

Dr. Rajesh C. Malan

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| DESIGNATION | Assistant Professor in Physics |  |
| RESEARCH INTEREST | Theoretical and Computational Condensed Matter Physics Pseudopotential Theory Liquid Alkali Metals and Their Alloys: <input type="checkbox"/> Phonon dispersion studies <input type="checkbox"/> Electrical Transport <input type="checkbox"/> Thermodynamical Properties <input type="checkbox"/> Velocity Autocorrelation Superconductivity in Metals and Alloys Bulk Metallic Glass (BMG) | |
| EXPERIENCE | 12 YEARS | |
| CONTACT INFORMATION | Room No B 202, Admin Block, Government Engineering College, Near Sanskar Kendra, College Road, Valsad-396001 Mobile: 9725150991 E mail: rcmalan@gecv.ac.in | |

APPOINTMENT:

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| Government Engineering College, Valsad Assistant Professor (GES CL II) | 2011-Present |
| Government Polytechnic, Valsad Adhoc lecture | 2008-2011 |

EDUCATION :

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| Ph. D. Gujarat Technological University, Ahmedabad | Feb -2021 |
| B.Ed. Saurashtra University, Rajkot | May-2008 |
| M. Sc. in Physics Saurashtra University, Rajkot | May-2007 |
| B. Sc. in Physics D. K. V. Arts and Science College, Jamnagar | May-2005 |

SKILLS AND KNOWLEDGE:

→ Fortran, LaTeX

TRAINING / WORKSHOP / CONFERENCE ATTENDED :

Conferences

- R. C. Malan* and A. M. Vora, Structure studies of alkaline-earth metals using chard hard sphere approximation, National conference on recent trends in Science of material (NCSM-2K15), The M. S. University Baroda. 28th -30th December, 2015.
- R. C. Malan* and A. M. Vora, *Structural Study of some liquid alkali metals*, XXX Gujarat science congress 2016, KSKV Kachchh Uni. Bhuj, 6th – 7th February, 2016.
- R. C. Malan* and A. M. Vora, *Structural properties of some liquid alkali metals and effect of correction functions*, 6th International Science Congress (ISC-2016) Hutatma Rajguru Mahavidyalaya, Rajgurunagar, Pune, 8th -9th December, 2016.
- R. C. Malan* and A. M. Vora, *Screening Dependence Study of Electronic Structure of Liquid Alkali Metals*, Gujarat Science Congress 2017 on PDPU, Gandhinagar. 4th -5th February, 2017.
- R. C. Malan* and A. M. Vora, *Thermodynamical study of Some simple Metals in Liquid State*, National seminar on Recent Trends in Experimental Condensed Matter Physics (RTECMP -2017), Saurashtra University, Rajkot. 21st March-2017.
- R. C. Malan* and A. M. Vora, *Electrical Resistivity of Liquid Na-Alkali Alloy*, 2nd International conference on Condensed matter and Applied Physics. Government Engineering College, Bikaner, 24th – 25th November, 2017.
- R. C. Malan* and A. M. Vora, *Electrical Transport properties of Liquid $Li_{1-x}Cs_x$* , National Conference on Recent Innovations in Sciences (NCRIS- 2018), R. K. University, Rajkot, 19th –20th January, 2018.
- R. C. Malan* and A. M. Vora, *Thermodynamical Investigation of Liquid $Li_{1-x}K_x$ Alloy*, National Conference on Advanced Material and Nanotechnology (AMN-2018), Noida-Delhi, 15th – 17th March, 2018.
- R. C. Malan* and A. M. Vora, *Thermodynamical Investigation of Liquid $K_{1-x}Rb_x$ Alloy*, National Conference on Materials and Devices (NCMD-2018), Sharda University, Greater Noida- Delhi, 31st July-1st August, 2018.
- A. M. Vora and R. C. Malan* *Vibrational Dynamics of $Pd_{39}Ni_{10}Cu_{30}P_{21}$ Bulk Metallic Glass*, National Conference on Materials and Devices (NCMD-2018), Sharda University, Greater Noida- Delhi, 31st July-1st August, 2018.
- R. C. Malan* and A. M. Vora, *Electrical Transport in Binary Alloy*, Recent Advances in Material Science, Faculty of Science, The M. S. University of Baroda, Vadodara, 23rd –24th November-2018.
- R. C. Malan and A. M. Vora, *A Variation Approach for Thermodynamical Investigation of Liquid $K_{1-x}Rb_x$ Alloy*, National Research Scholar meet on condensed Matter and Material Science Department of Physics, Gujarat University, Ahmedabad, 8th December, 2018.

- ➔ R. C. Malan and A. M. Vora, *Liquid Na_{1-x}K_x Alloys: A Thermodynamical Investigation*, G. T. U. Icon -2019, G. T. U. Ahmedabad. 16th March, 2019.
- ➔ R. C. Malan and A. M. Vora, *Study of liquid K_{1-x}Rb_x alloys through variational approach*, International Conference on Molecular Structure & Instrumental Approaches, 26th -27th November-2020, R. K. University, Rajkot.

