

BIO-DATA OF DR. BHAJAN SINGH

1. **Name** : Bhajan Singh
 2. **Designation** : Professor
 3. **Department** : Physics
 4. **Date of Birth** : 16-04-1954
 5. **Address for correspondence** : Physics Department,
 Punjabi University,
 Patiala-147002.



Telephone : 0175 5083513
Mobile : 9417002276

E-mail : bhajan@pbi.ac.in,
bhajan2k1@yahoo.co.in

6. **Areas of Specialisation** : Experimental Nuclear
 Radiation Physics
 Medical Physics

7. Academic Qualifications after B.Sc.:

S. No.	Degree Held	Year	Univ./ Inst.	% of marks	Div./ Rank
1	Post B.Sc. diploma in maintenance and servicing of electronic instruments	1976	P.U. Patiala	66.1%	First
2	M.Sc. Applied Physics	1978	P.U. Patiala	64.7%	First
3	M.Phil.	1979	P.U. Patiala	B+ grade	First
4	Ph.D.	1983	P.U. Patiala		
5	Certificate Course in French	1980	P.U. Patiala	70%	First
6	Certificate Course in Russian	1981	P.U. Patiala	56%	2nd
7	Certificate Course in Urdu Script	2001	NCPUL HRD, New Delhi		Passed

8. Membership of Professional Bodies/Organisations

- i) Member: International Society of Radiation Physics.
 ii) Life Member: Indian Society for Radiation Physics.
 iii) Member: International Scientific Network Society, Rome, Italy.
 iv) Life Member: Indian Association for Radiation Protection,

- v) Life Member: B.A.R.C. Bombay.
India Chapter of Abdus Salam International Centre for Theoretical Physics (Italy), New Delhi.
- vi) Life Member: Indian Society for Atomic and Molecular Physics.
- vii) Life Member: Nuclear Track Society of India. 191.
- viii) Life Member: Punjab Science Congress, Patiala LM-418.
- ix) Life Member: Association of Medical Physicists of India LM-1584.

9. Medals/Awards/Honours/Received

- i) University Medal for standing first in Post B.Sc. Diploma in Maintenance and Servicing of Electronic Instruments, Punjabi University, Patiala. 1976
- ii) 2nd position in M.Sc. Applied Physics, Punjabi University, Patiala. 1978

10. Details of Experience:

S. No.	Name of the Inst./Employer	Position held	Duration	Major job responsibilities and Nature of experience
1.	Punjabi University, Patiala	JRF	1978-80	Research
2.	Punjabi University, Patiala	Research Assistant	1980-86	Research and Teaching
3.	Punjabi University, Patiala	Lecturer	1986-98	Teaching & Research
4.	Punjabi University, Patiala	Reader	1998	Teaching & Research
5.	Punjabi University, Patiala	Professor	Since 2006	Teaching & Research

11. Published Work (List of papers attached)

- a. Research Papers in International/National Journals 115
- b. Full papers in the proceedings of International / National Conference / Seminar/Presentation 55
- c. Abstracts in Conference/Seminar/Workshop 152
- d. Articles in Books 04
- e) International/National conferences attended 77

12. Research & Development Projects

- i). UGC (1984-88). F 10-14/84 (SR-III), July 26. 1984.
Investigation of energy and intensity distribution of multiple photons Compton scattered gamma rays.
- ii) CSIR (1987-90). 3(612)/87, EMR-II, May, 1987.
Multiple scattering in Compton effect.

- iii) UGC (1988-90). F 8-6(34)/88 (SR-II), May 31, 1988.
Elemental analysis by Compton scattering.
- iv) CSIR (1991-1994). 3(682)/89 EMR-II, Feb. 21, 1990.
Non-destructive **ਬਲਾਸਮਾਈਟਿਕ** analysis by Compton scattering techniques.
- v) UGC (1993-1997). F 10-86/90, RBB-II, June 2, 1993.
Energy and Intensity distribution of gamma rays Compton scattered from inner shell electrons.
- vi) Reference Dosimetry in proton therapy, in collaboration with Physics Department, University of Ferrara. Ferrara, Italy (1996-97).
- vii) UGC Minor Project, (1998-2000) 1779-97/S-1/PMU/759,
Rayleigh and Compton scattering as a tool for elemental analysis.
- viii) UGC (2004-2008), F.10-10/2004 (SR).
Investigation of double photon Compton scattering using single gamma ray detector.

