



**Dr. NETRAM KAURAV, Asst. Professor,**  
Department of Physics,  
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† **Nationality:** INDIAN

† **Date of Birth:** 01-04-1976

† **Education:**

Ph. D. Physics, Devi Ahilya University, Indore, **2006.**

M. Sc. Physics, Barkatullah University, Bhopal, **2000.**

☀ **Secured 3<sup>rd</sup> position** in the order of Merit of **M. Sc. (Physics)**  
Barkatullah University, Bhopal, **2000.**

B. Sc. (Hon's.) Physics, Barkatullah University, Bhopal, **1998.**

† **Professional Experience:**

- ➔ **2009-till date** working as a Assistant Professor in Department of Physics, Govt. Holkar Science College, Indore, India.
- ➔ **Dec. 2007-Jan. 2009** worked as a Post doctoral fellow in Department of Physics, National Dong Hwa University, Hualien, Taiwan.
- ➔ **2006-2009** worked as a Lecturer in Department of Physics, Institute of Science and Laboratory Education, IPS Academy, Indore, India.

HO **Awards received:**

- ☀ Recipient of **Indian Science Congress Association (ISCA) Young Scientist award** for **Physical Sciences 2007.**
- ☀ Credited by **M. P. State Young Scientist award** for **Physics 2005.**

HO **SPONSORED PROJECTS:**

- DST Fast Track Scheme for Young Scientist "**Synthesis, characterization, and physical properties of high- $T_c$  superconductors based on rare-earth and transition metal oxypnictides and related phases (20,00,000/-).**

† **Visits abroad:**

- ❖ Attended 26th International Conference on Low Temperature Physics (LT26), Aug. 2011, **Institute of Physics, Chinese Academy of Sciences, Beijing, China.**
- ❖ Participated in an International conference on phonon scattering in condensed matter, April 2010, **National Taiwan University, Taipei, Taiwan.**
- ❖ Participated in an international conference on phonon scattering in condensed matter at **Institut des Nano Sciences de Paris**, Paris, France, during 15 – 20 Jul. 2007.
- ❖ Attended an international conference at **The Abdus Salam International Centre for Theoretical Physics**, Trieste, Italy, during 28 – 31 Aug. 2006.

## † Research Experience:

- **Development and application of analytical and numerical techniques** for thermal, electronic, magnetic, elastic, mechanical and optical properties of strongly correlated electron systems, fullerenes, colossal magnetoresistance materials, magnetic and rare earth semiconducting chalcogenides.
- Sample synthesis and characterization, measurements of a variety of physical properties.
- 2004-2005, **Senior Research Fellow**, School of Physics, Devi Ahilya University, Indore.
- 2002-2003, **Junior Research Fellow**. School of Physics, Devi Ahilya University, Indore.
- Participation in around 21 International/National Conferences-Workshops-Seminars.

