

# “Particules traps” at planet gap edges in disks : effects of grain growth and fragmentation

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We model dust evolution in protoplanetary disks with 3D, SPH, two-phase (gas+dust) hydrodynamical simulations. The gas+dust dynamics, where aerodynamic drag leads to the vertical settling and radial migration of grains, is consistently treated. In a previous work, we characterized the spatial distribution of non-growing dust grains of different sizes in a disk containing a gap-opening planet and investigated the gap’s detectability with ALMA. Here, we take into account the effects of grain growth and fragmentation and study their impact on the distribution of solids in the disk. We show that the ability of “particle traps” at the gap edges to favor grain growth is strongly affected by fragmentation. We discuss the consequences on observations with ALMA and NOEMA.