13. Popular Articles

- i) Nuclear Radiations in daily life.
D.P. Singh and Bhajan Singh
Invention Intellegence, Oct, 1994,
- ii) Peaceful Applications of Nuclear Radiations
D.P. Singh and Bhajan Singh
Advance, Jan/March, 1998.
- iii) Noise Pollution: causes, effects and prevention (in Punjabi),
D.P. Singh and Bhajan Singh
Yojana, June, 1999.
- iv) ਕਿਹੋ ਜਿਹੇ ਹੁੰਦੇ ਹਨ ਰੇਡੀਏਸ਼ਨ ਦੇ ਪ੍ਰਭਾਵ
ਭਜਨ ਸਿੰਘ
ਅਜੀਤ (ਪੰਜਾਬੀ ਅਤੇ ਹਿੰਦੀ), ਮਾਰਚ, 30, 2011.
- v) Gravitational Waves:
Bhajan Singh
Udaan Magazine

14. Invited Talks/Articles.

- i) Basics of Computers (Department of Statistics, P.U.P.).
- ii) Basics of Information Technology (Department of Statistics, P.U.P.).

- iii) The role of Compton scattering for non-destructive testing of materials
National Conference on Advanced materials and Radiation Physics,
Longowal, India, 9-10, March (2009).
- iv) Experimental investigation of double photon Compton scattering at 662
keV gamma rays
18th National Symposium on Radiation Physics, Udaipur, (2009).
- v) Study of Compton scattering of gamma rays from atomic electrons
National Conference on Atomic, Molecular and Nuclear Physics,
Ghaziabad, India, November 05-07 (2009).
- vi) Applications of Photon Scattering Technique in Medical Sciences.
16th Punjab Science Congress, Baba Farid University of Health
Sciences, Faridkot, Feb. 7-9, (2013).

15. Extension Lectures

Acted as Resource person at the following courses:

- i) **Basics of Computers** in Department of Statistics, Punjabi
University Patiala (2002).
 - ii) **Basics of Information Technology** in Department of
Statistics, Punjabi University Patiala (2002).
 - iii) Practical Laboratory at U.G.C. Sponsored Three week
Refresher Course in Physics on **Laser Physics, Optical
Technology and Radiation Physics** organized by
Department of Physics, Punjabi university, Patiala, May 17
to June 5, 1999.
 - iv) Practical Laboratory at U.G.C. Sponsored Three week
Refresher Course in Physics on **Contemporary Physics**,
organized by Department of Physics, Punjabi university,
Patiala, 18th October to 6th November, 1999.
1. GAMMA RAY SCATTERING TECHNIQUES & THEIR APPLICATIONS, DAV
college, Jallandar, 2006
 2. *MATTER , RADIATIONS AND THEIR INTERACTION, Ferozpur, 2008.*
 3. *INTERACTION OF RADIATION S WITH MATTER, Govt. College Ludhiana,
2007.*
 4. *STUDY OF COMPTON SCATTERING OF GAMMA RAYS FROM ATOMIC
ELECTRONS, Gaziabad, 2009*

