

From simulations to theory: revisiting star formation models in high-Mach environment.

Several attempts have been made to build analytical model for galactic star formation rates. This models prove extremely useful in many contexts, from cosmological and galactic simulations to the interpretation of observations.

In this talk I will present a set of numerical simulations that challenge the existing analytical models for high-Mach numbers. I will then present a set of conceptual changes that can be made to these models to correctly match the behavior of the star formation rate.

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