Curriculum Vitae

- Present Designation and Address: **Assistant Professor**

Department of Basic Sciences
Sir Padampat Singhania University
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- Academic Profile:

(i) Title of doctoral thesis**: Theoretical study of (e, 2e) processes on atoms and ions**

(ii) Supervisor: **Prof. Krishan K. Sud**

- Post Academic Status:

  Qualified CSIR-UGC-NET-JRF examination held on 21st June 1999 as well as state level SLET examination (Eligibility for lectureship) in 1997

- **Special Attractions** (Prizes / Medals / Fellowships/ Grants / awards)

  1. Gold Medal awarded by M. L. S. University, Udaipur for getting first in order of merit of M. Sc. (Physics) examination, 1997.

  2. Silver Medal awarded by M. L. S. University, Udaipur for getting second in order of merit of B. Sc. examination, 1995.

  3. Junior Research Fellowship (From 1st Jan. 2000 to 31st Dec. 2001) awarded by Council of Scientific and Industrial Research (CSIR), New Delhi on passing the **CSIR-UGC-NET-JRF Exam**.

  4. Senior Research Fellowship (From 1st Jan. 2002 to 31st Dec. 2004) awarded by CSIR, New Delhi on the recommendation of three-member assessment committee report on the performance of the JRF-ship.

5. Invited as a Guest Scientist to visit for research purpose by **"Abdus Salam International centre for Theoretical Physics", Trieste, Italy** from 30th July to 17th August 2003.
6. Invited to present research work at the *XXIII International Conference on Photonic, Electronic and Atomic Collisions (ICPEAC-2003)* held at **Stockholm University, Stockholm, Sweden** with a financial grant of SEK 4000 from July 23-29, 2003

7. Invited to present research work at the Joint meeting of *ITC14 and ICAMDATA* held at **National Institute for Fusion Science, Toki, Japan** with a financial support of YEN 1,10,000 from Oct. 5-8, 2004

8. Foreign travel grant of Rs. 20,000/- awarded by Department of Science and Technology (DST), New Delhi to present research work at *ITC14 and ICAMDATA* held at **National Institute for Fusion Science, Toki, Japan** from Oct. 5-8, 2004

9. Foreign travel grant of Rs. 15,000/- awarded by **INSA, New Delhi** to present research work at *ITC14 and ICAMDATA* held at **National Institute for Fusion Science, Toki, Japan** from Oct. 5-8, 2004 (not availed)

10. Invited to present research work at the International Conference on Atomic Physics, ATOM2005, to be held at **Max Plank Institute, Dresden, Germany** from Nov. 28-Dec. 2, 2005 with a finacial support of EURO 250 and total coverage local expenses (could not avail)

11. Invited to Visit *Abdus Salam International Centre for Theoretical Physics* (ICTP), Trieste, Italy as a **Guest Scientist** from Dec. 3-23, 2005 with a travel support of EURO 500 and total coverage of local expenses (could not avail)

12. Invited for oral presentation of research work at the *International conference on complex systems ICCS06* held at New England Institute of complex systems, **Boston, USA** from June 25-30, 2006 with a financial support of $1060 (could not avail)

13. Invited to present research work at the *5th International Conference on Atomic and Molecular Data and Their Applications* (ICAMDATA 05) to be held at **Paris Observatory, Meudon, France** with a financial support of EURO 1200 and registration fee waiver from Oct. 15-19, 2006
14. Invited to present research work at the the *"15th International Conference on Atomic Processes in Plasmas"* (APiP) held at **Gaithersburg, MD, USA** from March 19-22, 2007 with a financial support of $ 810 (could not avail)

15. Invited to attend Faraday short course no. 6 to be held at faraday Institute, St. Edmunds College, **Cambridge, UK** from May 18-20, 2007 with **full financial support**

16. Selected to receive a **Nature Publishing Group Award** of **$ 1500** to use for travel and registration expense to present research work at Gordon Research Conference on Time-Dependent Density-Functional Theory held at Colby College, Waterville, Maine, **USA** (July 15-20, 2007)