5. *RADIATION EFFECTS & APPLICATIONS*, G.H. G. Khalsa College, Ludhiana, 2009
6. *RADIATIONS , INTERACTION AND DETECTION*, Khalsa College for women, Ludhiana, 2008.
7. *INTERACTION OF RADIATION S WITH MATTER*, Khalsa College for women, Ludhiana, 2007.
8. The role of Compton scattering for non-destructive testing of materials, SLIET, Longowal, 2009
9. *Experimental investigation of double photon Compton scattering at 662 keV gamma rays*, ML Sukhadia, University, Udaipur, 2009
10. *NUCLEAR RADIATIONS & THEIR APPLICATIONS*, Science College, Jagraon, 2011
11. *APPLICATIONS OF RADIATIONS IN MEDICAL SCIENCES*, GHG Khalsa College, Guru Sar Sudhar, 2012.
12. *APPLICATIONS OF RADIATIONS IN MEDICAL SCIENCES*, Govt Science College, Jagraon, 2012.
13. *APPLICATIONS OF RADIATIONS IN APPLIED SCIENCES*, PTU Giani Zail Singh College, Bathinda, 2012.
14. *APPLICATIONS OF RADIATIONS IN MEDICAL SCIENCES*, Govt. Polytechnic College, Patiala, 2012.
15. *APPLICATIONS OF RADIATIONS IN MEDICAL SCIENCES*, Academic Staff College, Punjabi University, Patiala, 05.03.2012. (Refresher Course).
16. *RADIATIONS, THEIR ORIGIN AND APPLICATIONS*, Academic Staff College, Punjabi University, Patiala, 12.10.2012. (Orientation Course).
17. *APPLICATIONS OF RADIATIONS*, Academic Staff College, Punjabi University, Patiala, 16.10.2012. (Orientation Course).

18. *RADIATIONS IN APPLIED SCIENCES, Mata Gujri College, Fatehgarh sahib, 17.10.2012.*
19. *NUCLEAR ENERGY AND OTHER ENERGY OPTIONS, Khalsa College Patiala, 22.11.2012.*
20. *CLEAN ENERGY OPTIONS AND NUCLEAR ENERGY, Academic Staff College, Punjabi University, Patiala, 05.12.2012. (Refresher Course).*
21. *RADIATIONS, THEIR ORIGIN AND APPLICATIONS, INSPIRE Programme, Asian Institutes, Patiala, 07.01.2013.*
22. *RADIATIONS, THEIR ORIGIN AND APPLICATIONS, MLN College, Yamuna Nagar, Haryana, 11.01.2013.*
23. *APPLICATION OF PHOTON SCATTERING METHOD IN THE FIELD OF MEDICAL SCIENCES, 16th Punjab Science Congress, Faridkot, 08.02.2013.*
24. *RADIATIONS, THEIR ORIGIN AND APPLICATIONS, Academic Staff College, Punjabi University, Patiala, 14.02.2013. (Refresher Course).*
25. *RADIATIONS, THEIR ORIGIN AND APPLICATIONS, Govt. Science College, Jagraon, 23.02.2013.*
26. *RADIATIONS, THEIR ORIGIN AND APPLICATIONS, Academic Staff College, Punjabi University, Patiala, 10.05.2013. (Orientation Course).*
27. *RADIATIONS, THEIR ORIGIN AND APPLICATIONS, Academic Staff College, Punjabi University, Patiala, 18.05.2013. (Orientation Course).*
28. *RADIATIONS, THEIR ORIGIN AND APPLICATIONS, Academic Staff College, Punjabi University, Patiala, 24.10.2013. (Orientation Course).*
29. *NUCLEAR RADIATIONS; HEALTH HIZARDS AND APPLICATIONS, INSPIRE Programme, Asian Institutes, Patiala, 16.11.2013.*
30. *NUCLEAR DISASTER MANAGEMENT AND ALLIED AREAS, Academic Staff College, Punjabi University, Patiala, 16.11.2013. (Orientation Course).*
31. *RADIATIONS AND THEIR APPLICATIONS, Academic Staff College, Punjabi University, Patiala, 17.02.2014. (Orientation Course).*

