



KCETA Colloquium

Cosmic Particles in the Galactic Magnetic Field

Thursday, June 20, 2024

Kleiner Hörsaal A (CS) 15:45 - 17:00

Dr. Michael Unger
(KIT)

Galaxies are known to be permeated by large-scale magnetic fields, but the origin of these fields remains a mystery. In this talk, I will present new results on the global structure of the magnetic field of our Galaxy, derived from extragalactic Faraday rotation measures and sky maps of polarized synchrotron emission obtained by WMAP and Planck.

As an application, I will explore the deflections of ultra high-energy cosmic rays within the Galactic magnetic field and discuss how they shape our interpretation of the cosmic-ray dipole. Additionally, I will demonstrate how this new magnetic field model can be used to pinpoint the extragalactic arrival direction of the extremely energetic "Amaterasu particle," recently discovered by the Telescope Array Collaboration, and discuss the implications for our understanding of the origin of ultrahigh-energy cosmic rays.



Please note:

The colloquium will also be live-streamed to Seminarraum 224 in Bld. 402 (CN).