17. Invited to present research work at the 40th EGAS 2008 conference held at Graz University of Technology, **Graz, Austria** with financial support of EURO 945 (July 2-5, 2008)

18. Foreign travel grants awarded by Department of Science and Technology, New Delhi, Council of Scientific and Industrial Research (CSIR), New Delhi and Centre for Cooperation in Science and Technology among Developing Societies (CCSTDS), Chennai to attend 40th EGAS conference held at Graz University of Technology, **Graz, Austria**

19. Invited to present research work at the 6th International conference on Atomic and Molecular data and Their Applications (ICAMDATA2008) to be held at Institute of applied physics and computational mathematics, **Beijing, China** (October 27-31, 2008) with financial support of RMB 4000 and registration fee waiver from the organizers of the conference

20. Foreign travel grants awarded by Council of Scientific and Industrial Research (CSIR), New Delhi, to present research work at the 6th International conference on Atomic and Molecular data and Their Applications (ICAMDATA2008) to be held at Institute of applied physics and computational mathematics, **Beijing, China** (October 27-31, 2008)

- **Scientific Employment / academic responsibly**

Research Institute or University Name and Place	Period of duty From	to	Academic Responsibilities
Department of Physics, M. L. S. University, Udaipur, Rajasthan	25th Sep. 1999	31st Dec. 1999	Research Assistant (DRS-Programme)
M. L. Sukhadia University Udaipur, Rajasthan	1st Jan. 2000	31st Dec. 2001	Junior Research Fellow (CSIR)
M. L. Sukhadia University Udaipur, Rajasthan	1st Jan. 2002	30th June 2004	Senior Research Fellow (CSIR)

- **Teaching Experience:**

S. No.	Class	Year	Institution / University	Papers offered	Years
1.	B.Tech.	Sep 2007 to Till Now	Sir Padampat Singhania University, Udaipur	Physics, Biophysics	Continue
2.	B. Tech.	Oct 2005 to Sep 2007	Mody Institute of Technology and Science, Lakshmangarh	Physics, Electromagnetic field theory	1 year & 11 Months
3.	B.E.	July 2004 to Oct 2005	Geetanjali Institute of Technical Studies, Dabok, Udaipur	Engineering Physics & Electromagnetic field theory	1 year & 3 Months
4.	Under Graduate Classes (B. Sc.) Theory	From Session 1999-2000 to 2003-2004	College of Science, M. L. S. University, Udaipur	Electrostatics, Magnetostatics, Mechanics, Quantum Mechanics, Solid State Physics, Electrodynamics etc.	5 years
5.	Under Graduate Classes (B. Sc.) Practical	From Session 1999-2000 to 2002-2003	College of Science, M. L. S. University, Udaipur	Physics Practical (Based on Mechanics, Optics, Electricity and Magnetism, Electronics etc.)	4 years
6.	M. C. A	2002-2003	College of Science, M. L. S. University, Udaipur	Hardware lab (Advanced Digital Electronics, Microprocessors and Computer Arch.)	1 year

Main Scientific Experience:

1. I have calculated triple differential ionization cross section of atoms in distorted wave Born approximation (DWBA) formalism which is similar to one developed by McCarthy and Weigold in different geometrical arrangements. In our DWBA formalism the incident and both the scattered and the ejected electrons are described by distorted waves and the distorted wave for the incident electron is generated in the static exchange potential of atom and for the outgoing one are generated in the static exchange potential of the ion. Spin averaged static exchange potential and Hartree Fock wave function for target atom have been used. I have computed TDCS for He, Ne, Ar, Kr and Xe targets for a few eV above threshold to 100 eV in coplanar to perpendicular plane geometry. We have included polarization potential as well as post collision interaction in our calculation. Our study shows that the agreement with the experimental data confirms the significant role played by post collision interaction and polarization in the (e, 2e) processes for higher Z atoms. Our study of TDCS vs. symmetric scattering angle ξ in perpendicular plane geometry shows that the trend of variation for He atom is different from Ne, Ar, Kr and Xe atoms. A peak in TDCS vs. symmetric angle ξ is observed at $\xi = 90^{\circ}$ for He atom whereas a dip for Ne, Ar, Kr and Xe atoms as the electron in the latter case is getting ejected from the p-orbital (**Ind J. Phys. B 77 (2), 169-177 (2003)**).

