Radiative Transfer in Astrophysical Bodies: Yesterday, Today, and Tomorrow

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Abstract

I will first discuss some highlights of astrophysical treatment of radiation transport achieved in the past several decades, with emphasis on improved physical understanding, as well as on numerical and computational aspects of the problem.

I will then briefly summarize the present status of modeling stellar and planetary atmospheres, and of treatment of radiative transfer in astrophysics in general.

Finally, I will outline several general topics that I think will be pursued in the near future, such as 3-D radiation hydrodynamic description of atmospheres and disks, and complex non-equilibrium models, including dynamics, chemistry, and radiation, of exoplanet atmospheres.

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