CHEMICAL DIVERSITY IN THE INNER REGIONS OF PLANET-FORMING DISKS AS REVEALED BY JWST-MIRI AND THE MINDS PROGRAM

KAMBER SCHWARZ, *MPIA, Max Planck Institute for Astronomy, Heidelberg, Germany*.

JWST allows us to characterise the properties of gas and dust in the inner regions of protoplanetary disks with unprecedented sensitivity and spectral resolution. These planet-forming disks are dynamic objects. Solids grow in size and drift inward, potentially enriching the gas of the inner disk in volatile molecules transported from the outer disk as ices. Concurrently, the formation of substructures such as rings and vortices may prevent this material from being delivered to the inner disk, changing the chemical composition of the material available to forming planets. JWST spectra show emission from H_2O, CO_2, hydrocarbons, and multiple as yet unidentified species. Here, I present the first results from the MINDS (MIRI mid-IR Disk Survey, PI: Th. Henning) program, which has observed multiple disks around brown dwarf and T-Tauri stars. Observations include the first detections of benzene and $^{13}CO_2$ in protoplanetary disks and a range of derived gas-phase carbon to oxygen ratios. These data allow us to make preliminary connections between the composition of the inner disk and that of the outer disk.