## IO INTERNATIONAL/NATIONAL CONFERENCES/SYMPOSIUM ATTENDED/PARTICIPATED:

1. 26th International Conference on Low Temperature Physics (LT26), Aug. 2011, Institute of Physics, Chinese Academy of Sciences, Beijing, China.
2. 55<sup>th</sup> Solid State Physics Symposium, Department of Atomic Energy, Dec. 2010, Manipal University, Manipal, India.
3. International conference on phonon scattering in condensed matter, April 2010, National Taiwan University, Taipei, Taiwan.
4. 54th Solid State Physics Symposium, Department of Atomic Energy, Dec. 2009, The M. S. University of Baroda, Vadodara, India.
5. International conference on phonon scattering in condensed matter, July 2007, Institut des Nano Sciences de Paris, Paris, France.
6. 51<sup>st</sup> Solid State Physics Symposium, Department of Atomic Energy, Dec. 2006, Barkatullah University, Bhopal, Mumbai, India.
7. 94<sup>th</sup> Indian Science Congress Association, Oct. 2006, Anna Malai University, Chidambaram, India.
8. International Symposium on the Jahn-Teller Effect: Novel Aspects in Orbital Physics and Vibronic Dynamics of Molecules and Crystals, Aug. 2006, The Abdus Salam International Centre for Theoretical Physics, Trieste, Italy.
9. Workshop on Low Temperature and High Magnetic Field Facilities, July 2006, UGC-DAE Consortium for Scientific Research, Indore, India.
10. 93<sup>rd</sup> Indian Science Congress Association, Jan 2006, Acharya N. G. Ranga Agricultural University, Hyderabad, India.
11. 50<sup>th</sup> Solid State Physics Symposium, Department of Atomic Energy, Dec. 2005, Bhabha Atomic Research Centre, Mumbai, India.
12. 20<sup>th</sup> M.P. Young Scientist Congress, March 2005, Vikram University, Ujjain, India.
13. 6<sup>th</sup> International conference on Optical Probes of conjugated Polymers and Biosystems (Optical probes 2005), Jan. 2005, Indian Institute of Science (IISc), Bangalore, India.
14. 49<sup>th</sup> Solid State Physics Symposium, Department of Atomic Energy, Dec. 2004, Guru Nanak Dev University, Amritsar, India.
15. 19<sup>th</sup> M.P. Young Scientist Congress, April 2004, Dr. H. S. Gour University, Sagar, India.
16. 46<sup>th</sup> Solid State Physics Symposium, Department of Atomic Energy, Dec. 2003, Jiwaji University, Gwalior, India.
17. International Conference on Phonons in Condensed Matters (Phonon-2K3), Jan. 2003, Barkatullah University, Bhopal, India.

18. 45<sup>th</sup> Solid State Physics Symposium, Department of Atomic Energy, Dec. 2002, Punjab University, Chandigarh, India.
19. Workshop on Advanced Microscopic Techniques for Materials Analysis, Dec. 2000, Department of Physics, University of Pune, Pune India.
20. Conference on Physics of Nanophase Materials, Dec. 2000, Department of Physics, University of Pune, Pune India.
21. National Conference on Science & Technology of Nanomaterials and Clusters, Nov. 2000, Department of physics, Barkatullah University, Bhopal, India.

**IO Present Research Activities:** My research efforts couple with theoretical investigations, various experimental and synthesis approaches to tailor new oxides materials that would show interesting chemical and physical properties. I am currently studying complex oxides and other compounds to elucidate relationships between composition, structure and transport properties. I will generate necessary infrastructure to explore following research problems in my future assignment.

**1). Enhancement of thermoelectric response of various oxide and related materials:**

Thermoelectric materials have recently attracted a renewed interest for application to a clean energy conversion system. The thermal and electrical transport properties of an ideal thermoelectric material should reflect the concept of “phonon-glass and electron crystal”. The best thermoelectric material should possess thermal properties similar to that of a glass and electrical properties similar to that of a perfect single-crystal material, i.e. a poor thermal conductor and a good electrical conductor. Recently,  $\text{Na}_x\text{CoO}_2$ , FeAs-based superconductors, FeSi,  $\text{SrSi}_2$  compounds have shown large thermoelectric power along with a low electrical resistivity and their thermoelectric efficiency could be further tuned by suitable doping, tuning of preparation conditions, etc.

**2). Physical properties of nano crystalline materials:** In the regime where the particle size of nanomaterials is a few tens of nanometers or less, it has been established adequately that their physical properties are not determined by the material alone but by its size as well. Fascinating aspects of nanostructures in this regard are spatial confinement of carriers and corresponding change in carrier density of states. The objective of the proposal is to study the transport properties of nano crystalline materials.

† **Other Development activities:** I would also like to engaged myself in development of a few experimental setups for a clear understanding of the concepts of physics, particularly at undergraduate level.

