of GGAG:Ce Scintillators”. Her co-guide is Prof. S. C. Gadkari, BARC, Mumbai.
5. Currently guiding, 7 PhD, 1 M. Sc., 2 M.Teh. and 9 B. Tech. students in their dissertation works.
6. Guided 10 M. Tech. and 13 M.Sc. and 16 B. Tech. students in their dissertation works.
7. Mentored 3 students of IIT Kharagpur as part of Alumni mentorship program.

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

- Associate Dean of Students' Welfare (Students' Activities) since 4<sup>th</sup> January 2021
- Convener, Institute Lecture Series Committee (January 2014-ongoing). Took lead role in organizing 85 institute lectures.
- Faculty coordinator, Sanskrit club, IIT Roorkee (January 2015- ongoing). Organized 7 guest lectures and 3 workshops. Overall coordinator "Subhashitam Samskritam", a 5-level online spoken Sanskrit course in association with Samskrita Bharati. Participants were from 30 countries.
- Secretary, Indian Physics Association, Roorkee chapter (2011-14 and 2016-ongoing). Organized 17 guest lectures by faculty members and 24 seminars by PhD students.
- Member, Advisory Committee, Educational Multimedia Research Centre (EMRC), Roorkee (since 2019)
- Ex-chief warden, married hostels and Khosla International House
- 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)
- Overall coordinator of a workshop on "Introduction to Research" for students of IIT Roorkee: Course instructor was Prof. Shreepad Karmalkar, IIT Madras. Date: 12<sup>th</sup> October 2019

### **Contributions to Sanskrit promotion and to Indian Knowledge Systems as a faculty coordinator of Sanskrit club, IIT Roorkee (at institution level)**

- Working as a faculty coordinator of Sanskrit club, IIT Roorkee since 2016.
- Organized 2-day workshops on (1) Ancient Indian Astronomy by Prof. R. N. Iyengar in 2016 (2) How to study Indic sources by Prof. Shrinivasa Varakhedi in 2017 (3) Indic Reasoning and Debating by SVS Pune in 2018.
- Initiated the live performance of Vedic chanting by students during the beginning of annual convocation at IIT Roorkee (since 2017).
- Established library in Sanskrit club with about 60 books on Sanskrit and IKS.
- Organized 6 ten-day spoken Sanskrit classes in association with Samskrita Bharati for the students and faculty of IIT Roorkee.
- Organized 8 guest lectures by eminent academicians on topics related to Sanskrit and IKS.
- Coordinated the events as part of celebration of Sanskrit week since 2016.
- Overall coordinator of **Subhashitam Samskritam**, a 5-level online Sanskrit course from July 2020 to January 2021 in association of with Samskrita Bharati. Around 5100 participants from 30 countries have cleared the level-1. Honorable Minister of Education (then MHRD) has graced the occasion as a chief guest during the concluding ceremony of level-1. The age group of participants was from 8 to 90 years. About 2400 participants continued up to level-5 and cleared level-5. Received an appreciation letter from Honorable Prime Minister Shri Narendra Modi who lauded the efforts of IIT Roorkee in promoting Sanskrit through subhashitams. Several participants offered guru dakshina to IIT Roorkee after the completion of course.
- Currently, the YouTube channel of Sanskrit club has more than 20,600 subscribers, 15 lakhs views and 263 videos.

- After the completion of Subhashitam Samskritam in January 2020, organized a teacher training camp in February 2021 in association with Samskrita Bharati. Around 500 participants were trained to teach Samskritam in various places.
- Played instrumental role in creating SAMARPANAM (acronym for SAMskritaaya ARPANAM), a group of students and faculty from institutions of national importance to promote Sanskrit and coordinated the first ever conclave on Sanskrit organized in September 2020. Currently, the members are from 7 IITs, IISER Pune and IIIT Hyderabad.
- Arranged summer and winter internship for more than 20 B. Tech students and 1 M. Tech student of IIT Roorkee at different IITs and IISc Bengaluru who worked in the fields of Sanskrit and IKS.
- Organized first ever Hackathon in Sanskrit in November 2020 in association with Students Technical Council of IIT Roorkee.
- In October 2020, initiated a project on Sanskrit translator in association with Prof. Ganesh Ramakrishan, IIT Bombay.
- Member of IPR Chair on Scientific Validation of Traditional Knowledge at IIT Roorkee 2016-17.

### **Additional Information**

- ✓ Senior Member of Institute of Electrical and Electronics Engineers (IEEE)
- ✓ Secretary, Indian Physics Association (Roorkee Chapter)
- ✓ 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. Kalyani, Mohit Tyagi, Sheetal Rawat and **G. Anil Kumar**, Performance studies of compact GGAG:Ce,B thermal neutron detector coupled to Si-based photosensors, Pramana-Journal of Physics (2021) *Accepted*.
2. Sanjeet S. Kaintura, V. Ranga, S. Panwar, Kalyani, P. Sehgal, **G. Anil Kumar**, "Energy Resolution of Compton Electrons in LaCl<sub>3</sub>:Ce using Compact Digitizer", Journal of Radioanalytical and Nuclear Chemistry (2021) *Accepted*.
3. R. Sariyal, I. Mazumdar, Y. M. Sharma, S. M. Patel, P. B. Chavan, V. Ranga, S. Panwar, **A. K. Gourishetty**, S. Dubey, "Characterisation of a small volume (1" x 1") CeBr<sub>3</sub> crystal for  $\gamma$ -ray measurements up to 4.4 MeV", Journal of Instrumentation, 16 (2021) T01004
4. Kalyani, Mohit Tyagi, A. K. Singh, Tarun Patel, P. S. Sarkar, S. S. Desai, **G. Anil Kumar**, "Thermal neutron discrimination using a novel phoswich detector of Gd<sub>3</sub>Ga<sub>3</sub>Al<sub>2</sub>O<sub>12</sub>:Ce,B and CsI:Tl single crystals", *IEEE Trans. on Nucl. Sci.*, 67 (2020) 2415-2420.
5. S. Panwar, I. Mazumdar, R. Sariyal, V. Ranga, S. M. Patel, P. B. Chavan, **A. K. Gourishetty**, "Characterization of a Sr co-doped LaBr<sub>3</sub>:(Ce) detector for gamma-ray spectroscopy", *Nucl. Instr. and Meth. in Phys. Res. – A* 982 (2020) 164567.
6. M. Tyagi, S. Rawat, **G. Anil Kumar**, S. C. Gadkari, "A novel versatile phoswich detector consisting of single crystal scintillators", *Nucl. Instr. and Meth. in Phys. Res. – A*, 951 (2020) 162982.

