

RADIATION HYDRODYNAMICS COLLAPSE OF LOGATROPIC PROTOSTARS

J. Daza¹, L. Di G. Sigalotti¹ and C. A. Mendoza-Briceño²

¹*Instituto Venezolano de Investigaciones Científicas (IVIC),
Apartado 21827, Caracas 1020A, Venezuela*

²*Centro de Física Fundamental (CFF), Facultad de Ciencias,
Universidad de Los Andes, Apartado Postal 26, La Hechicera,
Mérida 5251, Venezuela*

We study the collapse of nonsingular logatropic spheres and the subsequent accretion phase with radiative transfer and appropriate dust opacity, starting with initial configurations close to hydrostatic and thermal equilibrium. A sequence of models with varying masses between one and hundred solar masses is considered. In all cases, a fiducial truncation pressure that is representative of star-forming cloud cores in an isolated environment is assumed. The dust thermal spectrum from infrared to radio wavelengths is derived and compared with the observed fluxes of several hot cores. We also discuss the implications of the accretion phase on the formation of massive stars.