32. *RADIATIONS AND THEIR APPLICATIONS, Academic Staff College, Punjabi University, Patiala, 11.04.2014. (Orientation Course).*
33. *RADIATIONS AND THEIR APPLICATIONS, Academic Staff College, Punjabi University, Patiala, 18.04.2014. (Orientation Course).*
34. *RADIATIONS AND THEIR APPLICATIONS, Academic Staff College, Punjabi University, Patiala, 25.05.2014. (Orientation Course).*
35. *RADIATIONS AND THEIR APPLICATIONS, Academic Staff College, Punjabi University, Patiala, 09.06.2014. (Orientation Course).*
36. *RADIATIONS AND THEIR APPLICATIONS, Academic Staff College, Punjabi University, Patiala, 10.06.2014. (Orientation Course).*
37. *EFFECTS AND APPLICATIONS OF RADIATIONS, INSPIRE-2014: DST Programme, ISF College of Pharmacy, MOGA. 28.10.2014.*
38. *Investigation of Double Photon Compton Scattering Process, National Physics Conference (NPC-01), PG Department of Physics, Khalsa College, Patiala. 30th Oct. (2014).*
39. *RADIATIONS AND THEIR APPLICATIONS, Academic Staff College, Punjabi University, Patiala, 13.11.2014. (Orientation Course).*
40. *RADIATIONS AND THEIR APPLICATIONS, Academic Staff College, Punjabi University, Patiala, 06.12.2014. (Orientation Course).*
41. *RADIATIONS, THEIR ORIGIN AND APPLICATIONS, 48th Academic Staff College, Punjabi University, Patiala, 09.12.2014. (Refresher Course).*
42. *RADIATION, ITS EFFECTS AND APPLICATIONS, Department of Stat., Mathe and Physics, Punjab Agriculture University, Ludhiana, 11.12.2014.*
43. *EFFECTS AND APPLICATIONS OF RADIATIONS, INSPIRE-2014: DST Programme, ASIAN INSTITUTE, PATIALA. 13.12.2014.*
44. *RADIATIONS, THEIR ORIGIN AND APPLICATIONS, 49th Academic Staff College, Punjabi University, Patiala, 25.02.2015. (Refresher Course).*
45. *Radiation Pollution, Academic Staff College, Punjabi University, Patiala, 25.02.2015. (Orientation Course).*

46. *Radiation Pollution, Academic Staff College, Punjabi University, Patiala, 02.06.2015. (Refresher).*
47. *Radiation Pollution, Academic Staff College, Punjabi University, Patiala, 04.06.2015. (Orientation Course).*
48. *Radiation Pollution, Academic Staff College, Punjabi University, Patiala, 26.06.2015 (Summer School).*
49. *Radiation Pollution, Academic Staff College, Punjabi University, Patiala, 04.07.2016.*
50. *Radiation Awareness, Khalsa College, Anandpur Sahib 12.09.2015 (Extension Lecture).*
51. *Radiation Awareness, Baba Farid College, Deon, 29.09.2015 (Extension Lecture).*
52. *Radiation Awareness, ISF College of Pharmecy, Moga, 30.09.2015 (INSPIRE PROGRAMME).*
53. *Radiation Pollution, Academic Staff College, Punjabi University, Patiala, 16.10.2015. (Orientation Course).*
54. *Radiation Pollution, Academic Staff College, Punjabi University, Patiala, 08.12.2015. (Winter School).*
55. *Radiation Awareness, G.H.G. Khalsa College, Guru Sar Sudhar, 10.09.2015 (Extension Lecture).*
56. *Radiation Awareness, Relevance of Environmental issues and sustainable Development, HRDC. PUP 26.06.2015 (Orientation Course).*
57. *Radiation Awareness, Relevance of Environmental issues and sustainable Development, HRDC. PUP 04.07.2015 (Seminars).*
58. *Radiation Awareness, S.D. College Ambala Cantt. (Haryana), 27.02.2016 (Inaugural Address).*
59. *Radiation Awareness, Govt. Science College, Jagraon, 12.03.2016 (Invited Lecture).*

