

[초IS-03] On the Collapse Dynamics of Dusty Interstellar Clouds

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This presentation will review our recent simulations of the collapse dynamics of dusty interstellar clouds. In the simulations, we paid a special attention to the dust-size dependence of the gas-dust drag, the dynamical interaction between the cloud and inter-cloud media, and the pressure exerted on dust particles by the diffuse interstellar radiation. Implications of the simulation results will be discussed in view points of the dust triggered gravitational instability, the dust-to-gas mixing ratio in dense molecular cores, and the observed correlation between metal abundance of central star and detection probability of planets around the star.