

Statistical fragmentation model towards the emergence of the IMF

Thomasson B., Joncour I., Moraux E.

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Abstract

The Initial Mass Function (IMF) of young stars is a critical statistical indicator to investigate whether star formation is a universal process within molecular clouds leaving the same stellar outcomes regardless of the physical and chemical properties of the environment. It is thought that the IMF may directly result from the Core Mass Function (CMF). This poster aims to introduce a statistical approach to study the evolution of a CMF towards a canonical IMF when discrete multi-scale fragmentation processes are taken into account. We show in particular that a top-heavy CMF may yield a canonical IMF for specific fragmentation properties.