

Shahram Yalameha

Ph.D Candidate and Young Researcher



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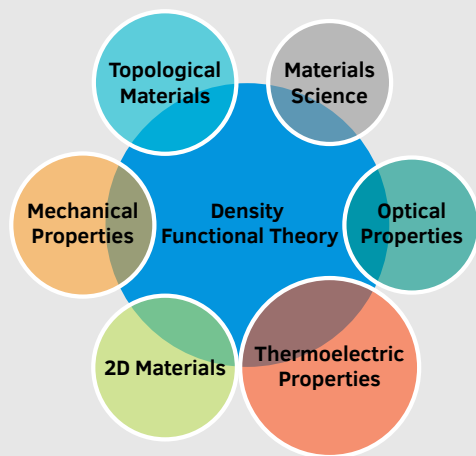


profile/Shahram_Yalameha



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Skills



Program Langs.

Octave



Shell



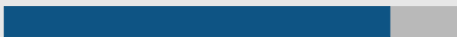
Python



C++



Fortran



References



Daryoosh Vashaee



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Ali Ramazani



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EDUCATION

- 2018 - 2022 **Ph.D. Condensed Matter Physics** University of Isfahan
Isfahan, Iran
Specializations: Quantum Materials and Topological Materials
Supervisor: Dr. Zahra Nourbakhsh and Prof. Daryoosh Vashaee
- 2015 - 2017 **M.Sc. Condensed Matter Physics** University of Isfahan
Isfahan, Iran
Specialization: Topological Materials and Mechanical Properties
Supervisor: Dr. Aminollah Vaez
- 2010 - 2014 **B.S. in Physics** University of Birjand
Birjand, Iran

PROJECTS

- 2017 - 2021 **Elastic Tools Project (EIATools code)** University of Isfahan
Isfahan, Iran
- 2019 - 202* **Higher order Topological index (Z2PI code)** University of Isfahan
Isfahan, Iran

Conferences and Summer Schools

- Jun 2016 **Autumn Meeting** Iran (Isfahan)
 - Speaker on the topological phase and Z_2 topological index
- Sep 2016 **The Annual Physics Conference of Iran** Iran (Shiraz)
 - Presented two posters on Optical and Topological properties of AlNi compound.
- Nov 2020 **Quantum ESPRESSO Workshop (Virtual workshop)** Iran (Mazandaran)
 - Quantum ESPRESSO Workshop on Electronic Structure Methods and Applications
- March 2022 **APS March Meeting (Virtual Meeting)** Chicago
 - Talk: Prediction and control of the topological phases in $Cs(Na, K)_2Bi$ compound using strain-engineering
- March 2022 **APS March Meeting (Virtual Meeting)** Chicago
 - Talk: Topological phase and thermoelectric properties of bialkali bismuthide compounds $(Na, K)_2RbBi$ from first-principles strain-engineering
- March 2022 **APS March Meeting (Virtual Meeting)** Chicago
 - Poster: EIATools: A tool for predicting and analyzing anisotropic elastic properties of 2D and 3D materials
- March 2022 **APS March Meeting (Virtual Meeting)** Chicago
 - Poster: Prediction of mechanical and anisotropic elastic properties of $Cs(Na, K)_2Bi$ compounds under hydrostatic tension and compression and tunable auxetic properties

SOFTWARE EXPERIENCE

Microsoft OFFICE	11 Years
WIEN2k	7 Years
GNUPLOT	7 Years
WANNIER90	6 Years
Wannier-Berri	1 Years
WannierTools	7 Years
WannSymm	1 Years
BoltzTraP	5 Years
Lobster	1 Years
FHI-aims	5 Years
QUANTUM ESPRESSO	5 Years
SPR-KKR	3 Years
VASP	3 Years
Z2PACK	3 Years
GIBBS2	5 Years
Phonopy	6 Years
AELAS	3 Years
ElaStic	4 Years
CALYPOS	1 Years

AWARDS AND ACHIEVEMENTS

- Supported by the Iran's National Elites Foundation (2020-2022).
- Distinguished researcher in basic sciences (2021)

Publications

- For Submitted manuscripts go to the next page or **Click here for Google Scholar**



- Ab-initio thermodynamic and elastic properties of AlNi and AlNi₃ intermetallic compounds **Shahram Yalameha** and Aminollah Vaez, International Journal of Modern Physics B, (2018), 32(11), 11850129. ([link](#))



ScienceDirect

- The effect of pressure and spin orbit interaction on topological phase and phonon dispersion of LuX (X= Sb, Bi) compounds, Mitra Narimani **Shahram Yalameha**, Zahra Nourbakhsh, Journal of Alloys and Compounds, (2018), 768, 433-440. ([link](#))



ScienceDirect

- Hydrostatic strain-induced topological phase of KNa₂Sb, **Shahram Yalameha**, Zahra Nourbakhsh, and Aminollah Vaez, Journal of Magnetism and Magnetic Materials, (2018), 468, 279-286 ([link](#))



