How the dynamics of young clusters influence the properties of forming planetary systems

The reduction of protoplanetary disc sizes due to encounters
- a numerical experiment

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Star-disc encounters

Breslau et al 2014
Star-disc encounters

Breslau et al 2014

Cluster simulations

Nbody6

Aarseth 2003, Olczak+ 2008
Star-disc encounters
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Diagnostic step

Disc sizes in clusters

Cluster simulations
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Aarseth 2003, Olczak+ 2008
The Numerical Experiment

- Final disc-size distribution in clusters largely independent of initial disc size.

- **Initial disc size:** 10,000 AU.

- Expected: dependency on density.

- Maybe unexpected: small median disc sizes!

- Why do initial disc sizes play a minor role?

- How many discs smaller than 100 or 1,000 AU?

- How many discs are destroyed?

See you at P7!