

SABER ROSTAMZADEH

- **Personal information:**

Family name, First name: ROSTAMZADEH, Saber

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Nationality: Iranian

Researcher ID: ORCID-0000-0002-9853-2456

- **Education:**

2019 Ph.D. in condensed matter and material physics
Faculty of Engineering and Natural Sciences/ Department of Physics/ Sabanci University/ Turkey
Supervisors: Prof. Inanc ADAGIDELI (Sabanci) & Prof. Mark-Oliver GOERBIG (Paris-Saclay)

2011 Master in Theoretical Physics
Faculty of Science/ Department of Physics/ Koc University/Turkey
Supervisor: Prof. Ali MOSTAFAZADEH

2007 B.Sc. in Physics/ Department of Physics/ Urmia University/ Iran

- **Research interests:**

Mesoscopic physics and nanoelectronics in quantum materials, non-equilibrium quantum transport, spintronics, cavity optomechanics, cavity quantum electrodynamics.

- **Current positions:**

Jan. 2024 – Dec. 2027 Marie Curie fellowship on advanced manufacturing/ University of Bordeaux/
Laboratoire Ondes et Matière d'Aquitaine (LOMA)/ Bordeaux/ France

Jul. 2023 – Dec. 2023 Researcher scientist
Physics Department / Bogazici University/ Istanbul/ Turkey

- **Previous positions:**

May 2022 – Jan. 2023 Postdoctoral fellowship
Laboratoire de Physique des Solides/ Theory group/ University of Paris-Saclay/ France

May 2020 – May 2022 Postdoctoral fellowship
Faculty of Science/ Department of Physics/ Istanbul University/ Turkey

Oct. 2019 – Jan. 2020 Postdoctoral researcher
Faculty of engineering and natural sciences/ Department of Physics/ Sabanci University/ Turkey

Jan. 2018 – Sep. 2018 Visiting Ph.D. internship
Laboratoire de Physique des Solides/ Theory group/ Paris-Sud University/ France

- **Fellowships and awards:**

2023 – 2023 TUBITAK postdoctoral fellowship/ Physics Department/ Bogazici University/ Turkey
2022 – 2023 CNRS postdoctoral fellowship/ Laboratoire de Physique des Solides/ University of Paris-Saclay/ France
2020 – 2022 Istanbul University postdoctoral grant/ Department of Physics/ Istanbul University/ Turkey
2019 – 2019 Sabanci University & Lockheed Martin Corp. joint postdoc. research grant/ Department of Physics/ Turkey
2018 – 2018 CNRS internship/ Laboratoire de Physique des Solides/ Paris-Sud University/ France
2012 – 2017 Sabanci University Erdal Inonu doctoral scholarship/ Department of Physics/ Turkey

- **Teaching activities:**

— *At Sabanci University:*

2016 – 2017 Basic Physics: waves and Mechanics (2 semesters)
2015 – 2016 Mathematical statistics with applications (John Freund) (1 semester)
2014 – 2015 Mathematical statistics and decision theory (1 semester)
2014 – 2015 Discrete mathematics and probability theory (1 semester)
2013 – 2014 Linear Algebra & Differential Equations in Science and Engineering (2 semesters)

- **Supervision of graduate and doctoral students:**

2020 – 2022 Sevval Tasdemir/ Faculty of Science/ Department of Physics/ Istanbul University/ Turkey
Master Thesis Title: *Electronic and Optical Properties of Topological Weyl Semimetals*

- **Scientific outreach activities:**

2022 Organizing team, annual condensed matter meeting/ Istanbul University/ Turkey

- **Reviewing activities:**

2022 – 2023 **External expert for proposals** for the selection of COST Actions/ COST association/ European Cooperation in Science and Technology.

- **Major collaborations, including research grants:**

1. Collaborator: Mark-Oliver Goerbig, Topic: *Thermal transport, energy conversion in magnetic Weyl semimetals and magnon heat engine*, Institute: Laboratoire de Physique des Solides/ theory group/University of Paris-Saclay/ Country: France, Contrats de travail: N°:1085664, et N°:1062299.
2. Collaborator: Mustafa Sarisaman, Topic: *Optical spin shift in topological waveguides*, Institute: Department of Physics/ Istanbul University/ Country: Turkey, Contract: MAB2019-34733, Istanbul BAP.
3. Collaborator: Inanc Adagideli, Topic: *Energy storage in coherent quantum systems phase IIIA*, Institute: Sabanci University & Lockheed Martin Corp./ Country: Turkey, Contract: (E.A.CF - 18 - 01717).

- **Most relevant Publications:**

1. **S. Rostamzadeh**, S. Tasdemir, M. Sarisaman, S. A. Jafari, M. O. Goerbig, *Tilt induced vortical response and mixed anomaly in inhomogeneous Weyl matter*, **Phys. Rev. B** 107, 075155, (2023).
2. **S. Rostamzadeh**, M. Sarisaman, *Charge-pseudospin coupled diffusion in semi-Dirac graphene: pseudospin assisted valley transport*, **New J. Phys.**, 24, 083026 (2022).
3. **S. Rostamzadeh**, I. Adagideli, M. O. Goerbig, *Large enhancement of conductivity in Weyl semimetals with tilted cone: pseudo relativity and linear response*, **Phys. Rev. B** 100, 075438 (2019).
4. A. Mostafazadeh, **S. Rostamzadeh**, *Perturbative analysis of spectral singularities and their optical realizations*, **Phys. Rev. A** 86,022103 (2012).

- **Invited talks and presentations:**

1. *Coherent transport of spin and valley and their interplay in Dirac systems in 2D*, Jyvaskyla, Finland, February 2023.
2. *Vortical anomaly in inhomogeneous Weyl matter*, GDR 2426 meeting, Aussois, France, November 2022.
3. *Valley transport in Dirac matter*, Istanbul University, Istanbul, Turkey September 2022.
4. *Spin-valley locking in graphene with random Rashba fields*, 2DMAT, Paris, France July 2021.
5. *Nonabelian kinetic theory of minimal Weyl fermions*, Lancaster University, Lancaster, UK November 2020.

- **Language and computer skills:**

Languages:

English, French (A2), Persian (native), Turkish

Computer:

Python, Mathematica, FORTRAN, C/C++

- **References:**

Prof. Mark Oliver GOERBIG

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Prof. Akbar JAFARI

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