2. I have performed calculation of spin asymmetry in (e, 2e) process. The spin asymmetry provides information about the spin dependence of the triple differential cross section. We have done calculation of spin asymmetry present in triple differential cross section for iso-electronic series (Li, Be^{+}, B^{+2} and C^{+3}) in coplanar asymmetric geometry. For low Z targets spin-orbit interaction is negligible and exchange following the Pauli principle is the dominant effect. We have done calculation at incident electron energy 49 eV above ionization potential for the above-mentioned targets for equal as well as unequal sharing conditions. We have also studied the variation of spin asymmetry with energy sharing ratio for the same targets. We have compared the results of our calculation for Li atom with the available experimental data of Streun et al (**Physica Scripta 69, 208-215 (2004))**. I have also performed calculation of TDCS for He like ions in coplanar asymmetric geometry for keeping momentum transfer same for all the targets at incident electron energy 1099 eV using DWBA formalism. We observed the effect of nuclear charge on the trend of variation of TDCS in particular on the recoil peak (**Ind J. Phys. B 77 (2), 169-177 (2003**))

3. I am also associated in the theoretical calculation of five fold differential cross section (FDCS) of electron impact double ionization (i.e., (e, 3e) processes) on He and He like ions. We have developed theoretical formalism to calculate five fold differential cross section (FDCS) in first Born approximation using plane waves for incident and scattered electrons, BBK type wave function for the ejected electrons and Le Sech wave function for He and He like ions. We have performed the calculation in the constant θ_{12} modes in coplanar geometry at

incident electron energies E_i = 5.6 KeV and 1.1 KeV on He and He like ions. Our study has shown that the angular profile of FDCS is well described by the photo double ionization process. We have also observed that the angular profile of the FDCS shows binary and recoil peak distribution in the constant θ_{12} mode and found that this distribution is very sensitive to the post collision interaction between the ejected electrons and nuclear charge (**Ind. J. Phys. 78 (10), 1067 (2004)**). We have also calculated FDCS in second Born approximation in the same mode for He atom and outcome of the calculation shows that the breaking in the symmetry of the angular profile of FDCS has been destroyed by second order interaction between the incident electron and target (**J. Phys. B36, 1731-1738 (2003)**)

4. I have also done the calculation of electron dichroism in relativistic (e, 2e) processes on atoms. We have investigated the theoretical formalism and demonstrated the electron dichroism in the relativistic (e, 2e) process for K-shell ionization of atoms. The electron dichroism in (e, 2e) process is the difference in triple differential cross sections (TDCS) for different incident electron helicities. We have calculated TDCS, in plane wave Born approximation (PWBA) and it can be factorized into products of electron kinematic factors and atomic structure functions. For electron kinematic factors and atomic structure functions, we have evaluated electron and atomic tensors using one photon exchange approximation. In order to evaluate electron tensor, in which the incident and scattered electron are represented by Dirac plane waves and atomic tensor in terms of the atomic transition four current using bound and continuum electron wave functions. The bound K-shell and continuum electrons are represented by Darwin wave function and semi-relativistic Coulomb wave function multiplied by the Darwin matrix respectively. In our study, it is shown that the electron dichroism effects in (e, 2e) process arise when the incident electron and the two outgoing electrons are not lying in one plane i.e. (e, 2e) process is in non-coplanar geometry. Our study also shows that the electron dichroism effect depends on incident electron energy, atomic numbers of the target, azimuthal angle of the ejected electron and scattered electron angles **(Pramana-J. Phys., 62 1157 (2004))**.

   I have calculated the Up-Down spin asymmetry in relativistic (e, 2e) processes on atoms. We observed that the Up-Down spin asymmetry is large, measurable and oscillatory in nature and we further observe that it depends on incident electron energy, atomic number of the target and scattering angles (**ICTP Preprint No. IC/2003/76**). We have also given the first estimates of the right – left asymmetry in the relativistic (e, 2e) processes. Our study has shown that the up-down and right –left asymmetry depend on the interference between the transition charge and component of the transition current perpendicular and in the scattering plane respectively **(J. Plasma and Fusion Res., Vol. 7, 290-293 (2006))**.

