



MEGHÍVÓ

AKADÉMIAI SZÉKFOGLALÓRA

A MAGYAR TUDOMÁNYOS AKADÉMIA
FIZIKAI TUDOMÁNYOK OSZTÁLYA

tisztelettel meghívja Önt

Thomas Henning, az MTA tiszteleti tagja:
Towards the Discovery of Baby Planets
címmel tartandó székfoglaló előadására

Az előadás ideje: 2022. március 30. (szerda) 14.00 óra

Az előadás helyszíne: MTA Székház, Díszterem
(1051 Budapest, Széchenyi István tér 9. I. emelet)

Az előadás kivonata:

In order to make progress in understanding the formation of planetary systems we need to combine comprehensive observing programs, theoretical modeling, and dedicated laboratory experiments. This is the research program my team at the Max Planck Institute for Astronomy in Heidelberg established with close connections to Konkoly Observatory.

Our solar system formed 4.567 Billion years ago. Today's structure and dynamics of our planetary system together with cosmochemical constraints provide the basis for reconstructing the early history of its formation. With population synthesis simulations – based on planet formation theories – we are trying to build a bridge between the properties of planet-forming gas-dust disks around young stars and mature planetary systems. Such models have achieved some success, but need more guidance from observations.

Nearly all of the more than 4000 exoplanets discovered so far orbit mature stars and have been detected by indirect techniques, not direct imaging. How much better would it be for our understanding of planet formation to directly image a planet in its birth environment? In order to achieve this goal one needs to push the technique of adaptive optics at 10m-class telescopes to its limits. Together with sophisticated data analysis tool we are now coming closer to reach this goal. Indeed, we discovered and directly imaged the very young planet PDS 70b in its birth environment. Soon after this detection a second planet has been discovered in the same system. Both planets are still accreting gas from their parental disk and seem to be in resonance. The planet-forming disk is characterized by long-wavelength ALMA observations, demonstrating the importance of multi-wavelength data in modern astronomy.

Kérjük, hogy részvételi szándékát előzetesen a fizika.regisztracio1@titkarsag.mta.hu e-mail címen jelezze.