**IO Names and addresses of Referees**

Name	Prof. Y.-K. Kuo	Dr. R. Mittal	Dr. G. S. Okram
Position	Professor	Scientific Officer (F)	Scientist E
Address	Department of Physics National Dong Hwa University, Shou-Feng, Hualien-97401, Taiwan, R.O.C. Email: ykkuo@mail.ndhu.edu.tw Phone: +886-3-863-3731	Solid State Physics Division, Bhabha Atomic Research Centre, Trombay, Mumbai 400 085, India E-mail: rmittal70@yahoo.co.in Phone: 0091 22 25594984	UGC-DAE CSR, Khandwa Road, Indore (MP)- 452001, India. E-mail: okram@csr.ernet.in Phone: +917312463945

Date: 12/10/2011

(Dr. Netram Kaurav)

Place: Indore

## LIST OF PUBLICATIONS:

### A: PUBLISHED RESEARCH PAPERS IN INTERNATIONAL JOURNALS: (38)

01. G. S. Okram and N. Kaurav, Size-dependent resistivity and thermopower of nanocrystalline copper, *J. Appl. Phys.* **110**, 023713 (2011).
02. Irfan Mansuri, Dinesh Varshney, N. Kaurav, C.L. Lu, Y.K. Kuo, Effects of A-site disorder on magnetic, electrical and thermal properties of  $\text{La}_{0.5-x}\text{Ln}_x\text{Ca}_{0.5-y}\text{Sr}_y\text{MnO}_3$  manganites, *J. Magn. Magn. Mater.* **323**, 316 (2011).
03. K. K. Choudhary, D Prasad, N. Kaurav and Dinesh Varshney, Interpretation of thermoelectric power of Zinc Nanowire Composites: Phonon scattering mechanism, *J. Phys. Chem. Solids.* **71**, 47 (2010).
04. Vikram Sen, G.L. Bhalla, Neeraj Panwar, W.K. Syu, N. Kaurav, Y.K. Kuo, Ashok Rao, S.K. Agarwal, Thermal properties of  $\text{La}_{2/3}\text{Ba}_{1/3}(\text{Mn}_{1-x}\text{Sb}_x)\text{O}_3$  manganites, *Phys. B: Condens. Matter* **405**, 1 (2010).
05. N. Kaurav, Y. T. Chung, Y. K. Kuo, R. S. Liu, T. S. Chan, J. M. Chen, J.-F. Lee, H.-S. Sheu, X. L. Wang, S. X. Dou, S. I. Lee, Y. G. Shi, A. A. Belik, K. Yamaura, Crystal structure and electronic and thermal properties of  $\text{TbFeAsO}_{0.85}$ , *Appl. Phys. Lett.* **94**, 192507 (2009).
06. C. S. Lue, M. D. Chou, N. Kaurav, Y. T. Chung, and Y. K. Kuo, Enhancement in the thermoelectric performance by Y substitution on  $\text{SrSi}_2$ , *Appl. Phys. Lett.* **94**, 192105 (2009).
07. N. Kaurav, K. K. Wu, Y. K. Kuo, G. J. Shu and F. C. Chou, Seebeck coefficient of  $\text{Na}_x\text{CoO}_2$ : a narrow band model interpretation, *Phys. Rev. B* **79**, 075105 (2009).
08. Dinesh Varshney, G. Joshi, N. Kaurav, R.K. Singh, Structural phase transition (zincblende–rocksalt) and elastic properties in  $\text{AlY}$  (Y=N, P and As) compounds: Pressure-induced effects, *J. Phys. Chem. Solids* **70**, 451 (2009).