5. At present, I am involved to investigate triple differential cross sections of the (e, 2e) process for alkali and alkaline atoms in coplanar symmetric geometry. Study of (e, 2e) processes on alkali and alkaline metals is important because very few studies are available for these targets and it is interesting to compare the trends of TDCS for the above mentioned targets with the trends of He and other targets **(*J. Phys. B, 41 035205 (2008)*).**

   Study of longitudinal spin asymmetry in different geometrical arrangements for various targets such as Cu, Ag U etc. is also in process. This will enable us to understand the ionization process completely **(Phys. Rev. A, To be communicated)**

- **Publications:**

(a) Refereed Journals

1. (e, 2e) triple differential cross sections of alkali and alkali earth atoms: Na, K and Mg, Ca
   U. Hitawala**, G. Purohit** and K. K. Sud
   J. Phys. B: At. Mol. Opt. Phys. **41**, 035205 (2008)

   **This paper has been cited in
   1. I. Bray et al. **J. Phys. B**: At. Mol. Opt. Phys. **41,** 215203 (2008)
   2. Y. Khajuria and P.C. Deshmukh, **Phy. Rev. A78** 024702 (2008)

2. Interference effect in the relativistic inner shell ionization of atoms by electron impact
   G. Purohit, R. Choubisa and K. K. Sud
   Journal of Plasma and fusion Research Series Vol. 7, 290-293 (2006)

3. Spin asymmetry in (e, 2e) processes on Li, Be^{+}, B^{+2} and C^{+3} targets by transversely polarized targets.
   G. Purohit, R. Choubisa, Vinod Patidar and K. K. Sud
   Physica Scripta **69**, 208-215 (2004)

4. Electron impact single and double ionization of He like ions
   G. Purohit, R. Choubisa, D. K. Sharma and K. K. Sud
   Indian J. Phys. **78 (10)**, 1067 **(2004)**

5. Electron dichroism effects in relativistic (e, 2e) processes for K-shell ionization of atoms
   K. K. Sud, **G. Purohit** and A. S. Bhullar
   Pramana-J. Phys. 62, 1157 (2004)

6. (e, 2e) triple differential cross sections of He, Ne, Ar, Kr and Xe atoms in coplanar to perpendicular plane geometry
   G. Purohit, A. S. Bhullar and K. K. Sud
   Indian J. Phys. B **77(2)** 177-184 (2003)

7. Second order Born calculation of (e, 3e) process on He atom in coplanar constant θ_{12} mode
   R. Choubisa, **G. Purohit** and K. K. Sud
   J. Phys. **B36**, 1731-1738 (2003)

This paper has been cited* in 1. A. S. Kheifets ***Phys. Rev A* 69, 032712 (2004)
2. A. Mansouri ***et al J. Phys. B 37,*** 1203 (2004)
3. M. Watanabe et al **J. Phys. B 37**, 4551 (2004)
4. Jia et al *J. Phys. B **36** L17 (2003)*
5. Said Elazzouzi, Ph.D. student, Lorraine Doctoral school of Chemistry and Molecular Physics (2004)
6. Elazzouzi et al J. Phys. B **38**, 1391 (2005)
7. Götz et al J. Phys. B **38**, 1569 (2005)
8. Zhangjin Chen *et al* 2007 ***J. Phys. B:** At. Mol. Opt. Phys.* **40** 2333-2344
9. Rakesh Choubisa *et al* 2008 ***J. Phys. B**: At. Mol. Opt. Phys.* **41** 035202
10. R. Choubisa and K. K. Sud, Pramana, Vol 65, 85 (2005)
11. Ritu Dey *et al* 2006 ***J. Phys. B:** At. Mol. Opt. Phys.* **39** 955-964

8. Up-down asymmetry in the relativistic (e, 2e) process for K-shell ionization of Cu, Ag and Au atoms
   G. Purohit, R. Choubisa and K. K. Sud
   ICTP (Italy) Preprint No. IC/2003/76

The results presented in this paper are outcome of the research work carried out by me during my visit to *Abdus Salam International Centre for Theoretical Physics* (ICTP), Trieste, **Italy as a Guest Scientist from 30th July to 17th August 2003.

