



Dr. Mohan L Verma

(Msc, PhD)

Professor & Head, Department of Applied Physics
FET, SSGI, Shri Shankaracharya Technical Campus
Junwani, Bhilai (Chhattisgarh) INDIA 490020

Email : drmohanlv@gmail.com,

drmohanlv@sstc.ac.in

Web : www.drmlv.in

Research Publications : In peer reviewed International/National Journals

2017

1. **Mohan L Verma**, B Keshav Rao

[Ab initio study of ionic nature of 0.75 AgI: 0.25 AgCl](#)

Solid State Ionics, 2017, 310, pp.56-61, **Impact Factor: 2.354.**

2. Upma, **Mohan L. Verma**, Durga Verma

[First principle studies on electronic structure and charge density of potato starch](#)

Ionics, 2017, 10, pp. 2881-2886, **Impact Factor: 2.062.**

3. B Keshav Rao, **Mohan L Verma**

[First principle study of PEO-AgI polymer systems](#)

Chemical Physics Letters, 2017, 679, pp. 176-180, **Impact Factor: 1.815**

4. B Keshav Rao, **Mohan L Verma**

[Modeling of space charge dielectric constant](#)

Ionics, 2017, 23(6), pp. 1563-1567, **Impact Factor: 2.062.**

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

[Study on ionic conductivity and dielectric properties of PEO-based solid nanocomposite polymer electrolytes](#)

Ionics, 23(9), pp 2339–2350, **Impact Factor: 2.062.**

6. **Mohan L Verma**, B Keshav Rao, Rachna Singh, Durga Banchor, Homendra D Sahu

[Ab initio study of mechanical strength of solid polymer electrolyte \(PEO\) 5LiClO₄](#)

Ionics, 23(10), pp 2715–2720, **Impact Factor: 2.062.**

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

[Structural, electronic and transport properties of X₃SnC \(X= Cr/Mn/Cu\) electrodes—first principle approach](#)

Ionics, 2017, pp 1–8, <https://doi.org/10.1007/s11581-017-2407-0> **Impact Factor: 2.062.**

2016

8. B Keshav Rao, **Mohan L Verma**

[Modeling of ionic charge density](#)

Chemical Physics, 2016, 478, pp. 87-90, **Impact Factor: 1.767.**

9. B Keshav Rao, **Mohan L Verma**

[First principle study of 0.75 AgI: 0.25 AgCl: A density functional approach](#)

Chemical Physics Letters, 2016, 661, pp. 157-160, **Impact Factor: 1.815.**

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

[Electron Transport in Zigzag Silicon and Silicon mono-oxide Nanoribbons : Ab initio study](#)

Research Journal of Physical Sciences, 2016, 4(5), pp. 1-7.

2015

11. Nirbhay K. Singh **Mohan L. Verma**, Manickam Minakshi Sundaram

[PEO nanocomposite polymer electrolyte for solid state symmetric capacitors](#)

Bulletin of Materials Science, 2015, 38(5), pp. 1577–1588, **Impact Factor 1.02.**

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

[Ionic conductivity and dielectric behavior of PEO-based silver ion conducting nanocomposite polymer electrolytes](#)

Ionics, 21(12), 29 July 2015, pp 3223–3231, **Impact Factor: 2.062.**

13. Nirbhay K. Singh, **Mohan L. Verma** and Taide Ajay

[Capacitor with PEO/Activated Carbon based Electrode and Nanocomposite Polymer as Electrolyte](#)

Applied Science and Advanced Materials International , 2015, 1 (4-5), pp. 118 – 121.

14. Keshav Rao and **Mohan L. Verma (Review Article)**

[*Ionic mobility of \(0.9\)\[0.75 AgI:0.25AgCl\]:0.1SiO₂ in space charge depolarization*](#)

Ionics, 2015, 21(3), pp.611-616, **Impact Factor: 2.062.**

15. Amar Bahadur, **Mohan L. Verma** and Madhukar Mishra

[First principle study of structural, electronic and magnetic properties of silicon doped zigzag boron nitride nanoribbon,](#)

The European Physical Journal B, 2015, 88(4), pp. 79, <https://doi.org/10.1140/epjb/e2015-50847-5> **Impact Factor: 1.461.**

16. Rajendra Prasad Gautam , **Mohan Lal Verma**, Jeevan Jyoti Nakarmi and Shiba Subedi

[Theoretical study on Structural and Electronics Properties of Boron and Boron Nitride Nanodics: A Density Functional Approach](#)

International Journal of Computer & Mathematical Sciences, 2015, ISSN 2347 – 8527 Volume 4, Special Issue, September 2015, DOI : 10.13140/RG.2.1.2227.5289.

17. Aarti Choudhary, Youman Kumar Sahu, Anjali Oudhia, Mohan L Verma

[Shape Dependent Structural and Electronic Properties of ZnO Nanostructures](#)

Advanced Science Letters, 2015, 21(9), pp.2677-2680,

DOI: <https://doi.org/10.1166/asl.2015.6362>

2014

18. **Mohan L. Verma**, Manickam Minakshi Sundaram and Nirbhay K. Singh

[Structural and electrochemical properties of nanocomposite polymer electrolyte for electrochemical devices](#)

Industrial & Engineering Chemistry Research, 2014, 53(39), pp-14993-15001 5, **DOI:** 10.1021/ie502615w, Impact Factor : 2.843.

19. **Mohan L. Verma**, Manickam Minakshi Sundaram and Nirbhay K. Singh

[Synthesis and characterization of solid polymer electrolyte based on activated carbon for solid state capacitor](#)

Electrochimica Acta, 2014, 137: 497–503,

DOI:<https://doi.org/10.1016/j.electacta.2014.06.039> , Impact Factor : 4.798.