09. Y. K. Kuo, N. Kaurav, W. K. Syu, K. M. Sivakumar, U. T. Shan, S. T. Lin, Q. Wang and C. Dong, Transport properties of Ti-Zr-Ni quasicrystalline and glassy alloys, *J. Appl. Phys.* **104**, 063705 (2008).
10. N. Panwar, A. Rao, R. S. Singh, W. K. Syu, N. Kaurav, Y. K. Kuo, and S. K. Agarwal, Magnetotransport, thermoelectric power, thermal conductivity and specific heat of  $\text{Pr}_{2/3}\text{Sr}_{1/3}\text{MnO}_3$  manganite, *J. Appl. Phys.* **104**, 083906 (2008).
11. Chang-Yi Chou, N. Kaurav, Yung-Kang Kuo and Dong-Hau Kuo, Electrical properties of A/B-site substituted Ni-deficient  $\text{La}(\text{Ni}_{0.6}\text{Fe}_{0.3})\text{O}_3$  perovskites with  $A = \text{Ag}^+$ ,  $\text{Pb}^{2+}$ ,  $\text{Nd}^{3+}$  and  $B = \text{Mn}^{3+}$ ,  $\text{Ga}^{3+}$ , *J. Appl. Phys.* **103**, 093716 (2008).
12. N. Kaurav, Y. K. Kuo, G. Joshi, K. K. Choudhary and D. Varshney, High-pressure structural phase transition and elastic properties of yttrium pnictides, *High Pres. Res.* **28**, 651 (2008).
13. N. Panwar, D. K. Pandya, A. Rao, K. K. Wu, N. Kaurav, Y.-K. Kuo and S.K. Agarwal, Electrical and thermal properties of  $\text{Pr}_{2/3}(\text{Ba}_{1-x}\text{Cs}_x)_{1/3}\text{MnO}_3$  manganites, *Eur. Phys. J. B* **65**, 179 (2008).
14. D. Varshney, U Sharma, N. Kaurav, Pressure induced B3–B1 structural phase transformation and elastic properties of semi-magnetic semiconductors  $\text{Zn}_{1-x}\text{M}_x\text{Se}$  (M = Mn, Fe and Cd), *J. Phys.: Condens. Matter* **20**, 075204 (2008).
15. D. Varshney, N. Kaurav, U. Sharma and R. K. Singh, Phase transformation and elastic behavior of  $\text{MgX}$  (X = S, Se, Te) alkaline earth chalcogenides, *J. Phys. Chem. Solids* **69**, 60 (2008).
16. D. Varshney, N. Kaurav, R. Kinge and R. K. Singh, High pressure structural (B1–B2) phase transition and elastic properties of II–VI semiconducting Sr chalcogens, *Comput. Mater. Sci.* **41**, 529 (2008).
17. D. Varshney, N. Kaurav and U. Sharma, Pressure induced B3-B1 structural phase transition and elastic properties of monopnictides  $\text{InX}$  (X = N, P, As), *Phase Trans.* **81**, 525 (2008).
18. D. Varshney, V. Rathore, N. Kaurav and R. K. Singh, High-pressure induced structural phase transition and elastic properties of diluted magnetic semiconductors  $\text{Zn}_{1-x}\text{MnxSe}$ , *Int. J. Mod. Phys. B* **22**, 2749 (2008).
19. D. Varshney, N. Kaurav, U. Sharma and R. K. Singh, Pressure induced structural phase transition and elastic behavior of Y and Sc antimonides, *J. Alloys and Comp.* **448**, 250 (2008).

