Dust Traps Around Snow Lines in Protoplanetary Discs



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Great Barriers in Planet Formation

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Fragmentation / bouncing barriers Blum&Wurm 2008, Zsom+2010

Gr at Barriers of Planet Formation



Radial drift barrier Weidenschilling 1977





- Dust back-reaction onto the gas
- Grains sticking properties modification across a snow line

Gr at Barriers of Planet Formation

Importance of the Dust Back-reaction



Gonzalez+2017

Importance of the Dust Back-reaction

Gonzalez+2017

Importance of the Dust Back-reaction

Gonzalez+2017

The Water Snow Line

few AU at most

The CO Snow Line?

CO in the solid state on grains is slightly better

- Dust (should) can pile-up at snow lines
- The CO snow line:
 - can shape a bulk of large grains in its inside part
 - o can be the location where dust growth starts

The non-correlation of dust pile-upsl with snow lines does not necessarily mean they are unrelated

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