60. *Radiation Awareness*, Physics Department, PAU, Ludhiana, 28.03.2016 (Invited Lecture).
61. *Radiation Awareness*, Mata Sahib Kaur Girls College, Talwandi Sabo, 05.04.2016 (Keynote Address).
62. *Radiation Awareness*, M.Sc. students, Physics Deptt. PUP, 05.04.2016 (Popular Lecture).
63. *Radiation Awareness*, HRDC. PUP 05.05.2016 (Orientation Course).
64. *Mobile Communication*, HRDC. PUP 11.05.2016 (Orientation Course, Test).
65. *Radiation Awareness*, HRDC. PUP 22.06.2016 (Summer School).
66. *Radiation Awareness*, HRDC. PUP 25.06.2016 (Orientation Course).
67. *Radiation Awareness*, Shanti Devi Arya Mahila College, Dinanagar, Gurdaspur, 22.10.2016, (INSPIRE Programme).
68. *Radiation Awareness*, HRDC. PUP 19.11.2016 (31st Orientation Course).
69. *Radiation Awareness*, Shanti Devi Arya Mahila College, Dinanagar, Gurdaspur, 25.11.2016, (INSPIRE Programme).
70. *Meditation*, HRDC. PUP 26.11.2016 (31st Orientation Course).
71. *Air Pollution*, HRDC, PUP 10.12.2016 (4th winter school).
72. *Meditation*, HRDC. PUP 17.12.2016 (57th Refresher course in IT).
73. *Meditation*, HRDC, PUP 10.12.2016 (4th winter school).
74. *Air Pollution*, HRDC, PUP 19.12.2016 (57th Refresher course in IT).
75. *Radiation Pollution*, HRDC, PUP 05.01.2017 (58th Refresher Course in Research Methodology in Physical and Life Sciences).
76. *Radiation Awareness*, Mata Ganga Khalsa College for Girls, Kottan, Khanna. 27.02.2017. On National Science Day.

77. *Radiation Awareness*, 32nd Orientation Course, HRDC, PUP, 16.05.2017.
78. *Meditation*, 32nd Orientation Course, HRDC, PUP, 17.05.2017.
79. *Radiation Awareness*, HRDC, PUP 19.05.2017 (60th Refresher Course on Emerging Trends on Information Technology).
80. *Radiation and Awareness*, HRDC, PUP 10.06.2017 (33rd Orientation Course, HRDC, PUP
81. *Radiation and Awareness*, HRDC, PUP 17.06.2017 (33rd Orientation Course, HRDC, PUP
82. *Need for Radiation and Awareness*, HRDC, PUP 05.07.2017 (4th Summer School Course for the College and University Teachers of diverse discipline).
83. *Radiation Awareness*, Lyallpur Khalsa College, Jalandhar, 10.11.2017, (INSPIRE Programme).
84. *Radiation Detectors*, Akal University, Talwandi Sabo, 04.12.2017.
85. *Radiation Awareness*, HRDC, PUP, 16.01.2018, (34th Orientation course).
86. *Radiation Awareness*, HRDC, PUP, 03.02.2018, (35th Orientation course).
87. *Radiation Awareness*, HRDC, PUP, 23.05.2018, (36th Orientation course).

16. Ph.D. students guided/under guidance (Details)

- i) B.S.Sandhu (1988)
Investigation of energy and intensity distribution of double photon Compton scattered gamma rays.
- ii) Jagjit Kaur (1993)
Measurement of Compton Scattering of Gamma rays from bound electrons at intermediate energies.
- iii) Rupesh Dewan (1998)
Investigation of Intensity and Spectral Distribution in Double Photon Compton Scattering.

