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Author: Sätterskog, K.W.P.
Title: Quantum critical metals at vanishing fermion flavor number
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List of Publications

The thesis is based on the following publications:


Other publications by the author:

Curriculum Vitæ

I was born the 8th of February 1989 in Gothenburg, Sweden.

In 2008 I started my studies at the bachelor’s program “Physics Engineering” at Chalmers University in Gothenburg. I obtained my degree in 2011 and was admitted to the master’s program “Physics and Astronomy” at the same university. The first year of this program was done as an exchange student at Hong Kong University of Science and Technology and the second year back in Gothenburg. I obtained my master’s degree in 2013.

I was the same year hired as a Ph.D. student in the group of Koenraad Schalm at the Lorentz Institute at Leiden University in the Netherlands to conduct research on strongly coupled condensed matter systems using methods from high-energy physics. My work there resulted in this thesis.

During the fall of 2016 I presented my work at the “Applications of Gauge/Gravity Duality 2016” workshop at Chalmers University, at the Perimeter Institute, Harvard University, Stanford University and UC Berkeley.

From October 2017 I will be working as a postdoctoral researcher at the “Nordic Institute for Theoretical Physics” in Stockholm.
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Outside of the Lorenz Institute I express my gratitude to Ulf Gran at Chalmers University who was the advisor of my master’s project. I thoroughly enjoyed the research we did together and this motivated me to pursue a Ph.D. in theoretical physics.

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Bibliography


Petter Sätterskog. “A Framework for Studying a Quantum Critical Metal in the Limit $N_f \to 0$”. In: To be submitted (2017).


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[146] Andrey Chubukov. “Hidden one-dimensional physics in 2D critical metals”. In: Physics 3 (Aug. 2010). URL: [https://doi.org/10.1103/physics.3.70]


