

## Solar models and a two-dimensional model of rotating stars

I will introduce the current status of the solar models. The current standard solar model is not consistent with observations of helioseismology and the solar neutrinos. I will introduce possible mechanisms for improving the solar model, including changing the standard input physics (such as opacity and diffusion) and considering the effects of non-standard physical processes (such as accretion, convective overshoot, dark photons, etc.) on the solar models. In addition, I will introduce the progress of two-dimensional model for rotating stars. Stars generally undergo rotation, and current stellar models are based on one-dimensional frameworks, which cannot accurately describe the physical effects caused by rotation. I established the basic equations for the structure and evolution of two-dimensional rotating stars and tested it using simple input physics, verifying that the theory can effectively describe the deformation, circulation, and non spherically symmetric distribution of physical quantities in rotating stars.

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