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

[Modeling of ionic diffusion by space charge depolarization](#)

Ionics, 2014, 20(5) pp 697-701, DOI:10.1007/s11581-013-1015-x, Impact Factor :**2.062**.

2013

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

A density functional approach for the conductivity

CSVTU research journal, 2013, 6, pp - 13-16 2013. ISSN:0975-8725.

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

Modeling of ionic charge current density

CSVTU research journal, 2013, 6: 17-20 2013. ISSN:0975-8725.

2012

23. **Mohan L. Verma** and Nirbhay K. Singh

[AC impedance spectroscopic of nano size Al₂O₃ Filler in PEO: AgI polymer electrolyte](#)

Material Science Research India, 2012, 9(1), pp-139-146, ISSN Print: 0973-3469, Online: 2394-0565.

24. **Mohan L. Verma** and Nirbhay K. Singh

AC Impedance Analysis on PEO:AgI Polymer Electrolyte for Capacitor Application

CSVТУ Research Journal, 2012, 5, pp- 22-26, ISSN:0975-8725.

25. **Mohan L. Verma** and Nirbhay K. Singh

[Ultrabattery, fuel cell and supercapacitorbased HEV a comparative study of performance](#)

International Journal of Theoretical and Applied Physics, 2012, 2, pp-113-124, ISSN: 2250-0634.

26. **Mohan L. Verma** and Arti Verma

[Investigation on solid polymer electrolyte \(SPE\) membrane of composition \[\(1-x\) PEO: x AgCl\] prepared by hot press technique](#)

MaterialScience Research India, 2012, 9(2), pp- 227-232 ISSN Print: 0973-3469, Online: 2394-0565.

2011

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

[Modeling of Ag⁺ mobility in AgI by space charge depolarization process](#)

Ionics, 2011, 17(4), pp-323-329, DOI : 10.1007/s11581-010-0513-3, Impact Factor **2.062** .

28. **Mohan L. Verma** and Arti Verma

[Structural and morphological characterization of Ag⁺ion conducting nanocomposite polymer electrolyte membrane \(1-x\)\[70 PEO: 30 Ag₂SO₄\]: x Fe₂O₃ by hot press technique](#)

International Journal of Pure and Applied Physics, 2011, 7(1), pp- 7-12, 2011, ISSN 0973-1776.

29. **Mohan L. Verma** and Arti Verma

[Study of membrane morphology of SEM image of polymer nanocomposite membrane by digital Image processing](#)

International Journal of Engg. Science and Technology, 2011, 1, pp- 1332-1336, ISSN: 2248 – 9622.

30. **Mohan L. Verma**, Arti Verma and R.C. Agrawal

Characterization Study of Hot-Press-Synthesized Electro Active Polymeric Membranes by Image Processing

International Journal of Nanotechnology and Applications, 2011, 5(3), pp-161-171 ISSN : 0974-3081.

31. **Mohan L Verma** and Arti Verma

[Ionic transport properties and characterization studies on Ag⁺ ion conducting polymeric nanocomposite electrolyte membrane \(1-x\)\[70PEO: 30AgCl\]: xTiO₂ prepared by hot press technique.](#)

Advances in Polymer Science and Technology: An International Journal, 2011, 1(1), pp-10-13, ISSN : 2277 – 7164.

2006

32. **Mohan L. Verma**, R.C. Agrawal and Mimi Mukherjee

33. [Space charge depolarization of wurtzite or zinc blend structured silver iodide: modeling of preliminary studies](#)

Radiation effects & Defects in solids, 2006, 161(4), pp-225-233, DOI : <https://doi.org/10.1080/10420150600673549>

2000

34. R. C. Agrawal, **Mohan L. Verma**, R. K. Gupta and S Thaker

[Characterization of basic transport properties in a new fast Ag⁺ ion conducting composite electrolyte system:\(1- x\)\[0.75 AgI: 0.25 AgCl\]: xZrO₂](#)

Solid State Ionics, 2000, 136-137, pp 473-478, doi:[10.1016/S0167-2738\(00\)00461-6](https://doi.org/10.1016/S0167-2738(00)00461-6) Impact Factor: **2.354**.

1999

35. R. C. Agrawal, **Mohan L. Verma** and R. K. Gupta

[Studies on persistent-polarization/memory-type effect in Ag⁺ ion conducting quenched \[0.75 AgI: 0.25 AgCl\] mixed-system/solid-solution](#)

Indian, J. Pure and Appl. Phy, 1999, 37(04), pp-334-337, Impact Factor: **0.77**.

36. R. C. Agrawal, R.K.Gupta, **Mohan L. Verma** and A. R. Sharma

[Polarization/self-depolarization studies on Ag⁺ ion conducting quenched \[0.75 AgI: 0.25 AgCl\] mixed system/solid solution](#)

Indian, J. Pure and Appl. Phy, 1999, 37(04), pp-235-238, Impact Factor: **0.77**.

1998

37. R. C. Agrawal, **Mohan L. Verma** and R. K. Gupta

[A study of ionic transport properties on a new Ag⁺-ion-conducting composite electrolyte system:\(1-x\)\[0.75 AgI: 0.25 AgCl\]: xSiO₂](#)

Journal of Physics D: Applied Physics, 1998, 31(20), pp-2854-2860, Impact Factor: **2.588**, doi : [https://doi.org/ 10.1088/0022-3727/31/20/020](https://doi.org/10.1088/0022-3727/31/20/020).

38. R. C. Agrawal, R. K. Gupta and **Mohan L. Verma**

[Studies of polarization/self-depolarization and electret-type effect in AgI](#)

ionics, 1998, 4(1-2), pp 33-41, 1998, doi:10.1007/BF02375777, Impact Factor : **2.062**.

Summary : Total International : 36, Total National : 02
