de-convoluted brightness images are very close to the PSFs themselves.

We model the embedded IR source as a black body photosphere of total Luminosity $11.5L_\odot$ at temperture 1550K, which is surrounded by a dust cloud of total visual exinction 6.8 magnitudes. Radius of the blackbody photosphere is taken to be 1.07×10^{16}cm. And an H_α CCD image taken at the BOAO places the cloud boundary at 9.1×10^{16}cm from center. We let power-law $n(r)\propto r^{-p}$ describe the distribution of the cloud density $n(r)$ with distance r from the center. The exponent p is varied from 1.6 to 2.2. An approximate relation $Qabs\propto\nu^{-1.5}$ is used for dust opacity at wavelengths longer than 30μm. At wavelengths shorter than that the opacity of Adams and Shu(1985) is taken. Energy spectrum calculated from the model has reproduced the integrated IRAS fluxes at the four bands. Implications of the model will be discussed in the context of star formations.

TWO-DIMENSIONAL SIMULATIONS OF THE PARKER INSTABILITY UNDER A UNIFORM GRAVITY

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We have simulated the non-linear development of the Parker instability under a uniform gravity of an external roigin. Two-dimensional disk is composed of isothermal gas and magnetic field. The gravity is along the negative z-axis. The initial equilibrium distributions of gas density and magnetic pressure decrease exponentially with z, and field lines run parallel to the y-axis. According to linear stability analyses, the horizontal wavelength of the maximum growth rate is about 12 times the density scale height H. We thus set the computational domain to be 12H×12H. The whole range of 12H is divided into 128, 256, and 512 grides, and the simulation results with different grid size are compared to each other.

In the linear stage of evolution, initial random perturbations grow with a growth rate which agrees with the linear analysis predictions. At the end of the linear stage, main activities develop in the upper region. As the system gets into the non-linear stage, shock waves form in magnetic valley where velocity begins to disappear. Zero velocity also appears in magnetic wing. Non-zero velocity in the region (shoulder) between the valley and wing tend to buckle up the field lines. As time goes on, the area of the zero velocity regions increases, and the system gets relaxed. The configurations of magnetic field and density in the valley and the wing closely resemble those of the final equilibrium obtained by Mouschovias (1974). The evolution accompanies a reconnection of magnetic field lines. The converging flow drives the field lines in both shoulders close to each other, and numerical resistivity effects the reconnection. However, the reconnection does not make significant consequences on the final configurations.