Collapsing cores in the Hierarchical Gravitational Collapse scenario.

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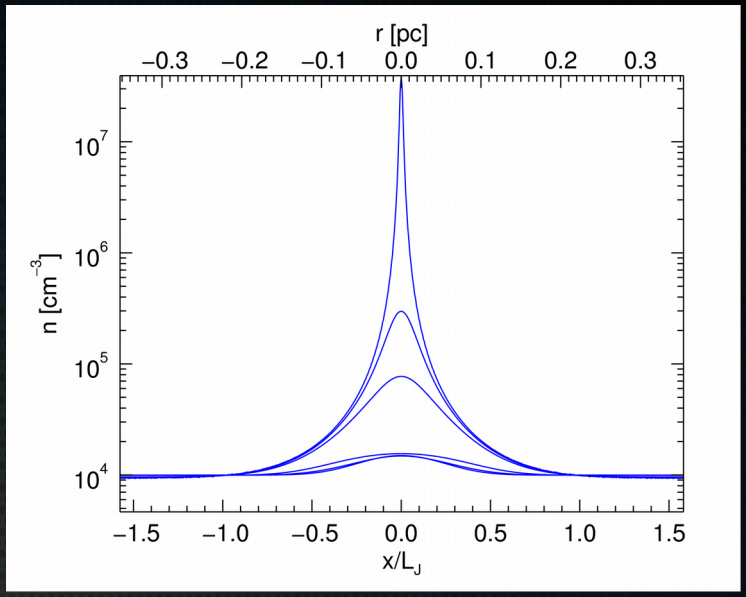
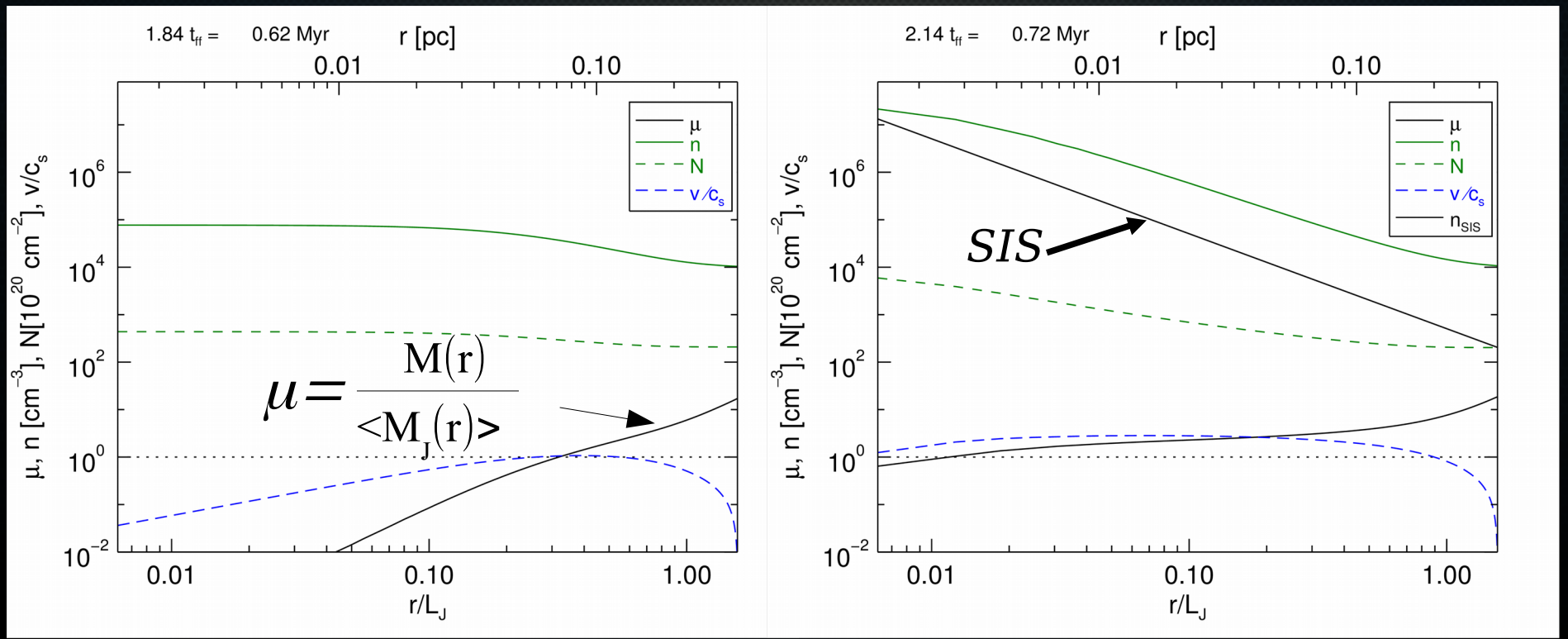
Naranjo-Romero et al. 2015. ApJ, 814, 48

Collapsing cores in the Hierarchical Gravitational Collapse scenario.

