

Dust vertical settling in 33 protoplanetary disks: Implications for dust accumulation and planet formation

Giant planet formation within protoplanetary disk lifetimes necessitates the rapid growth of micron-sized particles into larger grains. Characterizing the radial and vertical structure of these gas-rich disks around young stars is crucial for understanding this process. Here, I will present observational constraints on the vertical and radial accumulation of \sim millimeter sized particles based on ALMA observations of 33 protoplanetary disks. The modeling of these systems allows to identify that vertical settling is efficient in the outer disks and varies with radius in some systems. In the context of pebble accretion, our results indicate that several disk regions would allow core formation to proceed efficiently, even at wide orbital distances outside of 50 au.