- iv) Manju Bala Saddi (2002)
Investigation of double photon Compton scattering using single gamma detector.
- v) Gurvinderjit Singh (2007)
Experimental investigations of saturation depth of 662 keV gamma rays in different materials.
- vi) Manpreet Singh (2007)
Experimental investigations of multiply Compton scattered gamma rays in various materials.
- vii) Arvind Deepak Sabharwal (2010)
Investigations of Multiply Compton Backscattered Gamma Rays.
- viii) Mohinder Pal singh (2011)
An Experimental study of Rayleigh to Compton scattering cross section ratio for elemental analysis.
- ix) Amandeep Sharma (2011)
Study of Absorption and Scattering Tomographic gamma ray Techniques for Non-destructive Testing.
- x) Akash Tondon (2013) working
The Gamma Rays as Non-destructive Testing Tool for Industrial and Medical Applications.
- xi) Mohinder Singh (2013) working
Material Characterisation using Gamma Ray Transmission and Scattering Techniques.

17. M.Phil. students guided:

- i) Gurdarshan Singh (1990)
Intensity distribution in double photon Compton scattering.
- ii) Jaswinder Singh (1990)
Multiple Compton scattering of 662 keV gamma rays from lead.
- iii) Pawan Kumar (1993)
Multiphoton Compton scattering of gamma rays.
- iv) Manpreet Singh (2002).
Measurement of saturation depth 662 keV multiply scattered photons.
- v) Mandeep Kaur (2002).
Compton scattering studies for elemental analysis.

18. Research Topics

I am competent to handle strong radioactive source, gamma ray spectrometer, slow-fast coincidence set up etc. I have worked on the following topics.

- i) Compton scattering of gamma rays from K-shell electrons:
- ii) Excitation and de-excitation of inner shell electrons by photons:
- iii) Multi-photon Compton scattering of gamma rays:
- iv) Multiple scattering in Compton effect:
- v) Anomalous Dispersion effects in the elastic scattering near K-edge of some elements.
- vi) Tissue Characterization by Compton scattering profile measurements
- vii) Acoustical Parameters and Thermodynamical Properties of Elements, Mixtures and Compounds:
- viii) Reference Dosimetry in Proton Therapy.
- xii) Absorption coefficient measurements.
- xiii) Absorption and Scattering Tomographic gamma ray Techniques for Non-destructive Testing.

19. List of papers/courses taught at Post Graduate and Under Graduate level:

M.Phil

- i) Techniques of Experimental Physics.

Diploma in TV and Electronic Engineering (Post-M.Sc.)

- i) Microprocessor Fundamentals.
- ii) TV Electronics-III.

M.Sc. Physics

- i) Atomic and Molecular Spectroscopy.
- ii) Radiation Physics
- iii) Nuclear and Particle Physics.

M.Sc. Applied Physics

- i) Nuclear Science-I.
- ii) Electromagnetics and microwaves
- iii) Microwaves and communication systems.

- iv) Electronic Communication Systems
- v) Microwave and its propagation.
- vi) Electromagnetic waves and Radiating Systems.

M.Sc. Chemistry

- i) Basic Course in Electronics.
- ii) Computer Fundamentals and programming with C.

M.Sc. Environment Management and Technology

- i) Radioactivity and control

Post B.Sc. Diploma in Maintenance and Servicing of Electronic Instruments

- i) Basic Electronics.
- ii) Electronic Instruments.
- iii) Electrical and Electronic Components and Circuits.

M.Sc. Statistics

- i) Computer concepts and Basic programming
- ii) Computer concepts and programming in FORTRAN
- iii) Computer concepts and programming in C
- iv) Computer concepts and programming in C++

B.Tech.

- i) Electronic Measurements and Instrumentation.
- ii) Electrical Science and Electronics.
- iii) Physics-II

Laboratory/Workshop

- i) Post M.Sc. Diploma in TV and Electronic Engineering.
- ii) M.Sc. Physics.
- iii) M.Sc. Applied Physics.
- iv) M.Sc. Chemistry (Final).
- v) Post B.Sc. Diploma in Electronic Instruments.
- vi) M.Phil.
- vii) M.Sc. Statistics.
- viii) B.Tech.

