

Seminar

von

Prof. Dr. Lena Noack

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Influence of planet composition and mantle evolution on the build-up of secondary atmospheres

Thousands of exoplanets have been discovered in the past decade, revolutionizing our way of scientific thinking both in the direction of formation and evolution of planets, as well as in the direction of exotic places where life may evolve and flourish in non-Earth-like environments. Our ultimate goal is to discover a second Earth. However, even if a planet is discovered with a density hinting at a rocky planet, it may be quite non-Earth-like for example in terms of composition, mineralogy, core formation, volatile content, etc. It is therefore necessary to study how the evolution of a planet may be affected by the unknown planet's properties as well as its formation and evolution history, and to understand better possible restrictions for surface or subsurface habitability. A dense-enough atmosphere would be needed to preserve surface water for planets in the habitable zone. We find that the interior composition and structure (especially in terms of water content and core-mass fraction) as well as the planet's size strongly influence the outgassing potential and build-up of a secondary atmosphere.

Montag, 08. Jänner 2018, um 15:00 Uhr im HS

des Institutes für Astrophysik, Türkenschanzstraße 17, 1180 Wien