Special Issue

Geometry and Quantum Thermodynamics

Message from the Guest Editors

The geometric description of thermodynamics has a long history of development since the work of Gibbs. The geometric method is not only appropriate for constructing the framework of thermodynamics, but it is also an elegant and effective tool in solving practical problems such as optimization of thermodynamics processes. Today, the role of geometry is receiving considerable attention from the community of quantum thermodynamics. It is hoped this Special Issue will provide a venue for recent developments in solving quantum thermodynamic problems with geometric methods, as well as thinking of the foundation of quantum thermodynamics from a geometric perspective. The topics of interest include but are not restricted to the following:

- Thermodynamic length in optimizing quantum thermodynamic processes;
- Unify description of classical and quantum thermodynamic uncertainty relations from a geometric perspective;
- Geometry and quantum information erasing;
- Contact geometric structure of quantum thermodynamics.

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The concept of entropy is traditionally a quantity in physics that has to do with temperature. However, it is now clear that entropy is deeply related to information theory and the process of inference. As such, entropic techniques have found broad application in the sciences.

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Editor-in-Chief

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