20. Countries Visited for Research work:

- i) Abdus Salam International Centre for Theoretical Physics, Trieste, Italy. (1991-92) for 9 months on the topic **Anomalous Scattering of gamma Rays.**
- ii) Abdus Salam International Centre for Theoretical Physics, Trieste, Italy. (1996-97) for 1 year on the topic **Reference Dosimetry in Proton Therapy.**

- iii) Physics Department, Warwick University, Coventry, England. (1991). 15 days on the topic **Compton Profile measurements**.

21. Writings in Punjabi:

- i) Science Communication in Punjabi: Merits and Demerits, Shivalik College, Naya Nangal, Jan 27-28, 1995.
- ii) Nuclear Reactions, Teaching material in Punjabi for Physics, Punjabi University, Patiala. (Children Encyclopedia, Punjabi University, Patiala)
- iii) Digital I.C., 1998 (Children Encyclopedia, Punjabi University, Patiala)
- iv) Digital Circuit, 1998 (Children Encyclopedia, Punjabi University, Patiala)
- v) Inverter, 1999 (Children Encyclopedia, Punjabi University, Patiala)
- vi) Galaxies, 1999 (Children Encyclopedia, Punjabi University, Patiala)
- vii) Interstellar Medium, 1999 (Children Encyclopedia, Punjabi University, Patiala)
- viii) Appolo, 1999 (Children Encyclopedia, Punjabi University, Patiala).
- ix) Noise Pollution, 1999. (Children Encyclopedia, Punjabi University, Patiala)
- x) Calorimetry, 2000. (Children Encyclopedia, Punjabi University, Patiala)

22. Member of the Editorial Board of Research Journals:

- i) Acta Ciencia Indica, India.
- ii) Indo Physica, India.
- iii) Journal of Punjab Academy of Sciences, India (associate Editor)

23. Technical Proficiency

Competent to design and fabricate experiments on nuclear radiation physics, can handle strong radioactive sources, various kinds of Nuclear Radiation Detectors, slow-fast coincidence set up, Nuclear Modules and counting systems including multiple channel analyzer, Electronic equipment's, Radiation dosimetry, Analysis of nuclear spectroscopic data etc. worked on photon and charged particle interactions with matter, proton reference dosimetry and medical physics.

Date: 29/05/2018

**Sd/-
Bhajan Singh**

	Research Papers in International/National Journals
1	Compton scattering of 145 keV gamma rays by K-shell electrons of silver V.B.Acharya, Bhajan Singh and B.S.Ghumman, Physica Scripta, 23 (1981) 21.
2	Compton scattering of 145 keV photons from bound electrons of tin and molybdenum. B.S.Ghumman, V.B.Acharya and Bhajan Singh, J.Phys., B14 (1981) 3905.
3	Energy distribution of 0.279 MeV gamma rays Compton scattered from bound electrons. Bhajan Singh, Parmjit Singh, Gurdeep Singh and B.S.Ghumman, Ind. J. Phys., A58 (1984) 397.
4	Compton scattering of 0.279 MeV gamma rays from K-shell electrons of lead. Bhajan Singh, V.B.Acharya and B.S.Ghumman, Pramana, 24 (1985) 743.
5	Intensity distribution of 0.279 MeV gamma rays Compton scattered from K-shell electrons of tungsten. Bhajan Singh, Parmjit Singh and B.S.Ghumman, Physica Scripta, 34 (1986) 202.
6	On the measurement of K-shell incoherent scattering of gamma rays. Bhajan Singh, Gurdeep Singh and B.S.Ghumman, J.Instr.Soc.India, 16 (1986) 231.
7	Measurement of $L\alpha$, $L\beta$ and $L\gamma$ X-ray production cross-sections in some high Z elements by 18, 26, 33 and 44 Kev photons. N.Singh, Raj Mittal, Bhajan Singh, K.L.Allawadhi and B.S.Sood, Phys. Rev., A34 (1986) 3459.
8	Measurements of Incoherent scattering of 0.279 MeV gamma rays from K-shell electrons of gadolinium. B.S.Ghumman, Gurdeep Singh and Bhajan Singh, IL Nuovo Cimento, A99 (1988) 35.
9	Double-photon Compton scattering of 662 keV gamma rays. G.S.Sekhon, B.S.Sandhu, Bhajan Singh and B.S.Ghumman, IL Nuovo Cimento, A100 (1988) 789.
10	Energy and Intensity distribution in photon Compton Scattering. G.S.Sekhon, B.S.Sandhu, Bhajan Singh and B.S.Ghumman, J. Phys.(GB) B25 (1992) 1475.
11	A study of thermoacoustical Parameters of some polymers. D.P.Singh and Bhajan Singh Ind. J. Phys. A66 (1992) 677.
12	Experimental Measurement of Intensity distribution in two-photon Compton scattering. B.S. Sandhu, Bhajan Singh and B.S. Ghumman IEEE Trans. American Nuclear Society, 65 (1992) 72 .

