Universität Münster

Fachbereich Physik

GRK 2149

Allgemeines Physikalisches Kolloquium

Donnerstag, 18.01.2024 - 16 Uhr c.t.

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Prof. Ralph Engel

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Surprises in High-energy Astroparticle Physics

The Universe sends us particles to Earth that cover a very wide range in energy, extending up to 10,000,000 times the energy of the most powerful man-made accelerators. These particles and the secondary particles (gamma-rays and neutrinos) produced in their interactions, are messengers of the most extreme environments and violent processes in the Universe. Combining our observations of the different particle types, typically referred to as multi-messenger astrophysics, has led to a number of unexpected discoveries and has changed our understanding of the corresponding high-energy processes in astrophysics fundamentally. After giving an introduction to the fundamental relation between cosmic rays, neutrinos, and gamma rays, the iterative and non-predictable process of developing hypotheses and testing them with observations is illustrated by focusing on the relation between cosmic rays and neutrinos.

wissen.leben

Kolloquiums-Kaffee ab 16 Uhr vor dem Hörsaal

Institutsgruppe 1 – HS 2
Wilhelm-Klemm-Str. 10