

Simulating the birth environment of circumstellar discs

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Propositions accompanying the thesis

Simulating the birth environment of circumstellar discs

- 1. The viscous expansion of circumstellar discs can override the effects of dynamical truncations (Chapter 2)
- 2. External photoevaporation results in mass loss that is at least one order of magnitude larger than that of dynamical truncations (Chapter 3)
- 3. Planet formation must start within the first 0.1 Myr of disk evolution for disks to be massive enough to form planets (Chapters 3, 4)
- 4. Studying the evolution of dust mass is necessary for constraining the time scales for planet formation (Chapter 5)
- 5. The location and time at which stars and discs form is crucial for determining their potential to form planets (Chapter 5)
- 6. External photoevaporation is a much more relevant process for disc mass loss than dynamical encounters
- 7. Planet formation must start very early on in the lifetime of a disc
- 8. The effects of interstellar gas cannot be discounted when studying the lifetime of circumstellar discs
- 9. The disc dispersal process is extremely complex and requires careful modeling of several mechanisms
- 10. Software portability should be a priority when developing scientific code
- 11. Good programming practices, algorithmic thinking, and use of version control software should be taught at undergraduate level in all disciplines involving at least some coding
- 12. Taking time off is essential for having a functional brain during actual work hours

Francisca Concha-Ramírez February 2021