

SHORT CV

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Prof. Orion Ciftja

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Education

- **Ph.D.** - International School of Advanced Studies (SISSA/ISAS), Trieste, Italy, **1997**
- Area of Specialization: Theoretical Condensed Matter Physics
- Ph.D. Thesis: Variational study of two strongly correlated Fermi systems: Fractional quantum Hall states and atomic ^3He at zero temperature. Supervisor: Prof. Stefano Fantoni
- **Master Phil** - International School of Advanced Studies (SISSA/ISAS), Trieste, Italy, **1995**
- Master Philosophiae Thesis: Use of hyper-netted-chain and scaling techniques on the study of fractional quantum Hall effect. Supervisor: Prof. Stefano Fantoni
- **Diploma ICTP Degree** - International Centre for Theoretical Physics (ICTP), Trieste, Italy, **1994**
- Diploma ICTP Thesis: Application of the extended shadow wave function on the study of the fractional quantum Hall effect. Supervisor: Prof. Stefano Fantoni
- **Diploma Degree** - University of Tirana, Tirana, Albania, **1991**
- Diploma Thesis: A diffractive approach to resonances on laser resonator cavities. Supervisor: Prof. Halil Sykja

Teaching Experience

- **Assistant/Associate/Full Professor**, Department of Physics, Prairie View A&M University, Prairie View, Texas 77446, USA **(2002/2008/2013-present)**
- **Visiting Assistant Professor**, Department of Physics, Texas A&M University, College Station, Texas 77843, USA **(1999-2000)**
- **Assistant Professor**, Department of Physics, University of Tirana, ALBANIA **(1991-1993)**

Research Experience

- **Assistant/Associate/Full Professor**, Department of Physics, Prairie View A&M University, Prairie View, Texas 77446, USA **(2002/2008/2013-present)**
- **KITP Scholar**, Kavli Institute for Theoretical Physics (KITP), University of California, Santa Barbara, California 93106, USA **(2007, 2008 and 2009)**
- **Post-Doctoral Fellow**, Department of Physics & Astronomy, University of Missouri, Columbia, Missouri 65211, USA **(2000-2002)**
- **Visiting Assistant Professor**, Department of Physics, Texas A&M University, College Station, Texas 77843, USA **(1999-2000)**
- **Post-Doctoral Fellow**, Ames Laboratory, Iowa State University, Ames, Iowa 50011, USA **(1997-1999)**
- **Guest Scientist**, International Centre for Theoretical Physics (ICTP), Trieste I-34100, Italy **(October 1, 1994-December 31, 1994)**

Publikime ne Revista te Referuara
(Liste e pjesshme nga January 1, 2020 deri ne August 31, 2021)

1. O. Ciftja, *Origin of the anisotropic Coulomb interaction potential for a two-dimensional system of charged particles with anisotropic mass*, **Results Phys.** **26**, 104427 (2021).
<https://doi.org/10.1016/j.rinp.2021.104427>
2. O. Ciftja, *Energy Stored and Capacitance of a Circular Parallel Plate Nanocapacitor*, **Nanomaterials** **11**, 1255 (2021). <https://doi.org/10.3390/nano11051255>
3. O. Ciftja, *Integer quantum Hall effect with an anisotropic Coulomb interaction potential*, **J. Phys. Chem. Solids** **156**, 110131 (2021). <https://doi.org/10.1016/j.jpcs.2021.110131>
4. O. Ciftja, J. Batle, and M. Pons-Viver, *A two-dimensional electron gas suspended above a neutralizing background*, **Ann. Phys. (N.Y.)** **429**, 168468 (2021).
<https://doi.org/10.1016/j.aop.2021.168468>
5. O. Ciftja, *Electrostatic potential energy stored in a hemispherical surface with uniform surface charge distribution*, **J. Electrostat.** **111**, 103579 (2021).
<https://doi.org/10.1016/j.elstat.2021.103579>
6. O. Ciftja, *Fourier transform method for the electrostatic self-energy of a solid sphere with uniform volume charge density*, **Eur. J. Phys.** **42**, 025204 (2021).
<https://doi.org/10.1088/1361-6404/abcba4>
7. O. Ciftja, *Deformation of the Fermi surface of a spinless two-dimensional electron gas in presence of an anisotropic Coulomb interaction potential*, **Sci. Rep.** **11**, 3181 (2021).
<https://doi.org/10.1038/s41598-021-82564-y>
8. O. Ciftja and B. Ciftja, *New solution method for the problem of a uniformly charged straight wire*, **Eur. J. Phys.** **42**, 025203 (2021). <https://doi.org/10.1088/1361-6404/abad4c>
9. O. Ciftja and B. Ciftja, *Results for the electrostatic potential of a uniformly charged square plate*, **Results Phys.** **19**, 103671 (2020). <https://doi.org/10.1016/j.rinp.2020.103671>
10. J. Batle and O. Ciftja, *Minimum and maximum energy for crystals of magnetic dipoles*, **Sci. Rep.** **10**, 19113 (2020). <https://www.nature.com/articles/s41598-020-76029-x>
11. O. Ciftja, *Electrostatic potential of a uniformly charged square plate at an arbitrary point in space*, **Phys. Scr.** **95**, 095802 (2020). <https://doi.org/10.1088/1402-4896/aba866>
12. O. Ciftja, *Energy of the Bose Laughlin quantum Hall state of few electrons at half filling of the lowest Landau level*, **Ann. Phys. (N.Y.)** **421**, 168279 (2020).
<https://doi.org/10.1016/j.aop.2020.168279>
13. O. Ciftja, *Results for the ground state energy of a finite system of dipoles in a one-dimensional crystal lattice*, **Results Phys.** **17**, 103178 (2020). <https://doi.org/10.1016/j.rinp.2020.103178>
14. O. Ciftja, *A uniformly charged circular disk with an anisotropic Coulomb interaction potential*, **J. Electrostat.** **107**, 103472 (2020). <https://doi.org/10.1016/j.elstat.2020.103472>
15. O. Ciftja, *Detailed solution of the problem of Landau states in a symmetric gauge*, **Eur. J. Phys.** **41**, 035404 (2020). <https://doi.org/10.1088/1361-6404/ab78a7>
16. O. Ciftja, *Results for charged disks with different forms of surface charge density*, **Results Phys.** **16**, 102962 (2020). <https://doi.org/10.1016/j.rinp.2020.102962>
17. O. Ciftja, *Energy of a finite three-dimensional electron gas of spinless electrons*, **J. Phys. Chem. Solids** **136**, 109135 (2020). <https://doi.org/10.1016/j.jpcs.2019.109135>

