# Thoughts on dust sublimation in discs

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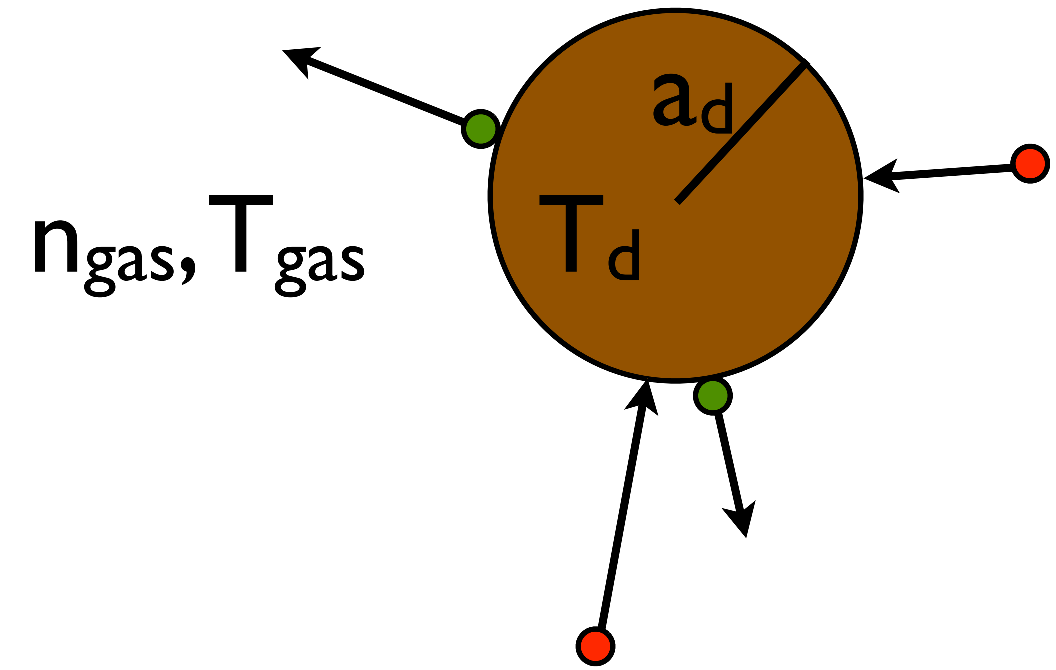
# The sublimation temperature




- Evaporation always happens.
- If $a_d$ = *const*, gas pressure and evaporation balance out.
- Balance at $T_{dust} = T_{subl} = T(n_{gas}, T_{gas})$.
- For details, see Kama et al. (2009).

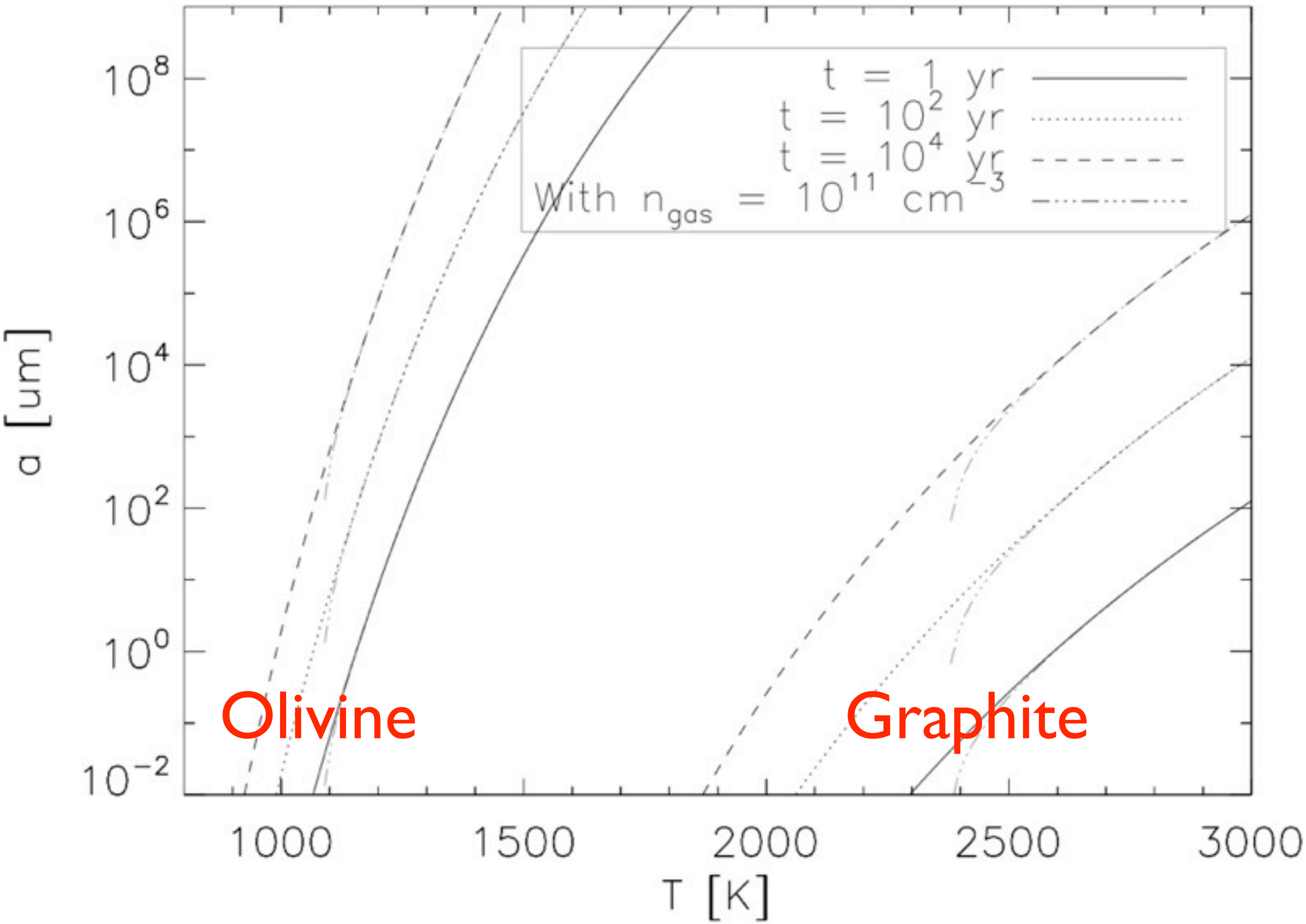
# The main question

"*We assume there is **no gas** in these debris disks, and therefore the inner radial limit for the debris disk is the dust sublimation radius. For **a sublimation temperature of 1600 K** and assuming large grains in thermal equilibrium emitting as blackbodies, **the sublimation radius is**...*" - Akeson et al. (2009)

But without gas, $T_{subl}$ = 0 K. So, we ask:

**Which grains can survive at a given $T_{dust}$ on timescales relevant in debris discs?**

# How large must a grain be to survive t [yr] at some T?




Kama, Dominik, Augereau, in prep.

# The subroutine

- For a given grain type and temperature, return the survival time.
- For a given temperature and timescale, return the surviving grains.
- Option to include gas pressure.