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### **Research Papers Presented by me and/or my research scholars in various national/international Conferences**

#### **2017**

1. Rachna Singh, B.Keshav Rao, Mohan L Verma and Ranveer Kumar  
[Structural, Electronic and Transport Properties of X<sub>3</sub>SnC \(X=Cr/Mn/Cu\) Electrodes-First Principle Approach](#)  
12th National Conference on Solid State Ionics, organized by the Deptt. of Physics, BITS Pilani on 21-23 Dec. 2017 pp 57.
2. Rachna Singh, B.Keshav Rao, Mohan L Verma, Homendra D Sahu and Nirbhay K Singh  
[First Principle Study of Interaction of PEO with LiI/NaI](#)  
12th National Conference on Solid State Ionics, organized by the Deptt. of Physics, BITS Pilani on 21-23 Dec. 2017 pp 76.
3. Homendra D Sahu, Mohan L Verma, B.Keshav Rao and Nirbhay K Singh  
[Enhancement fo Ag<sup>+</sup> Ionic Conductivity in Solid Nanocomposite Polymer Electrolyte Treated with Magnetic Field](#)

12th National Conference on Solid State Ionics, organized by the Deptt. of Physics, BITS Pilani on 21-23 Dec. 2017 pp 83.

4. Rachna Singh, B. Keshav Rao and **Mohan L Verma**

[Electronic and Transport Properties of SnC Crystal and Nanoribbons - A DFT Approach](#)

National Conference On Signal Processing, Sustainable Energy Materials and Astronomy & Astrophysics (NSSEMA 2017), organized by School of Studies in Electronics & Photonics and School of Studies in Physics & Astrophysics, Pt Ravishankar Shukla University Raipur, Chhattisgarh on 28-30 March 2017.

5. **Mohan L Verma** and Homendra D Sahu

[Ionic conductivity and dielectric behavior of PEO based solid nanocomposite polymer electrolyte treated with magnetic field](#)

National Conference On Signal Processing, Sustainable Energy Materials and Astronomy & Astrophysics (NSSEMA 2017), organized by School of Studies in Electronics & Photonics and School of Studies in Physics & Astrophysics, Pt Ravishankar Shukla University Raipur, Chhattisgarh, on 28-30 March 2017.

6. B. Keshav Rao, **Mohan L Verma**, Homendra D Sahu, Nirbhay K Singh and Rachna Singh

[Ab Initio calculation of Zinc Blend Structured 0.75AgI:0.25AgCl Solid Solution](#)

National Conference on Research challenges in Science, Technology & Management for National development (BITCON-2017), at Bhilai Institute of Technology, Durg, Chhattisgarh, on 28-March, 2017, pp-52.

## 2016

7. Rachna Singh, B. Keshav Rao, **Mohan L Verma**, and Ranveer Kumar

[The charge density of PEO-MI \(M=Li, Na\) polymer electrolytes: A first principle study](#)

15th Asian Conference on Solid State Ionics at IIT, Patna, Bihar, INDIA on Nov. 27-30, 2016, pp-183.

8. Upma, Mohan L Verma and Durga

[First Principle Studies on Electronic Structure and Charge Density of Potato Starch](#)

15th Asian Conference on Solid State Ionics at IIT, Patna, Bihar, INDIA on Nov. 27-30, 2016, pp-183.

9. **Mohan L. Verma**, B.Keshav Rao, Rachna Singh, Durga and Homendra Sahu

[Ab Initio Study of Mechanical Strength of Solid Polymer Electrolyte PEO:LiClO<sub>4</sub>](#)

15th Asian Conference on Solid State Ionics at IIT, Patna, Bihar, INDIA on Nov. 27-30, 2016, pp-189.

## 2015

10. **Mohan L Verma** and Rachna Singh

[Density functional theory: how useful for electrolytic systems ?](#)

11<sup>th</sup> National Conference on Solid State Ionics (NCSSI-11), Dept. of Physics, Tezpur University, Tezpur, Assam, on 21-23, Dec. 2015.

11. **Mohan L Verma**, Rachna Singh and B. Keshav Rao

[First principle study of PPV-PEO-LiClO<sub>4</sub> in the context of light emitting electrochemical cell](#)

11<sup>th</sup> National Conference on Solid State Ionics (NCSSI-11), Dept. of Physics, Tezpur University, Tezpur, Assam, on 21-23, Dec. 2015.

12. Upma, **Mohan L Verma**, Rachna Singh and Ranveer Kumar

[First principle studies on structural and electronic properties of PEO<sub>5</sub>-LiI](#)

11<sup>th</sup> National Conference on Solid State Ionics (NCSSI-11), Dept. of Physics, Tezpur University, Tezpur, Assam, on 21-23, Dec. 2015.

13. **Mohan L Verma**, Homendra D Sahu, Nirbhay K Singh and Ranveer Kumar

[Impedance spectroscopy study of PEO based nanocomposite polymer electrolyte processed with magnetic field](#)

11<sup>th</sup> National Conference on Solid State Ionics (NCSSI-11), Dept. of Physics, Tezpur University, Tezpur, Assam, on 21-23, Dec. 2015.

