Planetesimals thermal evolution in the early Solar System

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Planetesimals formed in the early stages of the Solar System have led to the current observed small bodies and planetary system. However, from their initial formation embedded in the Solar nebula to their current state, they undergone many physicals (e.g. Kobayashi & Tanaka 2021), chemicals (Krijt et al. 2022), dynamicals (Raymond & Nesvorny 2022) and thermal processes (Gkotsinas et al. 2022, Guilbert-Lepoutre et al. 2024). As a consequence, **the current small bodies in the Solar System have hardly kept the characteristics of primitive planetesimals.**

In the present study we aim to compute thermal planetesimal models embedded in the gaseous disk. The goal is to follow the thermal evolution to evaluate the potential impact on their internal structure and their composition since it may have consequences for small bodies of the Solar System (e.g. Davidsson et al. 2016;,Lichtenberg et al. 2021) and for planet properties (Lichtenberg et al. 2019).