20. Y. K. Kuo, K. M. Sivakumar, J. I. Tasi, C. S. Lue, J. W. Huang, S. Y. Wang, D. Varshney, N. Kaurav and R. K. Singh, The effect of Al/Si ratio on the transport properties of the layered intermetallic compound  $\text{CaAl}_2\text{Si}_2$ , *J. Phys.: Condens. Matter* **19**, 17626 (2007).
21. D. Varshney, N. Kaurav, R. Kinge and R. K. Singh, Pressure induced B1 – B2 structural phase transition and elastic properties of  $\text{U}_x\text{La}_{1-x}\text{S}$  solid solution, *J. Phys.: Condens. Matter* **19**, 246212 (2007).
22. D. Varshney, I. Mansuri and N. Kaurav, Effect of electron/hole doping on the transport properties of lanthanum manganites  $\text{LaMnO}_3$ , *J. Phys.: Condens. Matter* **19**, 246211 (2007).
23. D. Varshney, N. Kaurav, R. Kinge and R. K. Singh, B1-B2 structural phase transition and elastic properties of UX ( $X = \text{S, Se and Te}$ ) compounds at high pressure, *J. Phys.: Condens. Matter* **19**, 236204 (2007).
24. D. Varshney and N. Kaurav, Numerical Analysis of Heat Transport Behavior in the Ferromagnetic Metallic State of  $\text{La}_{0.80}\text{Ca}_{0.20}\text{MnO}_3$  Manganites, *J. Low Temp. Phys.* **147**, 7 (2007).
25. D. Varshney and N. Kaurav, Analysis of low temperature specific heat of  $\text{LaMnO}_{3+\delta}$  manganites, *Int. J. Mod. Phys. B* **20**, 4785 (2006).
26. D. Varshney and N. Kaurav, Interpretation of temperature-dependent resistivity of  $\text{La-Pb-MnO}_3$ : Role of electron-phonon interaction, *J. Low Temp. Phys.* **141**, 165 (2005).
27. D. Varshney, N. Kaurav, and K. K. Choudhary, Electrical transport in the normal state of  $\text{K}_3\text{C}_{60}$  fullerenes: Polaron conduction, *Supercond. Sci. Tech.* **18**, 1259 (2005).
28. D. Varshney, N. Kaurav, R. Kinge, S. Shah and R. K. Singh, Study of elastic properties and their pressure dependence of lanthanum monochalcogenides, *High Pres. Res.* **25**, 14 (2005).
29. D. Varshney, P. Sharma, N. Kaurav, S. Shah and R. K. Singh, Study of elastic properties and their pressure dependence of semi magnetic semiconductors, *J. Phys. Soc. Jpn.* **74**, 382 (2005).
30. D. Varshney, R. Kinge, P. Sharma, N. Kaurav and R. K. Singh, High Pressure Phase Transformation and Elastic Behaviour of  $\text{ZnX}$  Semiconducting Compound, *Ind. J. Pure Appl. Phys.* **43**, 939 (2005).
31. D. Varshney, P. Sharma, N. Kaurav and R. K. Singh, Pressure dependence of elastic properties of  $\text{ZnX}$  ( $X = \text{Se, S and Te}$ ): Role of charge transfer, *Bull. Mater. Sci.* **28**, 101 (2005).
32. D. Varshney, N. Kaurav, A. Dube and R. K. Singh, Role of vibrational optical phonons mode in heat capacity of  $\text{K}_3\text{C}_{60}$ , *Synthetic Metals* **155**, 380 (2005).
33. D. Varshney and N. Kaurav, Electrical resistivity in the ferromagnetic metallic state of  $\text{La-Ca-MnO}_3$ : Role of electron-phonon interaction, *Eur. Phys. J. B* **40**, 129 (2004).
34. D. Varshney and N. Kaurav, Analysis of low temperature specific heat in the ferromagnetic state of the Ca-doped manganites, *Eur. Phys. J. B* **37**, 301 (2004).
35. D. Varshney, N. Kaurav, P. Sharma, S. Shah and R. K. Singh, Structural Phase transition and elastic properties of  $\text{ZnSe}$  at high pressure, *Phase Trans.* **77**, 1075 (2004).
36. D. Varshney, N. Kaurav, P. Sharma, S. Shah and R. K. Singh, Structural phase transition in lanthanum monochalcogenides induced by hydrostatic pressure, *Phys. Stat. Sol. b* **241**, 3179 (2004).
37. D. Varshney, P. Sharma, N. Kaurav, S. Shah and R. K. Singh, High pressure phase transition and variation of elastic constants of diluted magnetic semiconductors, *Phys. Stat. Sol. b* **241**, 3374 (2004).
38. M. Aynyas, N. Kaurav and Sankar P. Sanyal, High Pressure Phase Transition and Elastic Properties of Thorium Chalcogenides, *J. Phys. Chem. Solids* **63**, 821 (2002).