Trainings

- ➔ STTP on Computational Software MATLAB & MATHEMATICA, SVNIT, Surat. 05/10/2020 to 09/10/2020
- ➔ FDP on Physics, GTU, Ahmedabad 21/09/2013
- ➔ Karmyogi Training for quality Improvement, Organized by Directorate of Technical Edu. Gandhinagar 06/12/2013 to 08/12/2013
- ➔ STTP on Thin Films and Vacuum Technology, SVNIT, Surat 09/12/2013 to 13/12/2013
- ➔ STTP on Intellectual Property rights and Information. Act. Narmada Colledge of Comp. App. Bharuch 10/03/2014 to 14/03/2014
- ➔ Induction Phase I, NITTTR Bhopal 21/07/2014 to 01/08/2014
- ➔ STTP on Matlab and GIS, G. P. Gandhinagar 27/04/2015 to 08/05/2015
- ➔ Induction Phase II, NITTTR, Bhopal 07/09/2015 to 18/09/2015
- ➔ STTP on Technology Enabled Learning, NITTTR, Bhopal 27/06/2016 to 01/07/2016
- ➔ STTP –HTMST-2016, SVNIT, Surat 14/07/2016 to 24/07/2016
- ➔ FDP on Physics, KCG, Ahmedabad 01/01/2018 to 06/01/2018

PROFESSIONAL MEMBERSHIPS:

Life Member, Indian Society for a Technical Education

PORTFOLIOS:

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| NISP, Coordinator | 2021-Present |
| SSIP, Core Committee | 2019-Present |
| Institute Newsletter | 2019-Present |
| GTU 100 point Activity for student | 2019-Present |
| Eco Club member | 2020-Present |
| IIC coordinator | 2021-Present |

PUBLICATION (PAPERS/BOOKS):

Published

1. R. C. Malan, A. M. Vora, Electrical resistivity of liquid Na-alkali alloys, AIP Conf. Proc. **1953** (2018) 140014. (SCOPUS Indexed Journal)

2. R. C. Malan, A. M. Vora, (2018) A screening dependence study of liquid alkali metals, In Advances chemistry research Vol 42, Ed. J. C. Taylor, New York: Nova Sci. Pub. Inc. (Book Chapter)
3. R. C. Malan and A. M. Vora, *Electrical Transport properties of Liquid $Li_{1-x}Cs_x$* , *International Journal of Scientific Research and Review*, **7**(1) Supp. (2018) 385. (UGC Approved Journal)
4. R. C. Malan, A. M. Vora, Electrical transport properties of $Li_{1-x}Na_x$ alloys, *J. Nano– Electronic Phys.* **11** (2019) 01004. (SCOPUS Indexed Journal)
5. R. C. Malan, A. M. Vora, Thermodynamical properties of liquid $K_{1-x}Rb_x$ alloys, *Mater. Today: Proc.* **12** (2019) 671. (SCI and SCOPUS Indexed)
6. R. C. Malan, A. M. Vora, Thermodynamical investigation of liquid alkali metals with Gibbs-Bogoliubov method, *J. Nano-Electronic Phys.* **10** (2018) 03020. (SCOPUS Indexed Journal)
7. R. C. Malan, A. M. Vora, Thermodynamical investigation of liquid $Li_{1-x}K_x$ alloys, *AIP Conf. Proc.* **2009** (2018) 020052. (SCOPUS Indexed Journal)
8. R. C. Malan, A. M. Vora, Study of collective motion in liquid alkali metals, *Bul. Mater. Sci.* **42** (2019) 139. (SCI and SCOPUS Indexed)
9. A. M. Vora, R. C. Malan, Vibrational Dynamics of $Pd_{39}Ni_{10}Cu_{30}P_{21}$ Bulk Metallic Glass, *Mater. Today: Proc.* **12** (2019) 549. (SCI and SCOPUS Indexed)
10. R. C. Malan, A. M. Vora, Investigation of dynamical properties of liquid alkali metals, *Phys. Chem. Liq.* **58** (2020) 222. (SCI and SCOPUS Indexed).
11. H. P. Dave, R. C. Malan, A. M. Vora, Screening dependence of superconducting state parameters of 4d-and 4f- metal based binary alloys, *Acta Phys. Pol. A* **133** (2018) 86. (SCI and SCOPUS Indexed)
12. R. C. Malan, A. M. Vora, Investigation of some basic thermodynamical properties of Na-K alloys, *Bibechana*, **2** (2021) 1.
13. R. C. Malan, A. M. Vora Study of Liquid $K_{1-x}Rb_x$ Alloy through Variational Approach, *East Eur. J. Phys.* In press (SCOPUS Indexed Journal)

Communicated

1. R. C. Malan, A. M. Vora, Study of superconducting state parameters of alkali metals and their binary alloys, *J. Nano-electronic Phys.* (SCOPUS Indexed Journal)
2. R. C. Malan, A. M. Vora, On the Effect of Aluminium on Phonon Dispersion Relation and other Properties of Bulk Metallic Glass $Ca_{70}Mg_{30}$, *Physica B: Phys. Condens. Matter.* (SCOPUS).

PATENT FILED:

NIL

PROJECT GUIDED:

SSIP/Research/funded Projects:

1. Sensor based Automated Plant cleaning system
2. Development of Automatic floor cleaning robot

Expert lectures / workshop organized/Delivered:

- ➔ Facilities and Activities of Incubation center G.E.C Valsad, during the online Boot camp for School Children, 04-06-2020
- ➔ Atal Innovation Yojna and various important schemes for school students during the online Boot camp for School Children, 06-06-2020.
- ➔ Online expert lecture for the celebration of Dr. Vikaram Sarabhai's birth Anniversary) on 14th August, 2020 arranged by District Science Centre, Dharampur, He has delivered his talk on "Dr. Vikram Sarabhai -100 Varsh Safalatana". The lecture was attended by 100 plus School teachers of Valsad district.
- ➔ Expert talk on National Science Day -2021 to the students and teachers of primary schools. The lecture was organized by District Science Centre Dharampur to develop the scientific and innovative thinking in the students and faculties of the schools.

AWARDS AND HONOURS:

NIL

SUBJECT TAUGHT:

Physics (3110011/18, 2110011)
Basics of Remote Sensing and GIS (3151308)
Environmental Studies (2110007)