14. B Keshav Rao, **Mohan L Verma**, Homendra Sahu & Nirbhay K Singh

[The First Principle Study of 0.75AgI:0.25AgCl: A Density Functional Approach](#)

All India Conference on Sustainable Product Development, Chhatrapati Shivaji Institute of Technology, Durg, Chhattisgarh, 24-25 April, 2015.

15. Rachna Singh and **Mohan L Verma**

[Comparative Study of Electrolyte Materials for LEEC: A first principle approach](#)

National Conference on Polymer Science, Shri Shankaracharya Technical Campus (SSGI), Bhilai, Chhattisgarh, 21 March, 2015.

16. Rachna Singh, **Mohan L Verma** and Upma

[Study of electrolyte materials for LEEC: A DFT approach](#)

National Conference on Nanostructured Materials and Their Characterization, Bhilai Institute of Technology, Bhilai, Chhattisgarh, 20-21, Feb. 2015.

17. Upma, **Mohan L Verma** and Rachna Singh

[Ab Initio Studies on Electronic Structure and Charge Density of Potato Starch](#)

National Conference on Nanostructured Materials and Their Characterization, Bhilai Institute of Technology, Bhilai, Chhattisgarh, 20-21, Feb. 2015.

## 2014

18. B. Keshav Rao and **Mohan L Verma**

[A Density Functional Approach: Cationic Interaction in Polymer Systems](#)

National Conference on Nanoscience and Nanotechnology, Shri Shankaracharya Technical Campus, Bhilai, Chhattisgarh, 8 Nov. 2014.

19. Nirbhay Singh, **Mohan L Verma** and B Keshav Rao

[Electrical and electrochemical behavior on nano-composite polymer electrolyte \(NCPE\) membranes: \(1-x\)\(PEO70:AgI30\)\(1-x\):xTiO<sub>2</sub> for capacitor application](#)

3<sup>rd</sup> International Conference on polymer and characterization, at Mahatma Gandhi University, Kottayam, Kerala, on 11-13 Oct., 2014.

20. **Mohan L Verma**, Rachana Singh and B Keshav Rao

[First principle study of light emitting electrochemical cell](#)

3<sup>rd</sup> International Conference on Polymer and Characterization, at Mahatma Gandhi University, Kottayam, Kerala, on 11-13 Oct., 2014.

## 2012

21. **Mohan L. Verma**, B. Keshav Rao and Upma

[The Role of Computer Experiments in Research and Development of Chhattisgarh](#)

National Conference on Role of Science & Technology for Sustainable Development of Chhattisgarh, at Shri Shankaracharya Technical campus, Bhilai, Chhattisgarh, on 25-26 Jan. 2012.

## 2011

22. **Mohan L. Verma**, B.Keshav Rao and Homendra Sahu

[Modeling of a transport property of a nano-composite material](#)

Recent Trends in Physics of Solids, Govt. V. Y. T. Post Graduate Autonomous College, Durg, Chhattisgarh, on 11-12 Oct. 2011.

## 2010

23. **Mohan L. Verma**& B. Keshav Rao

[Modeling of Space Charge Conductivity in Some Nanocomposite Solid Electrolyte](#)

New Horizons in Physics and Electronics, St. Thomas College, Bhilai, Chhattisgarh, 2010.

## 2009

24. **Mohan L. Verma** and B. Keshav Rao

[Modeling of Percolation Ionic Current in Nanocomposite Solid Electrolyte](#)

8<sup>th</sup> National Conference on Solid State Ionics: Materials for Novel Devices at Dr. H. S. Gaur University, Sagar, Madhya-Pradesh, during 7-9 Dec 2009.

## 2008

25. **Mohan L. Verma** and B.Keshav Rao

[Modeling of Space Charge Density in Some Nanocomposite Solid Electrolyte](#)

11<sup>th</sup> Asian Conference on Solid State Ionics at BU-DRDO Centre for Life Sciences, Bharathiar University, Coimbatore, India, 9-13 June, 2008.

26. **Mohan L. Verma**, B.Keshav Rao, Homendra Sahu and Nirbhay K. Singh

[Modeling and Determination of Space Charge Dielectric Constant of Nanocomposite Electrolyte 0.9\[0.75 AgI : 0.25 AgCl\] : SiO<sub>2</sub>](#)

11<sup>th</sup> Asian Conference on Solid State Ionics, at BU-DRDO Centre for Life Sciences, Bharathiar University, Coimbatore, India, 9-13 June, 2008.

27. **Mohan L. Verma**, Nirbhay K. Singh and Homendra Sahu

[Supercapacitors for hybrid electric vehicles: A survey and modeling of new control structure](#)

11<sup>th</sup> Asian Conference on Solid State Ionics, at BU-DRDO Centre for Life Sciences, Bharathiar University, Coimbatore, India, 9-13 June, 2008.

28. **Mohan L. Verma**, B.Keshav Rao, Arti Verma and Mimi Mukherjee

[Structural Characterization of Ionic Materials Applying Digital Image Processing of SEM/TEM Image : A novel Approach](#)

11<sup>th</sup> Asian Conference on Solid State Ionics, at BU-DRDO Centre for Life Sciences, Bharathiar University, Coimbatore, India, 9-13 June, 2008.