**B: PUBLISHED RESEARCH PAPERS IN INTERNATIONAL CONFERENCE PROCEEDING: (12)**

01. N. Kaurav, K. K. Choudhary, G. S. Okram, and Y. K. Kuo, Anomalous Seebeck coefficient of the  $\text{Na}_x\text{CoO}_2$  system, *AIP Conf. Proc.* **1349**, 1003 (2011).
02. K. K. Choudhary, D. Prasad, N. Kaurav, and Dinesh Varshney, Spin Fluctuation Mechanism to Normal State Resistivity of Iron-Based Superconductors  $\text{La}[\text{O}_{1-x}\text{F}_x]\text{FeAs}$ , *AIP Conf. Proc.* **1349**, 985 (2011).

03. Dinesh Varshney, Irfan Mansuri, *N. Kaurav*, and Y. K. Kuo, Electrical, Magnetic and Thermal Transport Behavior of Divalent/Tetravalent Doped LaMnO<sub>3</sub> Manganites, *AIP Conf. Proc.* **1349**, 935 (2011).
04. K. K. Choudhary, *N. Kaurav*, and Dinesh Varshney, Thermoelectric power of K<sub>3</sub>C<sub>60</sub> fullerides: Phonon drag and carrier diffusion contributions, *J. Phys.: Conf. Ser.* **150**, 052037 (2009).
05. Dinesh Varshney, *N. Kaurav*, and K. K. Choudhary, Interpretation of optical conductivity in the ferromagnetic metallic state of La<sub>0.7</sub>Ca<sub>0.3</sub>MnO<sub>3</sub> manganites, *J. Phys.: Conf. Ser.* **150**, 042226 (2009).
06. *N. Kaurav*, K. K. Choudhary and D. Varshney, Thermoelectric power of polycrystalline hole and electron doped manganites, *J. Phys.: Conf. Ser.* **92**, 012128 (2007).
07. K K Choudhary, *N Kaurav* and D Varshney, Interpretation of anomalies in thermal conductivity of Ba<sub>1-x</sub>K<sub>x</sub>BiO<sub>3</sub> superconductors, *J. Phys.: Conf. Ser.* **92**, 012120 (2007).
08. K K Choudhary, *N Kaurav*, N. Gupta and D Varshney, Theoretical analysis of thermoelectric power of nanocrystalline ReSi<sub>2</sub>, *J. Phys.: Conf. Ser.* **92**, 012146 (2007).
09. K K Choudhary, *N Kaurav* and D Varshney, Explanation of non-linear in-plane electrical resistivity of YBa<sub>2</sub>Cu<sub>4</sub>O<sub>8</sub>: electron-phonon approach, *J. Phys.: Conf. Ser.* **92**, 012075 (2007).
10. D. Varshney, *N. Kaurav*, K. K. Choudhary, R. Kinge and R. K. Singh, High pressure structural phase transition and elastic behavior of MgX (X = S, Se, Te) semiconducting compounds, *Mater. Res. Soc. Symp. Proc.* **987**, PP03-14 (2007).
11. D. Varshney, *N. Kaurav*, R. Kinge, K. K. Choudhary and R. K. Singh, High pressure phase transition and variation of elastic constants of ULaS solid solution, *AIP Conf. Proc.* **850**, 1301 (2006).
12. D. Varshney, *N. Kaurav*, K. K. Choudhary and R. K. Singh, Analysis of low temperature resistivity in the ferromagnetic state of Pb-doped Manganites, *AIP Conf. Proc.* **850**, 1183 (2006).

