



JOHANNES GUTENBERG
UNIVERSITÄT MAINZ

Seminar: Hard Condensed Matter Theory

Room: Galileo room, 01-128 (Staudinger Weg 7)

Time: Tuesday, 06.12.2016, 14:00

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Surface states in holographic Weyl semimetals

Weyl semimetals (WSMs) are a class of gapless topological materials which have gained a lot of interest in the last few years. In these states of matter, low-energy excitations behave as chiral massless particles, i.e. Weyl fermions. Besides exhibiting anomalous transport effects, the most prominent feature of these crystals are topologically protected surface states, the so-called Fermi arcs. Their emergence can be tied to an effective axial magnetic field arising at a surface due to lattice deformations and inducing a surface current by the chiral magnetic effect. Using a holographic model, I computed these currents in the strong coupling limit. The results show that the bulk-boundary correspondence in WSMs is in some sense independent of interactions demonstrating the universality of anomaly-related effects. In the end, I will discuss the limits of this universality

All interested are cordially welcome!

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