ScienceDirect

- The investigation of structural, electronic, elastic and thermodynamic properties of Gd_{1-x}Y_xAuPb alloys: A first principle study. Parviz Saeidi, **Shahram Yalameha**, Zahra Nourbakhsh, Physics Letters A, (2019), 383(2)3, 221-230. ([link](#))



ScienceDirect

- The structural and elastic properties of InSb_{1-x}Bi_x alloys. Parviz Saeidi, **Shahram Yalameha**, Mohammad Hossein Shahidi kaviyani, Computational Condensed Matter, (2019), 18, e00358. ([link](#))



ScienceDirect

- Structural, electronic, elastic and thermodynamic properties of Al_{1-x}Z_xNi (Z= Cr, V and x= 0, 0.125, 0.25) alloys: First-principle calculations. **Shahram Yalameha** and Aminollah Vaez, Computational Condensed Matter, (2019), 21, e00415. ([link](#))



- Insight into the topological phase and elastic properties of halide perovskites CsSnX₃ (X= I, Br, Cl) under hydrostatic pressures. **Shahram Yalameha**, Parviz Saeidi, Zahra Nourbakhsh, Aminollah Vaez, and Ali Ramazani, Journal of Applied Physics, (2020), 127(8), 085102. ([link](#))

IOPscience

- Coexistence of type-I and critical-type nodal line states in intermetallic compounds ScM (M= Cu, Ag, Au). **Shahram Yalameha**, and Zahra Nourbakhsh, Journal of Physics: Condensed Matter, (2020), 32(29), 295502. ([link](#))

IOPscience

- High thermoelectric efficiency of LaX (X= Sb, Bi) two dimensional topological insulators. Mitra Narimani, **Shahram Yalameha**, and Zahra Nourbakhsh, Journal of Physics: Condensed Matter, (2020), 32(25), 255501. ([link](#))



ScienceDirect

- First principles calculations of structural, electronic and optical properties MoX₂ (X= S, Se) metal dichalcogenides and their nano-layers. Ahmad Mashmool, Parviz Saeidi, **Shahram Yalameha**, Zahra Nourbakhsh, Journal of Magnetism and Magnetic Materials, (2020), 503, 166572. ([link](#))



ScienceDirect

- Quantum spin Hall effect, thermoelectric performance, and optical properties of XBi (X= Sc, Y) monolayers. Mitra Narimani, **Shahram Yalameha**, Zahra Nourbakhsh, Physica E: Low-dimensional Systems and Nanostructures, (2020), 122, 114199. ([link](#))

Table 1: Publication List



ScienceDirect

- The effect of uniaxial strains on the electronic, thermoelectric and optical properties of TIS monolayer. Mitra Narimani, **Shahram Yalameha**, Zahra Nourbakhsh, Physica E: Low-dimensional Systems and Nanostructures, (2020), 132, 114818. ([link](#))



ScienceDirect

- Topological quantum matter to topological phase conversion: Fundamentals, materials, physical systems for phase conversions, and device applications. Md Mobarak Hossain Polash, **Shahram Yalameha**, Haihan Zhou, Kaveh Ahadi, Zahra Nourbakhsh, Daryoosh Vashae, Materials Science and Engineering: R: Reports, (2021), 145, 100620. ([link](#))



nanomaterials

- Promising Bialkali Bismuthides Cs (Na, K)₂Bi for High-Performance Nanoscale Electromechanical Devices: Prediction of Mechanical and Anisotropic Elastic Properties under hydrostatic tension and compression and tunable auxetic properties. **Shahram Yalameha**, Zahra Nourbakhsh, Ali Ramazani, and Daryoosh Vashae, Nanomaterials, (2021), 11(10), 2739. ([link](#))



ScienceDirect

- Highly stable full Heusler order Cs (Na, K)₂Bi with diverse topological phases controlled by strain engineering. **Shahram Yalameha**, Zahra Nourbakhsh, Ali Ramazani, and Daryoosh Vashae, Materials Science and Engineering: B, (2021), 273, 115430. ([link](#))

IOPscience

- Topological phase and thermoelectric properties of bialkali bismuthide compounds (Na, K)₂RbBi from first-principles. **Shahram Yalameha**, Zahra Nourbakhsh, and Daryoosh Vashae, Journal of Physics: Condensed Matter, under proof. ([link](#))



Springer

- The pressure effects on electronic, thermoelectric, thermodynamic, and optical features of Li₃Bi. Mitra Narimani, **Shahram Yalameha**, Zahra Nourbakhsh, Journal of Computational Electronics, (2021), 20, 2300–2307. ([link](#))



ScienceDirect

- EIATools: A tool for analyzing anisotropic elastic properties of the 2D and 3D materials. **Shahram Yalameha**, Zahra Nourbakhsh, Daryoosh Vashae, Computer Physics Communications, (2022), 271, 108195. ([link](#))



ScienceDirect

- Influence of hydrostatic pressure and concentration of Ge on the topological band order of SnSi_{1-x}Ge_x alloys. **Shahram Yalameha**, and Zahra Nourbakhsh, Materials Science and Engineering B, (2022), Under revision. ([link](#))

Table 2: Publication List