

CURRICULUM VITAE

December 2022

Personal Specification

First Name: Sara

Last Name: Ghayeb Zamharir

Nationality:

Date of Birth:

Gender:

Marital Status:

Phone:

E-mail:

Address:

Education Background

- Ph.D. in Atomic & Molecular Physics, Shahid Beheshti University, Tehran, Iran, Sep 2015- Aug 2021.
GPA: 18.34/20
 - Visiting Researcher, East China Normal University, Shanghai, China, Jul-Sep 2019.
 - Visiting Researcher, Hunan University, Changsha, China, Mar-Jul 2019.
- M.Sc. in Condensed Matter Physics, Isfahan University of Technology, Isfahan, Iran, Sep 2011- Jan 2014.
GPA: 19.05/20
- B.Sc. in Physics, Isfahan University of Technology, Isfahan, Iran, Sep 2007- Sep 2011.
GPA: 16.13/20

Honors & Awards

- Joint Ph.D. Fellowship Award of France Embassy in Tehran, 2017.
- Ph.D. Fellowship Award of Shahid Beheshti University for Special Talents Without Entrance Exam, 2015.
- Ranked 1st Among Graduate Students of Condensed Matter Physics at Isfahan University of Technology, 2011-2014.
- Distinguished Graduate Student at Isfahan University of Technology, 2014.
- Iran Nanotechnology Initiative Council Award, 2012-2014.
- Ranked 178th Among More Than 15000 Participants in the National University Entrance Exam for M.Sc. Degree, 2011.

Research Experiences

- Optical Simulations of MoS₂-based Coherent Perfect Absorbers by Lumerical FDTD (Sep 2019-Present).
- Second Harmonic Generation (SHG) of Sandwiched [Au Nano-Grating Array/MoS₂ Monolayer/Au Film] Nanostructure (Mar-Sep 2019).
- Nonlinear Optical Properties of Liquid-Phase Exfoliated MoS₂ Nanosheets by Z-Scan Method (Sep 2016-Mar 2019).

- Nonlinear Optical Properties of Liquid-Phase Exfoliated Graphene Oxide (GO) Nanosheets by Z-Scan Method (Nov 2016-Mar 2017).
- Nonlinear Optical Response of MoS₂-MoO₃ Composite Thin Films by Z-Scan Method (Jun-Sep 2016).
- Excimer Laser Treatment of TiO₂/WO₃ Thin Films for Self-Cleaning Gasochromic Applications (Sep 2012-Jan 2014).

Publications

- **S. Ghayeb Zamharir**, R. Karimzadeh, X. Luo, “Near-Infrared Coherent Perfect Absorption of Two-Dimensional MoS₂ Single Layer with Metallic Cross-Shaped Array”, Under Submission.
- B. Rahmati, **S. Ghayeb-Zamharir**, R. Karimzadeh, SM. Mohseni, “Nonlinear Optical Properties of Vertically-Aligned MoS₂ Nanosheets”, Journal of Electronic Materials, 1-7 (2021).
- M. Balaei, R. Karimzadeh, H. Saghaei, **S. Ghayeb-Zamharir**, “The Effect of Laser Wavelength & Concentration on the Optical Limiting Response of Exfoliated MoS₂ in the NMP Solvent”, The European Physical Journal Plus 136 (3), 1-13 (2021).
- **S. Ghayeb Zamharir**, R. Karimzadeh, X. Luo, “Tunable Polarization-Independent MoS₂-based Coherent Perfect Absorber within Visible Region”, Journal of Physics D: Applied Physics 54 (16), 165104 (2021).
- S. Changaei, J. Zamir-Anvari, N. S. Heydari, **S. Ghayeb Zamharir**, M. Arshadi, B. Bahrami, J. Rouhi, R. Karimzadeh, “The Large and Tunable Nonlinear Absorption Response of Graphene Oxide Liquid Crystals”, Journal of Electronic Materials 48 (10), 6216-6221 (2019).
- **S. Ghayeb Zamharir**, R. Karimzadeh, S. H. Aboutalebi, “Laser-Assisted Tunable Optical Nonlinearity in Liquid-Phase Exfoliated MoS₂ Dispersion”, Applied Physics A 124 (10), 1-8 (2018).
- **S. Ghayeb Zamharir**, M. Ranjbar, H. Salamati, “Excimer Laser Treatment of TiO₂/WO₃ Thin Films for Self-Cleaning Gasochromic Applications: Preparation and Characterization”, Solar energy materials and solar cells 130, 27-35 (2014).
- S. Ghayeb, M. Ranjbar, H. Salamati, “Partial Crystallization by Excimer Laser Irradiation of TiO₂/WO₃ Bilayer Films as a Gasochromic Self-Cleaner System”, Presented in the 5th International Conference on Nanostructures (ICNS5), March 2014, Kish Island, Iran.

Conference & Workshop Attendance

- Lumerical FDTD Workshop, Amirkabir University of Technology, 22 Nov 2018, Tehran, Iran.
- Laser Spectroscopy Workshop, Iranian National Center for Laser Science & Technology, 17-18 Mar 2016, Tehran, Iran.
- 5th International Conference on Nanostructures (ICNS5), 6-9 Mar 2014, Kish Island, Iran.

Skills

- Experience in Optical Simulations of 2D MoS₂ via Lumerical FDTD.
- Experience in Measurement of Nonlinear Optical Properties of 2D Materials via Z-Scan & Second Harmonic Generation Setups.
- Experience in Liquid Phase Exfoliation of 2D Materials & Wet Transfer Method.
- Experience with Thin Film Deposition via Chemical Vapor Deposition (CVD), Pulsed Laser Deposition (PLD), Spin Coating, Dip Coating, etc.
- Familiar with Material Characterization Methods: XRD, SEM, AFM, XPS, UV-Vis Spectroscopy, Raman Spectroscopy, PL Spectroscopy.
- Microsoft Office (Word-Excel-PowerPoint), Mathematica, Origin Pro, XPSPEAK41, Endnote.

- Language Skills: Persian (Native), English (Advanced), French (B1), Azerbaijani (Average).

Teaching Experiences

- Teaching Assistant, Isfahan University of Technology, Sep-Dec 2012.
Electromagnetism I (B.Sc. Course)
- Teaching, Isfahan University of Technology, Sep-Dec 2012; Sep-Dec 2013.
Electricity & Magnetism Laboratory (B.Sc. Course)
- Teaching Assistant, Isfahan University of Technology, Sep-Dec 2013.
Solid State Physics I (B.Sc. Course)
- Teaching, Shahid Beheshti University, Sep 2017-Jan 2018.
General Physics Laboratory I (B.Sc. Course)
- Teaching Assistant, Shahid Beheshti University, Feb-Jun 2018.
Optics (B.Sc. Course)

Research Interests

- 2D Materials
- Nonlinear Optics
- Optoelectronics

References

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