13	Feasibility of in-vivo tissue characterisation by Compton scattering profile measurements. A. Tartari, E. Casnati, J. Felsteiner, C. Baraldi and B. Singh Nuclear Instruments & Methods B71 (1992) 209.
14	Ultrasonic Investigation of liquid Carbon Dioxide. D.P. Singh, Manohar Lal and Bhajan Singh Acoustic Letters 15 (1992) 235.
15	Radiation Enhancement factor in measurement of interaction cross sections of 59.54 keV photons by thick targets. E. Casnati, C. Baraldi, A. Tartari and B. Singh Applied Radiations & Isotopes 44 (1993) 1155.
16	Experimental Measurement of Intensity distribution in two-photon Compton scattering. B.S. Sandhu, Bhajan Singh and B.S. Ghumman Applied Radiation & Isotopes 44 (1993) 1367.
17	On temperature dependence of surface tension of molten metals. D.P. Singh, K.P. Prabhakar and Bhajan Singh Acta Ciencia Indica 19 (1993) 65.
18	Ultrasonic Investigations of Liquid Oxygen. D.P. Singh, K.P. Prabhakar and Bhajan Singh J. Acoust. Soc. India, 21 (1993) 183.
19	Investigation of Angular Distribution in Two-Photon Compton Scattering. B.S. Sandhu, B. Singh and B.S. Ghumman J. Phys. Soc. Japan, 63 (1994) 3243.
20	Acoustical and Thermodynamical Investigations in some reciprocal Fused salt pairs (Cd, K, Cl, Br) and (Li, K, Cl, Br). D.P. Singh, K.P. Prabhakar and Bhajan Singh Acoustical Society of India, 22 (1994) 29.
21	On the acoustical and thermodynamical investigations of molten alkali metals. D.P. Singh and Bhajan Singh Acta Ciencia Indica, 21 (1995) 65.
22	Ultrasonic Investigations in Binary Mixtures of Molten Salts with a Common Ion. D.P. Singh, K.P. Prabhakar and Bhajan Singh Indian J. Pure Appl. Ultrasonic , 18 (1996) 80.
23	Absolute differential cross section for double photon Compton scattering B.S. sandhu, B. Singh and B.S. Ghumman, Cand. J. Phys., 74 (1996) 692.
24	Measurement of anomalous elastic scattering of 59.54 keV photons. C. Baraldi, E. Casnati, A. Tartari, A. Andreis and B.Singh. Phys. Rev. A54 (1996) 4947.
25	Masurement of intensity and energy distribution of two-photon Compton scattering Rupesh Dewan, Bhajan Singh, B.S. Sandhu and B.S. Ghumman J. Instru. Soc. India, 26 (1996) 560.

26	Measurement of K-shell Compton scattering from tin at 662 keV gamma rays using fluorescence-gamma coincidence technique. Jagjit Kaur, Bhajan Singh, B.S. Sandhu and B.S. Ghumman J. Instru. Soc. India, 26 (1996) 52.
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