

MOUSCHOVIAS: Congratulations! Your results are a sight for sore eyes.

I have two points to make, useful for comparison of observations with theory. (1) The density n_0 , beyond which the theoretical curve of $\log B - \log n$ which you showed acquires a slope $k = \frac{1}{2}$, is exactly proportional to $M^{-\frac{1}{2}}$ where M is the mass of the cloud. So, the curve should be shifted to the right for your lower-mass clouds. (2) Recent collapse calculations accounting for ambipolar diffusion show that ambipolar diffusion sets in, typically, at densities 10^5cm^{-3} or so and, therefore, little (if any) enhancement of the field strength should be exhibited above such densities, (see 1985, Ap. J. 291, 772). This makes the excellent agreement between theory and observations to which you have referred even better.

KAZES: I agree; in fact I did not draw the theoretical curve for lower mass clouds.

A HISTORICAL REVIEW OF STAR FORMATION: OBSERVATION AND THEORY

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We present a historical review of evidence for ongoing star formation in our Galaxy beginning with the discovery that interstellar space is not empty. The discoveries of interstellar dust, interstellar hydrogen and molecular clouds are reviewed. Observational investigations of dark clouds are then traced from the photographs of Edward Emerson Barnard to contemporary studies of their molecular constituents. A historical overview of observational evidence for new-born stars includes T-Tauri stars, young stellar clusters, sequential star birth and infrared stars beginning with Alfred Joy, Merle Walker, Becklin, and Neugebauer, and Adrian Blaauw and continuing to giant molecular clouds and IRAS. Theoretical studies of gravitational collapse and the early stages of stellar evolution are also placed within a historical context.