(b) Other Publications

9. Triple differential cross section data of (e, 2e) processes on Be, Mg and Ca atoms
   G. Purohit, U. Hitawala, R. Choubisa and K. K. Sud
   Abstract book of 5th International conference on atomic and molecular data and their applications (ICAMDATA) **Meudon, France**.

10. Geometrical effects on the Quasi-binary incident electron-centre of mass collision in (e, 3e) process on He like ions
    R. Choubisa, **G. Purohit** and K. K. Sud,
    europhysics conf. Abstracts (France) 28F(I) 3-23 (2004)

11. Interference effect in the relativistic inner shell ionization of atoms by electron impact
G. Purohit, R. Choubisa and K. K. Sud
Toki conference abstracts (Japan), p129, (2004)

12. Up-Down asymmetry in the relativistic (e, 2e) process for K-shell ionization of atoms
G. Purohit, R. Choubisa and K. K. Sud
ICPEAC2003(Stockholm) abstracts Fr053 (2003)

13.Electron dichroism in the relativistic (e, 2e) process for K-shell ionization of atoms
K. K. Sud and **G. Purohit**
ICPEAC2003(Stockholm) abstracts Fr054 (2003)

14.Electron impact double ionization cross sections of He atom in coplanar constant θ_{12} and out of plane constant ϕ_{12} modes
R. Choubia,**G. Purohit** and K. K. Sud
ICPEAC2003(Stockholm) abstracts We080 (2003)

15. Electron dichroism in the relativistic (e, 2e) processes on atoms
A. S. Bhullar, **G. Purohit**, R. Choubisa and K. K. Sud
"Recent advances in atomic and molecular physics" (Edited by Rajesh Srivastava) (Phoenix, 2001) p 314.

16 Spin asymmetry in (e, 2e) process on Ni, Pd, Pt and U atoms by longitudinally polarized relativistic electrons
G. Purohit, U. Hitawala and K. K. Sud
Phys. Rev. A (To be communicated)

- **Other Articles / Popular articles**

1. *Impact of cryptography on day-to-day life*, GITS news letter, Vol-III (2004)
2. *World year of physics-2005,* GITS news letter, Vol-IV (2005)
3. *Recent Trends in Atomic Physics: Electron-Atom / Ion Collision,* Enginium (2006)

- **Visits Abroad:**

1. **Sweden:** Presented research work at the XXIII ICEPAC-2003 held at Stockholm University, Stockholm, Sweden (July 23-29, 2003).

2. **Italy:** Visited *Abdus Salam International Centre for Theoretical Physics* (ICTP), Trieste, Italy as a **Guest Scientist** from 30th July to 17th August 2003.

3. **Japan:** Presented research work at the *Joint 14th Toki conference of plasma physics and 4th International conference on atomic and molecular data (ICAMDATA) and applications* held at National Institute for Fusion Science, Toki, Japan from October 5-8, 2004

4. **France**: Presented research work at the 5th International Conference on Atomic and Molecular Data and their Applications (ICAMDATA 05) to be held at **Paris Observatory, Meudon, France** from October 15-19, 2006

5. **UK:** Attended Faraday short course no. 6 held at faraday Institute, St. Edmunds College, **Cambridge, UK** from May 18-20, 2007 with full financial support

6. **USA:** Presented research work at the GRC conference on Time Dependent Density Functional Theory held at Colby College, Waterville, Maine, USA from July 15-20, 2007. Selected to receive a **Nature Publishing Group Award** of **$ 1500** to use for travel and registration expense to present research work at GRC conference on TDDFT.