7. Mukesh Prasad, V. Ranga, **G. Anil Kumar**, R. C. Ramola, "Radiological impact assessment of soil and groundwater of Himalayan regions in Uttarakhand, India", *Journal of Radioanalytical and Nuclear Chemistry*, 323 (2020) 1269-1282.
8. S. Rawat, Mohit Tyagi, **G. Anil Kumar**, S. C. Gadkari, and Hong Joo Kim, "The effect of co-doping on pulse-shape discrimination properties of  $Gd_3Ga_3Al_2O_{12}:Ce$  single crystals", *IEEE Trans. on Nucl. Sci.* 66 (2019) 244-2445.
9. I. Mazumdar, M. Dhibar, S.P. Weppner, **G. Anil Kumar**, A.K. Rhine Kumar, S.M. Patel, P.B. Chavan, C.D. Bagdia, L.C. Tribedi, "Studies in nuclear structure and big bang nucleosynthesis using proton beams", *Acta Physica Polonica B* 50 (March 2019) 377-384.
10. 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.
11. M. Narsimhulu, **G. Anil Kumar**, G. Bhargavi, B. Srinivas, K. A. Hussain, "*Synthesis, crystal structure, thermal, photoluminescent and magnetic properties of a new material:  $Na_2[Ni(C_2O_4)_2(H_2O)_2] \cdot 6H_2O$* ", *Journal of Molecular Structure*, 1178 (2019) 155-161.
12. S. Rawat, M. Tyagi, **G. Anil Kumar**, S. C. Gadkari, "Efficiency studies on  $Gd_3Ga_3Al_2O_{12}:Ce$  scintillators: Simulations and measurements", *IEEE Trans. on Nucl. Sci.*, 65 (2018) 2109-2113.
13. 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*, 66 (October 2018) 1223-1231.
14. 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*, 66 (October 2018) 1187-1194.
15. V. Ranga, S. Rawat, Snigdha Sharma, Mukesh Prasad, S. Panwar, K. Thakur, M. Dhibar, **G. Anil Kumar**, "Intrinsic resolution of Compton electrons in  $CeBr_3$  scintillator using compact CCT". *IEEE Transactions on Nuclear Science* 65 (January 2018) 616-620.
16. M. Dhibar, I. Mazumdar, P. B. Chavan, S. M. Patel, **G. Anil Kumar**, "Characterization of a  $2 \times 2$  array of large square bars of  $LaBr_3:Ce$  detectors with gamma-rays up to 22.5 MeV", *Nucl. Instr. and Meth. in Phys. Res. – A* 883 (2018) 183.
17. 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  $Gd_3Ga_3Al_2O_{12}:Ce$  single crystal in comparison with  $CsI:Tl$ ", *Nucl. Instr. and Meth. in Phys. Res. – A* 840 (December 2016) 186-191.
18. M. Dhibar, D. Mankad, I. Mazumdar, **G. Anil Kumar**, "Efficiency calibration and coincidence summing correction for a large volume ( $946 \text{ cm}^3$ )  $LaBr_3(Ce)$  detector: GEANT4 simulations and experimental measurements", *Applied Radiation and Isotopes* 118 (December 2016) 32-37.
19. 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. Gørgen, 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).
20. 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.
21. 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 MeV", *Nuclear Instruments and Methods in Physics Research – A* 705 (March 2013) 85-92.
22. 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).
23. 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. Ciemała, 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.
24. 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.
25. 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. Merchán, W. Męczyński, C. Michelagnoli, 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. Stézowski,

- 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.
26. I. Mazumdar, **G. Anil Kumar**, D. A. Gothe, R. K. Manchanda, “A  $\text{LaBr}_3(\text{Ce})\text{-NaI(Tl)}$  phoswich for X-ray and low energy  $\gamma$ -ray astronomy”, *Nuclear Instruments and Methods in Physics Research–A* 623 (November 2010) 995-998.
  27. **G. Anil Kumar**, I. Mazumdar and D. A. Gothe, “Efficiency calibration and coincidence summing correction for large arrays of  $\text{NaI(Tl)}$  detectors in soccer-ball and castle geometries” *Nuclear Instruments and Methods in Physics Research–A* 611 (November 2009) 76-83.
  28. **G. Anil Kumar**, I. Mazumdar and D. A. Gothe, “Experiments measurements and GEANT4 simulations for a comparative study of efficiencies of  $\text{LaBr}_3$ ,  $\text{NaI(Tl)}$  and  $\text{BaF}_2$ ”, *Nuclear Instruments and Methods in Physics Research–A* 610 (November 2009) 522-529.
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