29. **Mohan L. Verma** and B.Keshav Rao

[Modeling of Space Charge Density in Nanocomposite Solid Electrolyte 0.9AgCl : 0.1SiO<sub>2</sub>](#)

Silver Jubilee International Conference, CONIAPS-X at Guru Ghasidas University, Bilaspur, Chhattisgarh, 12-14 JaN, 2008.

30. **Mohan L. Verma**, Mimi Mukherjee and Arti Verma

Structural characterization of nano-crystalline CdS by digital image processing Silver Jubilee International Conference, CONIAPS-X at Guru Ghasidas University, Bilaspur, Chhattisgarh, 12-14 Jan, 2008.

## 2007

31. **Mohan L. Verma**, K. Deshmukh and Anil Choubey

Determination of Space Charge Dielectric Constant of b-AgI : A Preliminary Modelling

National Conference on Physics of Nano Structured Functional Materials (BITCON 2007), Bhilai Institute of Technology-Durg (Chhattisgarh), 16-17 March 2007.

32. **Mohan L. Verma**, B.K.Rao & Mimi Mukherjee

Modeling and evaluation of Ag<sup>+</sup> diffusion in nanocomposite electrolyte 0.9AgI:0.1SiO<sub>2</sub>

National Conference on Physics of Nano Structured Functional Materials (BITCON 2007), Bhilai Institute of Technology-Durg (Chhattisgarh), 16-17 March 2007.

33. **Mohan L. Verma**, Mimi Mukherjee, S. Bhushan and Purna Bose

Electro-optical studies of chemically deposited Lanthanum/Neodymium doped (Cd-Pb)S films

National Conference on Physics of Nano Structured Functional Materials (BITCON 2007), Bhilai Institute of Technology-Durg (Chhattisgarh), 16-17 March 2007.

34. **Mohan L. Verma**, Anil Choubey, Mimi Mukherjee and B.K.Rao

Trap modulated Mobility of Ag<sup>+</sup> ions in 0.9AgI:0.1SiO<sub>2</sub>: Modeling and Determination at room temperature

National Conference on Advances in Electronic Materials and Devices (AEMDO7), Department of Physics, Guru Ghansidas University, Bilaspur, Chhattisgarh, 25-26 March, 2007.



35. **Mohan L. Verma** and Arti Verma

[Application of image processing in the characterization of nanomaterials](#)

National conference on-Horizons of electrolytic, electronics and photonic material physics, Shri Shankaracharya College of Engg. & Technology- Junwani, Bhilai, Chhattisgarh, 26-27 Oct-2007.

36. **Mohan L. Verma** and B. Keshav Rao

[Modeling of space charge density in nanocomposite electrolyte \(0.9AgI:0.1SiO<sub>2</sub>\)](#)

National conference on-Horizons of electrolytic, electronics and photonic material physics, Shri Shankaracharya College of Engg. & Technology- Junwani, Bhilai, Chhattisgarh, 26-27 Oct-2007.

37. M.Mukherjee, S.Bhushan and **Mohan L. Verma**

[Photoconductive studies on chemically deposited doped and undoped \(Cd-Pb\)S films](#)

National conference on-Horizons of electrolytic, electronics and photonic material physics, Shri Shankaracharya College of Engg. & Technology- Junwani, Bhilai, Chhattisgarh, 26-27 Oct-2007.

38. Mimi Mukherjee, **Mohan L. Verma** and Shashibhushan

[Electro-optical properties of some chemically deposited rare-earth semiconducting film](#)

National conference on-Horizons of electrolytic, electronics and photonic material physics, Shri Shankaracharya College of Engg. & Technology- Junwani, Bhilai, Chhattisgarh, 26-27 Oct-2007.

**2006**

39. Mimi Mukherjee, **Mohan L. Verma**, Swagota Sarkar and S. Bhushan

Photoconductivity and nanoparticle studies of some chemically deposited Cds & (Cd-Pb)S films

National Conference on Advances in Electronic Materials & Devices [AEMD-006], Department of Physics, Guru Ghasidas University-Bilaispur, Chhattisgarh, 5-6 March, 2006.

40. **Mohan L. Verma**, Mimi Mukherjee, B.K. Rao and O.P. Verma

A Preliminary modeling of ionic drift mobility of a nanocomposite 0.9 AgI: SiO<sub>2</sub>

National Conference on Advances in Electronic Materials & Devices [AEMD-006], Department of Physics, Guru Ghasidas University-Bilaispur, Chhattisgarh, 5-6 March, 2006.

41. **Mohan L. Verma**, Mimi Mukherjee, B.K. Rao and Lalit K. Bhaiya

A preliminary modeling of space charge dielectric constant of nano composite (0.9AgI:0.1 SiO<sub>2</sub>)

National Conference in Recent Trends in Material Science (RTMSO6), School of Physical Science, North Maharashtra University, Jalgon Maharashtra, 24-25 March 2006.

**Summary : Total International : 12, Total National : 29+2 more**

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