



PHYSIKALISCHES KOLLOQUIUM

des Fachbereichs Physik
der Johann Wolfgang Goethe-Universität Frankfurt

Mittwoch, den 16.11.2016, 16 Uhr c.t.
Großer Hörsaal, Raum _0.111,
Max-von-Laue-Str. 1



Prof. Cristina Manuel

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"Chiral Transport Phenomena"

For systems made up by massless fermions the conventional hydrodynamics and transport equations are modified, leading to new transport phenomena related to the quantum anomalies of quantum field theories. I will explain the main conceptual ideas behind these new transport effects, and also how to derive these equations and effects from simple semi-classical arguments. These chiral anomalous effects are relevant and have wide range applications in condensed-matter systems (with the recently new discovered materials, the so called Weyl semimetals), in heavy-ion collisions, in astrophysics or in cosmology. I will then concentrate in the fact that chiral transport phenomena may allow us to explain the generation of magnetic fields with magnetic helicity in different settings.

Die Dozenten der Physik

local host: Apl. Prof. Dr. Elena Bratkovskaya, Elena.Bratkovskaya@th.physik.uni-frankfurt.de