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Seminar über Microwave Physics and Atmospheric Physics

Referent/in: Prof. Dr. Wampfler Susanne, Center for Space and Habitability (CSH)
University of Bern

Titel: Isotope Astrochemistry: Constraining the Origin of the Solar System's Stable Isotope Anomalies

Understanding the formation and evolution of the solar system is one of the key goals in astronomy and cosmochemistry. One of the puzzling properties of our solar system are the large anomalies found in the isotopic composition of the solar system bodies in the volatile elements hydrogen, nitrogen, and oxygen. While the existence of these isotopic anomalies is well established, their origin is still not understood. Because the largest anomalies are typically found in some of the most pristine solar system materials, an inheritance from the earliest phases of solar system formation seems likely.

In this talk, I will present how we are using (sub-)millimeter observations from ALMA and other observatories to measure the isotopic composition of the material in star-forming regions and gain insights into the mechanisms that lead to the fractionation of stable isotopes during the formation of solar-like stars and their planetary systems. I will also discuss our efforts to link these astronomical results with isotopic measurements of meteorites and cometary data from the Rosetta mission

Zeit: Freitag, 04.10.2019, 10:15 Uhr

Ort: **Hörsaal A97**, Gebäude Exakte Wissenschaften, Sidlerstrasse 5, Bern, Schweiz