Grante dhe Projekte Shkencore te Financuara

- Exotic Quantum Liquid Phases Due to Intrinsic Degrees of Anisotropy, **National Science Foundation (DMR-2001980)**, \$240,000, January 1, 2021- December 31, 2023 **(PI)** https://www.nsf.gov/awardsearch/showAward?AWD_ID=2001980&HistoricalAwards=false
- Fostering Student Success and Diversity in STEM by Combining Scholarship Support with Mentoring and Research Engagement, **National Science Foundation (DUE-1930530)**, \$1,000,000, January 1, 2020 – December 31, 2024 **(Co-PI)** https://www.nsf.gov/awardsearch/showAward?AWD_ID=1930530&HistoricalAwards=false
- Breakdown of Rotational Invariance in Quantum Hall Systems with Anisotropic Interaction, **National Science Foundation (DMR-1705084)**, \$200,000, September 1, 2017 – August 31, 2020 **(PI)** https://www.nsf.gov/awardsearch/showAward?AWD_ID=1705084&HistoricalAwards=false
- Novel Quantum Hall Phases with Anisotropic Interaction, **Summer 2017 Research Mini-Grant Program**, \$20,000, June 1, 2017-August 31, 2017 **(PI)**
- RUI-Unconventional Anisotropic Order in Strongly Correlated Fermi Systems, **National Science Foundation (DMR-1410350)**, \$180,037, September 1, 2014 – August 31, 2017 **(PI)** https://www.nsf.gov/awardsearch/showAward?AWD_ID=1410350&HistoricalAwards=false
- New Concepts for Controlled Injection, Detection, and Manipulation of Spin in Quantum Dot Devices, **Army Research Office (W911NF-13-1-0139)**, \$401,649, May 1, 2013-April 30, 2017 **(PI)**
- RUI-Anisotropic Phases of Correlated Electronic Systems, **National Science Foundation (DMR-1104795)**, \$144,000, September 1, 2011 – August 31, 2015 **(PI)** https://www.nsf.gov/awardsearch/showAward?AWD_ID=1104795&HistoricalAwards=false
- College Readiness and Retention of Physics and Chemistry Knowledge at PVAMU, **Texas Higher Education Coordinating Board**, \$10,000, December 1, 2009 - May 31, 2011 **(PI)**
- RUI-Anisotropy in Correlated Electronic Systems in Quantum Hall Regime, **National Science Foundation (DMR-0804569)**, \$138,000, September 15, 2008 – August 31, 2012 **(PI)** https://www.nsf.gov/awardsearch/showAward?AWD_ID=0804568&HistoricalAwards=false
- MRI: Acquisition of a dilution refrigerator with tunnel diode system, **National Science Foundation (DMR-0619801)**, \$321,173, October 1, 2006-September 30, 2009 **(Co-PI)** https://www.nsf.gov/awardsearch/showAward?AWD_ID=0619801&HistoricalAwards=false
- IGERT: New mathematical tools for next generation materials [Leading Institution: TAMU; Participating Institutions: PVAMU and Texas State University], **National Science Foundation (Award # 0549487)**, \$2,817,299, June 1, 2006-May 31, 2013 **(sub-award PI)**
- Research on the actinides and related materials at extreme conditions, **Department of Energy (U.S. D.O.E. Grant No. DE-FG52-05NA27036)**, \$1,500,000, October 1, 2005-September 30, 2007 **(Co-PI)**
- Physics of nanotechnology at PVAMU, **Research Enhancement Program**, \$3500, September 1, 2003- August 31, 2004 **(PI)**