

Dr. Jonathan Atteia

Post-doc in Theoretical Physics

Wittekinstr. 52
47051 Duisburg

Germany

☎ +4915783454853

✉ jonathan.atteia@uni-due.de

20/08/1991

Research

- Jan. 2022-Now. **Post-doc in Theoretical Condensed matter physics**, University of Duisburg-Essen, under the supervision of Karin Everschor-Sitte.
"Skyrmions and skyrmion crystals in ferromagnetic systems"
- Oct. 2019-Dec. 2021 **Post-doc in Theoretical Condensed matter physics**, LPS (Laboratoire de Physique des Solides), under the supervision of M.O. Goerbig.
"High-Field skyrmions in Graphene"
- Oct. 2014-Nov. 2018 **Ph.D. in Theoretical Condensed matter physics**, LOMA (Laboratoire Ondes et Matière d'Aquitaine), University of Bordeaux, under the supervision of Jérôme Cayssol.
"Out of equilibrium topological insulators : From Dirac electrons to photons"

Education

- 2013-2014 **2nd year of Master**, *École Normale Supérieure de Lyon*, Lyon.
Specialized in Fields, particles and condensed matter physics
- Feb.-Jun. 2013 **1st year of Master**, *University of Bordeaux*.
Theoretical Quantum and Statistical Physics
- Sept.-Dec. 2012 **1st year of Master**, *University of California in Los Angeles (UCLA)*, USA.
Exchange student, Astrophysics major
- 2011-2012 **3rd year of Undergraduate**, *University of Bordeaux*.
Diploma in Physics
- 2010-2011 **2nd year of Undergraduate**, *University of Bristol*, UK.
Erasmus exchange student
- 2009-2010 **1st year of Undergraduate**, *University of Bordeaux*.

Internships

- April-July 2014 **Theoretical internship with Jérôme Cayssol**, LOMA, Talence.
Emerging gauge fields in Graphene and Dirac materials under mechanical strain
- April-June 2013 **Theoretical internship with Fabio Pistolesi**, LOMA, Talence.
Study of the decoherence time in a nano-electromechanical system
- Oct.-Dec. 2012 **Research internship at BAPSF (Basic Plasma Science Facility)**, UCLA, Los Angeles.
Data analysis of Alfvén wave at LADP (LArge Plasma Device)
- May-June 2012 **Internship at LAB (Astrophysics Laboratory of Bordeaux)**, Floirac.
Study of a molecular cloud of massive star formation

Publications

SU(4) spin waves in the $\nu = \pm 1$ quantum Hall ferromagnet in graphene, *J. Atteia, M. O. Goerbig*, PRB103, 195413 (2021).

Skyrmion zoo in graphene at charge neutrality in a strong magnetic field
Jonathan, J. Atteia, Y. Lian, M. O. Goerbig, PRB103, 035403 (2021).

Photocurrent and photoconductance of an helical edge state, *J. Atteia, J. Cayssol*, PRB100, 245412 (2019).

Ballistic transport through irradiated graphene, *J. Atteia, J.H. Bardarson, J. Cayssol*, PRB96, 245404 (2017).

Competences

Theoretical background

Correlated electrons in quantum Hall systems

Topology and quantum transport in Dirac systems

Quantum Field Theory, High-energy physics and General relativity at ENS de Lyon

Keldysh formalism during internship with Fabio Pistolesi at Loma

Computer skills

Mathematica

Python

Languages

English **Fluent**

TOEFL Score 108/120

Spanish **Intermediate**

Hobbies

Contemporary dance, Photography, Cinema