

PHYSIKALISCHES KOLLOQUIUM

SOMMERSEMESTER 2023

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BUILDING RADIO DETECTORS TO SEARCH FOR ASTROPHYSICAL NEUTRINOS

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The cosmos manages to accelerate particles to energies that are unattainable for man-made accelerators, ultra-high energy cosmic rays. The source in which this happens have been elusive. The arrival directions of these cosmic rays do not point back to their sources, due to their bent trajectories in (extra-)galactic magnetic fields. Their neutral counterpart, the neutrinos, do reveal the sources, however, they require massive volumes to be detected. In particular, at energies of EeV, which correspond to the highest energy cosmic rays. This talk will introduce you to the Radio Neutrino Observatory in Greenland (RNO-G), the world's largest neutrino detector, currently under construction.



We will walk through science case, experimental challenges, and first data. With being a mid-scale experiment, RNO-G is also a stepping stone towards IceCube-Gen2, which will build on the successful first detection of the astrophysical neutrino flux by IceCube.

Die Einführung erfolgt durch Anna Franckowiak

Die Fakultät lädt alle Interessierten herzlich ein. Die Veranstaltung findet im Hörsaal HNB und hybrid via Zoom (Link online oder per QR-Code) statt.

