

P201a Structure of Molecular Cloud Circumstellar Disks

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A theory about the structure of molecular cloud circumstellar disks which is the same in appearance as Schrödinger's equation is proposed. It is found that (1) the Hayashi density distribution is an inherent result of the theory, (2) the theory predicts very well the mass distribution in the solar system, (3) molecular cloud circumstellar disks may have gaps, (4) the planet formation in the solar system is expected to occur in three different periods according to the deviation of the masses of planets from the theoretical prediction: Jupiter, Neptune and Eris, which are more massive than the theoretical prediction, come to the first period, followed by Venus, the earth, Mars, Saturn, Uranus and Pluto, which has the exact mass as the theory expected, and Mercury which is lighter than theoretical prediction is the last, (5) Jupiter is located at the molecular densest position, (6) Jupiter formation started in the earliest period because where the particle number density was the highest in the solar system, (7) Mars has a small mass because it is located near the gap where the particle density is much lower than the other areas.