This is consistent with the ubiquity of BE-like profiles observed in prestellar cores without introducing the conundrum that a core needs to grow in spite of being hydrostatic.





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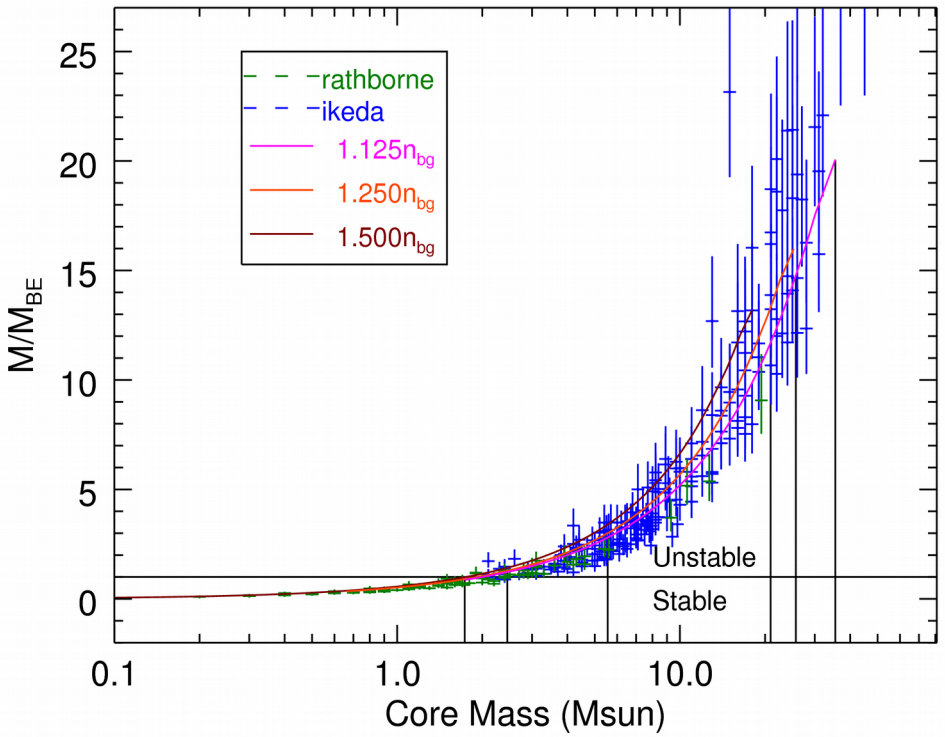
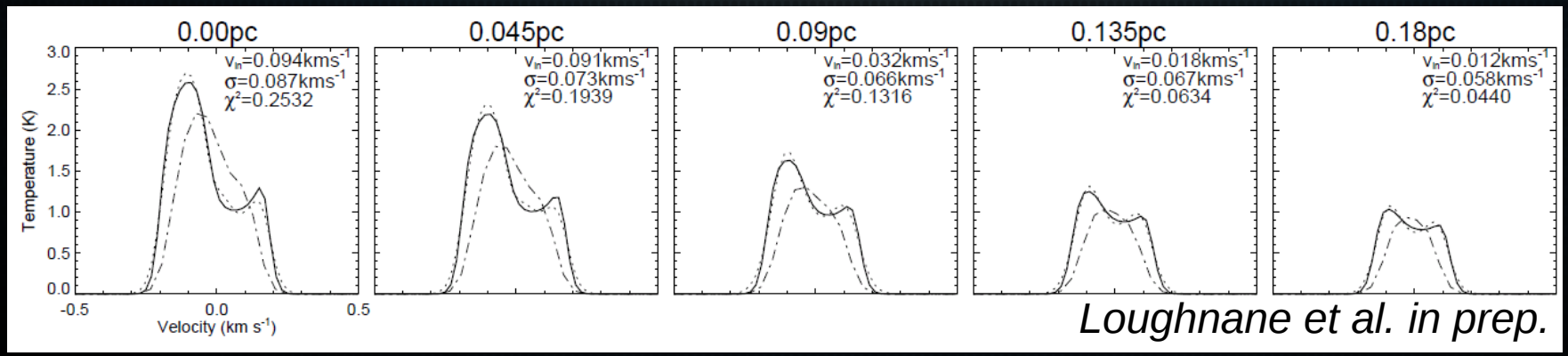
Comparison with observations

Based on Lada et al. 2008.



Cores span the range from stable to unstable observed cores.

Synthetic observations suggest that the derived infall speed is only ~1/2 of c_s, i.e. about 4 times lower than maximum actual speed.



Loughnane et al. in prep.

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