7. **Austria:** Presented research work at the 40th EGAS 2008 conference held at Graz University of Technology, **Graz, Austria** from July 2-5, 2008

8. **China:** Present research work at the 6th International conference on Atomic and Molecular data and Their Applications (ICAMDATA2008) held at Institute of applied physics and computational mathematics, **Beijing, China** (October 27-31, 2008)

9. **Germany**: Invited to present research work at the International Conference on Atomic Physics, ATOM2005, to be held at Max Plank Institute, Dresden, Germany from Nov. 28-Dec. 2, 2005 (could not avail)

10. **Italy**: Invited to Visit *Abdus Salam International Centre for Theoretical Physics* (ICTP), Trieste, Italy as a **Guest Scientist** from Dec. 3-23, 2005 (could not avail)

- ## Invited Lecture

1. Presented Invited Lecture entitled *Recent Trends in Atomic Physics- Electron impact single ionization* at the Vidya Bhawan Polytechnic College, Udaipur, India in the Diamond Jubilee celebrations of the institute (September 28-29, 2005)

2. Invited to present a lecture at the *International conference on complex systems ICCS06* held at New England Institute of complex systems, **Boston, USA** from June 25-30, 2006 (could not avail)

- **Papers presented in National and International conferences**:

1. Electron Dichroism in Relativistic (e, 2e) Process on Atoms
   A. S. Bhullar, **G. Purohit**, R. Choubisa, V. Patidar and K. K. Sud,
   National Symposium on Atomic Physics at the Frontiers (APF 2000), 13-15 April, 2000, Roorkee, India.

2. Calculation of (e, 2e) triple differential cross section of He, Ne, Ar and Xe atoms in Murray Geometry
   G. Purohit, A. S. Bhullar and K. K. Sud
   Presented at the *XIII National Conference on Atomic and Molecular Physics* held at IACS, Colkata, January 16-20, 2001.

3. Triple differential cross section and spin asymmetry in (e, 2e) processes on He like ions.
   G. Purohit and K. K. Sud
   Presented at the international conference entitled *"Current Developments in Atomic, Molecular and Chemical Physics (CDAMCP-2002)"* held at University of Delhi, Delhi, March 20-22, 2002.

4. Inner Shell ionization of Ne, Ar and Xe atoms
   G. Purohit, R. Choubisa, V. Patidar and K. K. Sud
   Presented at the international conference entitled *"Current Developments in Atomic, Molecular and Chemical Physics (CDAMCP-2002)"* held at University of Delhi, Delhi, March 20-22, 2002.

5. Spin asymmetry in (e, 2e) processes on Li, Be^{+}, B^{+2} and C^{+3} targets by transversely polarized electrons
   G. Purohit and K. K. Sud
   Presented at the *XIV National Conference on Atomic and Molecular Physics* held at Viswa Bharti University, Santiniketan from 28^{th} Jan – 1^{st} Feb. 2003.

6. Electron impact single and double ionization of He like ions
   G. Purohit, R. Choubisa, D. K. Sharma and K. K. Sud
   Presented at the *XIV National Conference on Atomic and Molecular Physics* held at Viswa Bharti University, Santiniketan from 28^{th} Jan – 1^{st} Feb. 2003.

7. Up-Down asymmetry in the relativistic (e, 2e) process for K-shell ionization of atoms
   G. Purohit, R. Choubisa and K. K. Sud
   Presented at the *XXIII International Conference on Photonic, Electronic and Atomic Collisions (ICPEAC-2003)* held at Stockholm University, **Stockholm, Sweden** (July, 23-29, 2003).

8. Electron dichroism in the relativistic (e, 2e) process for K-shell ionization of atoms
   K. K. Sud and **G. Purohit**
   Presented at the *XXIII International Conference on Photonic, Electronic and Atomic Collisions (ICPEAC-2003)* held at Stockholm University, **Stockholm, Sweden** (July, 23-29, 2003).