#### **B: PUBLISHED RESEARCH PAPERS IN NATIONAL CONFERENCE PROCEEDING: (14)**

01. *N. Kaurav*, Y. K. Kuo and Takayama-Muromachi, Anomalous thermal properties of FeAs-based superconductor, Proc. Of the 54th DAE Solid State Physics Symp., India. Ed. A. K. Rajarajan, A. B. Garg and G. P. Kothiyal, Manohar Chandani, India, **Pp. 789 (2009)**.
02. D. Varshney, I Mansuri, *N. Kaurav*, A. Yogi and Y. K. Kuo, Magnetic phase transition of half doped La<sub>0.5-x</sub>Ln<sub>x</sub>Ca<sub>0.5-y</sub>A<sub>y</sub>MnO<sub>3</sub> manganites, Proc. Of the 54th DAE Solid State Physics Symp., India. Ed. A. K. Rajarajan, A. B. Garg and G. P. Kothiyal, Manohar Chandani, India, **Pp. 1019 (2009)**.
03. *N. Kaurav*, Investigation of transport properties of colossal magnetoresistive materials, Sol. State. Phys., Proc. Of the 51st DAE Solid State Physics Symp., India. Ed. K. G. Bhushan, A. Das and S. K. Gupta, Prime Time Education, India, **Pp. 1001(2006)**.
04. D. Varshney, R. Kinge, *N. Kaurav* and R. K. Singh, Structural Phase Transition of BP and Bas with ZnS-type Structure, Proc. Of the 51st DAE Solid State Physics Symp., India. Ed. K. G. Bhushan, A. Das and S. K. Gupta, Prime Time Education, India, **Pp. 99 (2006)**.
05. D. Varshney, *N. Kaurav* and R. K. Singh, Interpretation of anomalous optical conductivity in the ferromagnetic metallic state of La<sub>0.7</sub>Sr<sub>0.3</sub>MnO<sub>3</sub> manganites, Proc. Of the 51st DAE Solid State Phys. Symp., India. Ed. K. G. Bhushan, A. Das and S. K. Gupta, Prime Time Education, India, **Pp. 583 (2006)**.
06. D. Varshney, *N. Kaurav*, K. K. Choudhary, V. Rathore and R. K. Singh, Dynamical properties of lanthanum monochalcogenides, Proc. Of the 51st DAE Solid State Physics Symp., India. Ed. K. G. Bhushan, A. Das and S. K. Gupta, Prime Time Education, India, **Pp. 589 (2006)**.
07. D. Varshney, *N. Kaurav* and R. K. Singh, Thermoelectric power and ac-susceptibility measurement of polycrystalline hole and electron doped manganites, Phys., Proc. Of the 51st DAE Solid State Physics Symp., India. Ed. K. G. Bhushan, A. Das and S. K. Gupta, Prime Time Education, India, **Pp. 855 (2006)**.
08. D. Varshney, A. Yogi, *N. Kaurav*, R. P. Gupta and D. M. Phase, Electrical resistivity of ferromagnetic magnetite thin film, Proc. Of the 51st DAE Solid State Physics Symp., India. Ed. K. G. Bhushan, A. Das and S. K. Gupta, Prime Time Education, India, **Pp. 441 (2006)**.

09. D. Varshney, N. Kaurav, Sanjay Shah, U. Sharma and R. K. Singh, Structural Phase Transition of YSb and ScSb with NaCl-type Structure, Proc. Of the 50th DAE Solid State Physics Symp., India. Ed. V. K. Aswal, K. G. Bhushan and J. V. Yakhmi, Prime Time Education, India, **Pp. 95 (2005)**.
10. D. Varshney, N. Kaurav and R. K. Singh, Analysis of Thermal Conductivity in  $\text{La}_{0.83}\text{Sr}_{0.17}\text{MnO}_3$  Manganites, Proc. Of the 50th DAE Solid State Physics Symp., India. Ed. V. K. Aswal, K. G. Bhushan and J. V. Yakhmi, Prime Time Education, India, **Pp. 573 (2005)**.
11. D. Varshney, N. Kaurav and R. K. Singh, Explanation of temperature dependent resistivity of metallic manganites, Proc. Of the 49th DAE Solid State Physics Symp., India, Ed. V. K. Aswal, H. G. Salunkey and J. V. Yakhmi, Prime Time Education, India, **Pp. 899 (2004)**.
12. D. Varshney, P. Sharma, N. Kaurav, S. Shah, Sadhna Singh and R. K. Singh, Phase transition and elastic properties of lanthanum monochalcogenides, , Proc. Of the 49th DAE Solid State Physics Symp., India, Ed. V. K. Aswal, H. G. Salunkey and J. V. Yakhmi, Prime Time Education, India, **Pp. 163 (2004)**.
13. D. Varshney, N. Kaurav, M. Sharma and R. K. Singh, Low temperature specific heat analysis of metallic manganites, Proc. Of the 46th DAE Solid State Physics Symp., India, Ed. S. M. Sharma, P. U. Sastry and H. G. Salunkey, Allied Publishers Limited, India, **Pp. 679 (2003)**.
14. D. Varshney, P. Sharma, N. Kaurav, S. Shah and R. K. Singh, High-pressure phase-transition and elastic properties of Zn-Mn-Se, Proc. Of the 46th DAE Solid State Physics Symp., India, Ed. S. M. Sharma, P. U. Sastry and H. G. Salunkey, Allied Publishers Limited, India, **Pp. 65 (2003)**.