Field and cluster stars of similar age compared to test role of environment

These stars likely form in much lower density environments than cluster analogs

Moderate density regions:

Observations determine whether rotation reflects differences in star-forming environment

Goals

- High density regions:
  - In Turbulent Stellar Higher

- Low density regions:
  - Low turbulent Stellar lower

The collapse of \( M_{\odot} \) is expected to be faster in higher mass (dM) fragments.

Rotation: Rapid Rotation

There is no evidence of a significant 'break' in the rotational properties of stars, with older associations showing a slower rotation.

The fraction of stars with higher mean rotation speeds for stars born in high density clusters can be explained with a simple model of accretion + disk-locking.

Stars are deposited on the mass vs M (upper envelope) relationship for stars born in high density clusters, as shown by Konigl and Mathieu (1993). The time-averaged mass for stars born in high density clusters is expected to be higher than for stars born in low density clusters.

Fraction of Stars

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- Magnetostellar friction
- B = 2.5 kG
- Stars are an example of models.