



PHYSIKALISCHES KOLLOQUIUM

Referent:

Prof. Dr. Björn Garbrecht

Technical University of Munich

Department of Physics



Thema:

Why is there more matter than antimatter? The Status after 50 Years

Zeit und Ort:

Dienstag, 27.06.2017, 16:40 Uhr

Recknagel-Bau, Hörsaal REC/C213, Haeckelstr. 3

Leiter:

Prof. Dr. Dominik Stöckinger

Kurzfassung:

Within the fifties and sixties of the previous century, the violation of discrete symmetries in particle physics as well as the cosmic microwave background have been discovered. In this setting, Sakharov has formulated in 1966/67 his celebrated necessary conditions for a dynamical emergence of a matter-antimatter asymmetry (without which the Universe would not contain any galaxies made up of matter): (1) violation of the symmetries C (charge conjugation) and CP (charge conjugation in conjunction with spatial reflection), (2) violation of baryon number (thus allowing protons to decay into lighter particles) and (3) deviation from thermodynamic equilibrium. Besides a general overview, I will explain Sakharov's ideas on the example of leptogenesis. This scenario establishes a connection with neutrino masses and can possibly be tested experimentally.

Biographie:

Björn Garbrecht has studied physics in Heidelberg and at the University of Massachusetts Amherst. After obtaining his PhD at Heidelberg, he held positions at the University of Manchester, the University of Wisconsin-Madison and RWTH Aachen. Since 2012, he has been working for the Technical University of Munich as a professor of theoretical physics of the early universe.

Mitglied von:



**DRESDEN
concept**
Exzellenz aus
Wissenschaft
und Kultur