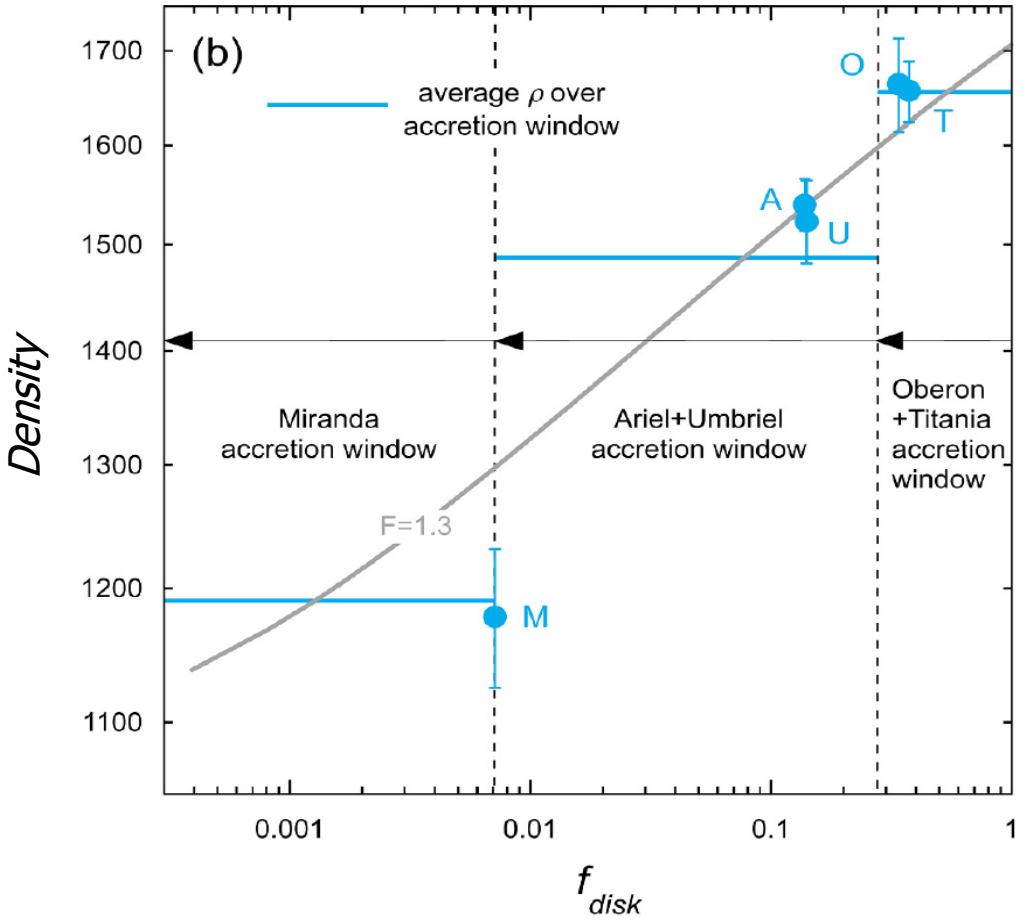
Density of Uranus moons: Evidence for ice/rock fractionation during planetary accretion

- Relationship between size and density of the moons of Uranus
- We propose a fractionation model during the accretion
- We find a fractionation constant of 1.3
- This process comes in addition to other processes at work during the accretion of moons around their planet

Référence : Reynard and **Sotin**, Density of Uranus moons: Evidence for ice/rock fractionation during planetary accretion, Icarus, 425, 11635, 2025
https://doi.org/10.1016/j.icarus.2024.1163542025



Rayleigh fractionation (grey curve, eqs. 2–9 for fractionation factor F = 1.3) gives results close to a power-law relation between density and mass fraction of residual solids in the disk (fdisk),