

## **MOHAMMAD MOHAMMADI SABET, Ph.D.**

Assistant Professor of Physics

Department of Physics, Faculty of Science, Ilam University, Ilam, Iran

Email: m.mohamadisabet@ilam.ac.ir | Mohammadi.sabet@gmail.com

### **ACADEMIC APPOINTMENTS**

Assistant Professor | Department of Physics, Ilam University, Iran

2017 – Present

Head of Physics Department | Ilam University, Iran

2018 – 2020

### **Educational background:**

#### **Bachelor's degree:**

Physics (2000-2004) from Lorestan University

#### **Master's degree:**

Graduated from Physics, Solid State, University of Sistan and Baluchestan (2004-2007)

**Thesis title:** Electrons and Semiconductors, Investigation of a full Adder in Physics

#### **PhD:**

Graduated from Physics, Condensed Matter, University of Shiraz (2010-2014)

**Thesis title:** Investigation of the Magnetic Properties of Liquid Helium-3 in the Presence of a Magnetic Field Using the LOCV Method

### **RESEARCH INTERESTS**

Statistical Mechanics and Thermodynamics

Quantum Many-Body Systems & Condensed Matter Physics (Liquid Helium-3)

General Relativity, Cosmology, and Black Hole Thermodynamics

## SELECTED PUBLICATIONS

### Books & Translations:

1. Thermodynamics and Statistical Mechanics (Translation), 2021. ISBN: 978-622-7485-09-7.
2. Introduction to Statistical Mechanics (Translation). ISBN: 978-964-490-278-9.

### Peer-Reviewed Journal Articles:

1. Sabet, M. M., Moradpour, H., Bahadoran, M., & Ziaie, A. H. (2021). Minimal length implications on the Hartree–Fock theory. *Physica Scripta*, 96(12), 125016.
2. Ziaie, A. H., Moradpour, H., & Sabet, M. M. (2021). Non-singular collapse scenario from matter–curvature coupling. *The European Physical Journal Plus*, 136, 1-16.
3. Sabet, M. M. (2021). Solution of Radial Schrödinger Equation with Yukawa Potential Using Bethe Ansatz Method. *Acta Physica Polonica A*, 140(1).
4. Senay, M., Sabet, M. M., & Moradpour, H. (2021). Heat capacity of holographic screen inspires MOND theory. *Physica Scripta*, 96(7), 075001.
5. Sayedi, M., Nazari, L., & Sabet, M. M. (2021). Investigation of Quantum and Thermodynamic Effects of the IBM-1 Model in Nuclei Using SU(1,1) Dynamical Symmetry. *Journal of Research in Mathematical and Applied Sciences*.
6. Salehi, H., Sabet, M. M., & Mizani, S. (2020). Variational calculations for relativistic two-dimensional strongly interacting fermions: Application to 2D liquid  ${}^3\text{He}$ . *Physics Letters A*, 384(9), 126193.
7. Bordbar, G. H., Mizani, S., & Sabet, M. M. (2017). Variational Calculations for the Relativistic Interacting Fermion System at Finite Temperature: Application to Liquid  ${}^3\text{He}$ . *Physical Chemistry Research*, 5(1), 99-112.
8. Bordbar, G. H., & Sabet, M. M. (2016). Magnetized liquid at finite temperature: A variational calculation approach. *International Journal of Modern Physics B*, 30(22), 1650129.

9. Moradpour, H., & Sabet, M. M. (2016). Thermodynamic descriptions of polytropic gas and its viscous type as dark energy candidates. *Canadian Journal of Physics*, 94(3), 334-341.
10. Moradpour, H., Dehghani, A., & Sabet, M. M. (2015). Dynamic black holes in an FRW background: Lemaître transformations. *Modern Physics Letters A*, 30(39), 1550207.
11. Moradpour, H., Sabet, M. M., & Ghasemi, A. (2015). Thermodynamic analysis of universes with the initial and final de Sitter eras. *Modern Physics Letters A*, 30(31), 1550158.
12. Bordbar, G. H., Sabet, M. M., & Dehghani, M. (2015). Ground state properties of liquid  $^3\text{He}$  in the presence of magnetic field. *Iranian Journal of Science and Technology, Transaction A: Science*, 39(A2), 199.
13. Bordbar, G. H., & Sabet, M. M. (2015). A variational calculation of magnetized correlated fermion system using a spin-dependent correlation: Application to liquid  $^3\text{He}$ . *International Journal of Modern Physics B*, 29(07), 1550046.
14. Bordbar, G. H., Fatemi, F., & Sabet, M. M. (2013). Lowest-Order Constrained Variational Calculations for Two-Dimensional Liquid  $^3\text{He}$ . *Journal of Theoretical and Computational Chemistry*, 12(07), 1350061.

## **TEACHING EXPERIENCE**

Instructing general and specialized core courses for B.Sc. Physics students.

Teaching advanced Physics courses and laboratory sessions.

Mentoring and advising undergraduate students in their academic and research pathways.

## **HONORS & AWARDS**

Top Faculty Member, Department of Physics, Ilam University (Academic Year 2022-2023).

Top Faculty Member, Department of Physics, Ilam University (Academic Year 2020-2021).

Top Faculty Member, Department of Physics, Ilam University (Academic Year 2019-2020).

Top Faculty Member, Department of Physics, Ilam University (Academic Year 2018-2019).

## **PROFESSIONAL MEMBERSHIPS & SERVICES**

Active reviewer for reputable international and ISC-indexed physics journals.

Member of the Iranian Physical Society.