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Zooming in on the place of rocky planet formation: infrared interferometric observations of protoplanetary disks

Jacques Kluska

Department Natuurkunde en Sterrenkunde, KU Leuven, Leuven, Belgium (jacques.kluska@kuleuven.be)

Spatially resolved observations from ALMA or direct imaging instruments revealed an extreme diversity and complexity of structures and substructures in the outer parts of protoplanetary disks.

However, these techniques do not resolve the inner regions of protoplanetary disks, typically at less than 5 astronomical units from the star.

These inner regions are crucial to understand the formation of telluric planets.

They are also the theatre of strong interactions between the star and the disk that can influence planet formation.

Thanks to infrared interferometry we can reach an angular resolution of ~ 1 mas reaching sub-astronomical unit physical scales.

We can, therefore use infrared interferometry to reveal and study the structure, composition, and dynamics of the inner parts of protoplanetary disks.

In the past few years, the advent of infrared interferometers combining four telescopes such as PIONIER, MATISSE or GRAVITY enabled us to study these disks with an unprecedented detail.

In this talk, I will review the recent results of near and mid-infrared interferometric observations of protoplanetary disks.