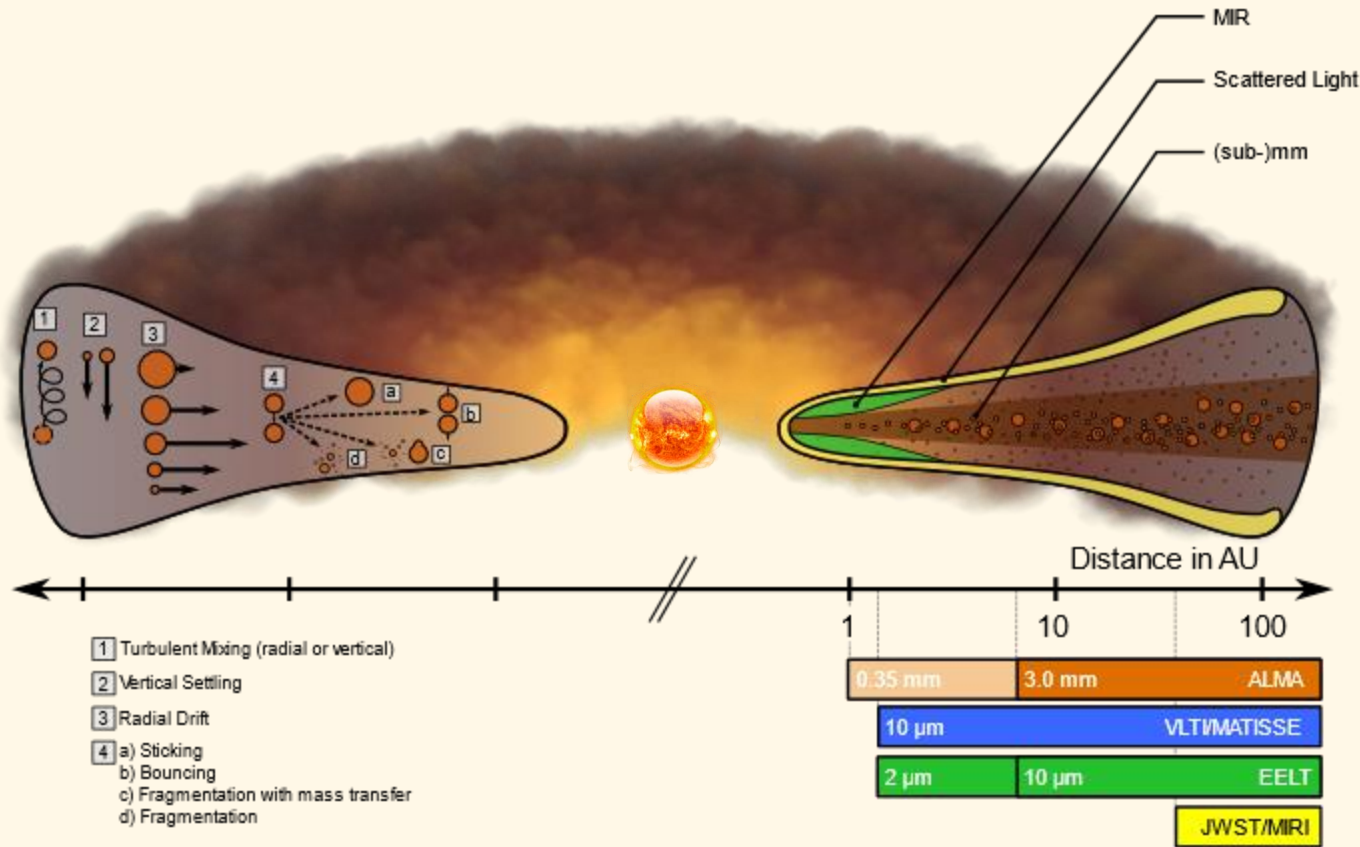


# CLUSTERS OF HEAVY PARTICLES IN TWO-DIMENSIONAL KEPLERIAN TURBULENCE

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## PROTOPLANETARY DISKS

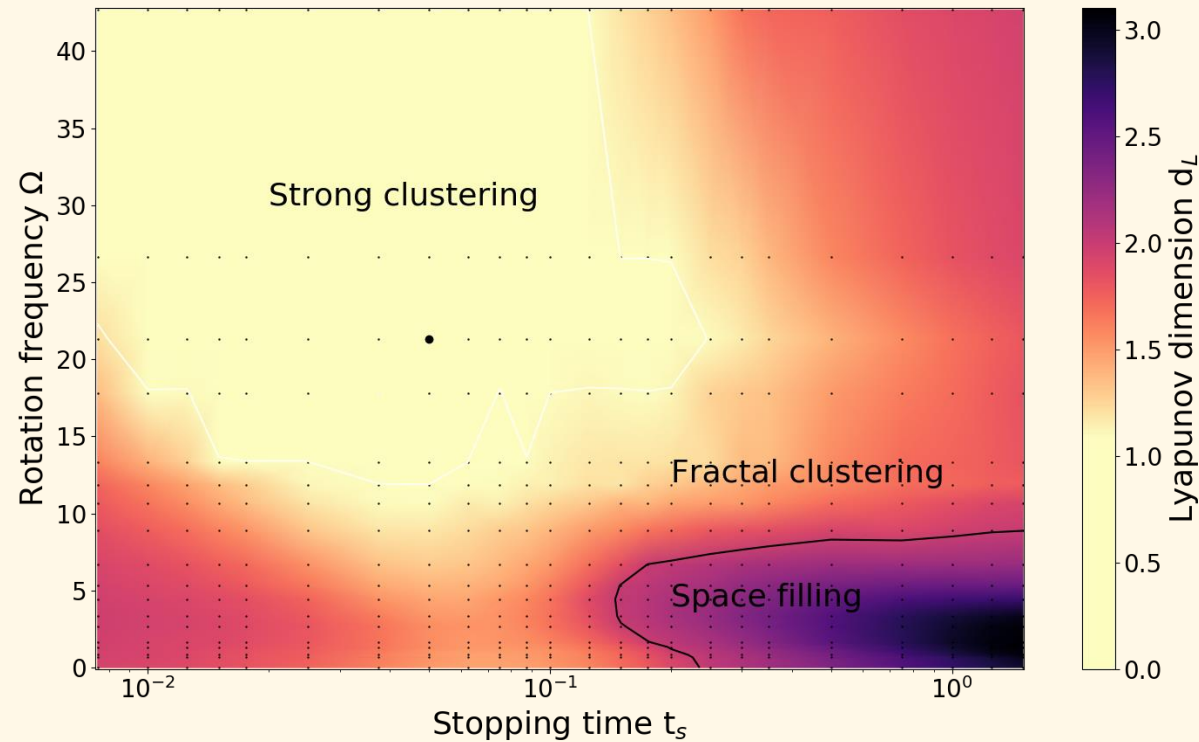
- 99% gas and 1% dust
- Dust  $\sim \mu\text{m}$ -cm  $\longrightarrow$  Planetesimals  $\sim$  km
- Formation of planetesimals: open question
- Turbulence for particles concentration

Credits: Testi et al., 2014

- METHOD**
- 2D direct numerical simulations
  - Various values of rotation frequency  $\Omega$  and solid stopping time  $t_s$

## RESULTS

### Fractal vs strong clustering



### Formation of clusters

