

Dr. V. Jayalakshmi, M.Sc, Ph.D

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Dr. V. Jayalakshmi is working as an Assistant Professor in the Department of Physics, SRM Institute of Science and Technology, Chennai, India. She earned her B.Sc., Degree in Physics from Madras University and received her PG Degree in Physics at Annamalai University and Ph.D. from Pondicherry University, Puducherry India. Her research interests are in the field of Electronic Band Structure, Structural stability and Physical Properties of Inorganic Compounds. She has published over 16 research articles in the refereed international and National journals. She has completed on DST-SERB sponsored funded project worth of Rs 15,69,600 and has she has presented her research work in nearly 17 national and international conference. She acted as an organizing member in 17 national and international conferences. She worked a coordinator in organizing three Faculty Development Program and now extending her expertise as an Editor in High energy Physics and reviewer of various international articles in her research area.

Areas of Research:

Electronic Band Structure, Structural stability and Physical Properties of Inorganic Compounds

Selected Publications:

1. An ab-initio probe to predict the stability of SrLa, Sr₂La and Sr₃La intermetallic alloys with the aid of high pressures
V.Jayalakshmi, G.Jaiganesh, S.Rameshkumar
Computational and Theoretical Chemistry 1211(13):113660 (2022)
2. Exploring the effect of partial RE (Nd, Eu, Tm) substitution on Sn sites on the electronic and physical properties of BaSnO₃
S.Rameshkumar, G.Jaiganesh, **V.Jayalakshmi**
Physica B Condensed Matter 646(1):414306, (2022)
3. Probing into the global structural prediction, physical and electronic properties of A-X (A = Ca, Sr, Ba; X = La, Nd, Sm) binary intermetallic alloys
V.Jayalakshmi, G.Jaiganesh, S.Rameshkumar
Journal of Alloys and Compounds, Volume 848, 25 December 2020, 156364
4. Structural, phonon, elastic, thermodynamic and electronic properties of Mg-X (X = La, Nd, Sm) intermetallics: The first-principles study
S. Rameshkumar, G. Jaiganesh, **V. Jayalakshmi**
Journal of Magnesium and Alloys, Volume 7, Issue 1, March 2019, Pages 166 185
5. The first principle calculations of structural, vibrational, elastic, thermodynamic and electronic properties of MgX (X = La, Nd, Sm) intermetallics
S. Rameshkumar, G. Jaiganesh, **V. Jayalakshmi**
Computational Condensed Matter, Volume 16, September 2018, Article e00324

6. An *ab-initio* Study of Mechanical, Dynamical and Electronic Properties of MgEu intermetallic
S. Ramesh Kumar, G. Jaiganesh and **V. Jayalakshmi**
AIP Conference Proceedings Volume 1942, (2018) Page 090024.
7. An *ab-initio* study of electronic and thermodynamic properties of Ag-Sc intermetallics
S.Rameshkumar, **V. Jayalakshmi** and G.Jaiganesh
High Temperatures – High Pressures, Volume 47 No 2 Page 165–177(2018).
8. Electronic Structure and Magnetic properties of TiMn_3N , TiMn_3 and MnTi_3 compounds using TB-LMTO method
V.Sathana, G. Meenakshi, **V.Jayalakshmi**
International Journal of Research in Engineering and Technology 04 (2015) 125-131.
9. Ab-initio calculation of structural stability, electronic and optical properties of Ag_2Se
S.Rameshkumar, G. Jaiganesh, **V.Jayalakshmi** and B.Palanivel.
AIP Conference Proceedings, Volume 1665, pp. 090024[3 pages] (2015).
10. Refractive index of AlAs and AlSb compounds: An *ab-initio* study
S.Rameshkumar, G.Jaiganesh and **V. Jayalakshmi**
Indian Journal of Science 14(41) (2015) 29-34.
11. Electronic and optical properties of AgMX_2 (M=Al, Ga, In; X=S, Se, Te)
V. Jayalakshmi, S. Mageswari, B. Palanivel
AIP Conference Proceedings, Volume 1447, pp. 1087-1088 (2012).
12. Electronic and Structural Phase stability of CuAlX_2 (X= S, Se, Te) under pressure
V. Jayalakshmi, S. Davapriya, R. Murugan, B. Palanivel
Journal of Physics and Chemistry of solids 67 (2006) 669-674.
13. Electronic and Structural properties of CuMO_2 (M= Al, Ga, In).
Venkatachalam Jayalakshmi, Ramaswamy Murugan, Balan Palanivel
Journal of Alloys and Compounds 388 (2005) 19-22.
14. Electronic and Structural Properties of Zinc Chalcogenides ZnX (X=S, Se, Te).
Raje Gangadharan, **V. Jayalakshmi**, R. Murugan, B. Palanivel
Journal of Alloys and Compounds 359 (2003) 22-26.

Funded Project:

Structural, Electronic, and Physical Properties Of Lanthanum, Neodymium and Samarium Substituted Magnesium and Strontium Intermetallic Compounds” – DST- SERB- 2014-2017 (Completed in 2018) worth **Rs. 15,69,600/-**

Books/Book Chapters Published:

Electronic and Optical Properties of Delafossite Compounds AgMO_2 (M = Al, Ga, In): A Theoretical Study- Fundamental Research and Application of Physical Science Vol. 2- (2023)

Research Guide ship details

Ph.D Completed-01

Ongoing-01

Awards Received

Awarded as Senior Research Fellow -Direct from CSIR New Delhi India.

Professional Bodies:

1. Life time member in Indian Association for Crystal Growth, Membership no: 14/2023
2. Member in Indian Science Congress Association, India, Membership no: A7

Google Scholar:

<https://scholar.google.com/citations?user=-0hTns0AAAAJ&hl=en>