9. Electron impact double ionization cross sections of He atom in coplanar constant θ_{12} and out of plane constant ϕ_{12} modes
   R. Choubia, **G. Purohit** and K. K. Sud
   Presented at the *XXIII International Conference on Photonic, Electronic and Atomic Collisions (ICPEAC-2003)* held at Stockholm University, **Stockholm, Sweden** (July, 23-29, 2003)

10. Triple differential cross section in (e, 2e) processes on Ca atom
    G. Purohit and K. K. Sud
    Presented at the *"Conference on Atomic and Molecular Physics"* held at BRA Bihar University, Muzaffarpur (December 3-5, 2003)

11. Right-Left asymmetry in the relativistic (e, 2e) process for K-shell ionization of atoms
    G. Purohit, R. Choubisa, Vinod Patidar and K. K. Sud
    Presented at the *"Conference on Atomic and Molecular Physics"* held at BRA Bihar University, Muzaffarpur (December 3-5, 2003)

12. Geometrical effects on the Quasi-binary incident electron-centre of mass collision in (e, 3e) process on He like ions
    R. Choubisa, **G. Purohit** and K. K. Sud
    Presented by Mr. R. Choubisa at the *"8th European Conference on Atomic and Molecular Physics"* Uinversity of **Rennes, France** (July 6-10, 2004)

13. Interference effect in the relativistic inner shell ionization of atoms by electron impact
    G. Purohit, R. Choubisa and K. K. Sud
    Presented at the Joint meeting of 14th Toki Conference and ICAMDATA2004 held at National Institute for Fusion Science, **Toki, Japan** (October 5-8, 2004)

14. Triple differential cross section in (e, 2e) processes for Be, Mg and Ca atoms
    G. Purohit and K. K. Sud
    Presented at the XV National Conference on Atomic and Molecular Physics (NCAMPXV) held at Physical Research Laboratory (PRL), Ahmedabd (December 20-23, 2004)

15. Longitudinal spin asymmetry in the relativistic (e, 2e) processes for atoms in non-coplanar geometry
    G. Purohit, R. Choubisa and K. K. Sud
    Presented at the XV National Conference on Atomic and Molecular Physics (NCAMPXV) held at Physical Research Laboratory (PRL), Ahmedabd (December 20-23, 2004)

16. Second order effect on the quasi-binary incident electron-centre of mass collision in (e, 3e) process on He like ions
    R. Choubisa, **G. Purohit** and K. K. Sud
    Presented at the XV National Conference on Atomic and Molecular Physics (NCAMPXV) held at Physical Research Laboratory (PRL), Ahmedabd (December 20-23, 2004)

17. Triple differential cross section data of (e, 2e) processes on Be, Mg and Ca atoms
    G. Purohit, U. Hitawala, R. Choubisa and K. K. Sud
    Presented at *5th International conference on atomic and molecular data and their applications (ICAMDATA)* at **Meudon, France** (October 15-19, 2006)

18. Electron impact single ionization of Na and K atoms
    G. Purohit, U. Hitawala and K. K. Sud
    Presented at Gordon Research Conference on Time-Dependent Density-Functional Theory held at Colby College, Waterville, Maine, **USA** (July 15-20, 2007)

19. Spin asymmetry in (e, 2e) process on Ni, Pd, Pt and U atoms by longitudinally polarized relativistic electrons.
    U Hitawala, **G Purohit** and K K Sud
    Presented at the Topical Conference on Atomic and Molecular Physics held at Sardar Patel University, Vallabh Vidya Nagar, India (Jan 3-5, 2008)

20. TDCS for inner-shell (e, 2e) processes on alkali and alkali earth atoms Na, K, Be, Mg and Ca
    G. Purohit, U. Hitawala and K K Sud
    Presentation at the 40th EGAS conference 2008 held at Graz University of technology, **Graz, Austria** (July 2-5, 2008)

21. (e, 2e) processes on alkali and alkali earth atoms: A comparative study of inner and outer shell ionization
    G. Purohit, U. Hitawala and K. K. Sud
    Presented at the 6th International confernce on Atomic and Molecular data and Their Applications (ICAMDATA2008) to be held at Institute of applied physics and computational mathematics, **Beijing, China** (October 27-31, 2008)

- **References**

1. **Prof. K. K. Sud**
   Senior Professor of Physics
   Head, Department of Basic Sciences
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2. **Professor Rajesh Srivastava**
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Membership of the learned bodies:

- Indian Society of Atomic and Molecular Physics (ISAMP)
- Indian Physics Association (IPA)
- Indian Association of Physics Teachers (IAPT)
- Indian Physical Society (IPS)
- Indian society of Technical Education (ISTE)