

Special Issue

Nonextensive Statistical Mechanics in Astrophysics

Message from the Guest Editor

Nonextensive statistical mechanics is a non-traditional statistical theory that is based on Tsallis' nonextensive entropy and has power-law distribution functions, suitable for describing nonequilibrium complex systems with long-range interactions. It has been widely and successfully applied to study complex systems in various natural science research fields, such as physics, chemistry, astronomy, astrophysics, life sciences etc. In the fields of astronomy and astrophysics, the theory of nonextensive statistical mechanics has been successfully applied to the study of self-gravitating systems, Jeans criteria, stellar polytopes, systems with kappa distributions, plasma astrophysics, dark matter, galaxies, galaxy clusters, and so on. This Special Issue aims to further enhance and expand the research applications of nonextensive statistical mechanics in astrophysics, exploring the understanding and analysis of astronomical and astrophysical phenomena in astrophysical complex systems with non-Maxwell velocity distributions.

Guest Editor

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