



universe

an Open Access Journal by MDPI



Black Hole Thermodynamics

Guest Editors:

Message from the Guest Editors

Dr. Seyed Hossein Hendi

Prof. Júlio César Fabris

Prof. Xiaoxiong Zeng

Deadline for manuscript
submissions:

closed (30 June 2018)

According to black hole thermodynamics, geometrical quantities, such as horizon area and surface gravity, are related to thermodynamic quantities, such as entropy and temperature. In this regard, calculating conserved and thermodynamic quantities of the black holes, examining the validity of no-hair conjecture, and also the first law of thermodynamics are very important. It is worthwhile to mention that investigation of Hawking phase transition and thermal stability is an essential tool for considering a black hole as a real and viable thermodynamical system. In addition, recent progresses in the black hole thermodynamics and their relations to the AdS/CFT correspondence implied thermodynamical variability nature of the cosmological constant. It was found out that black holes, along all assigned thermodynamic variables, also have rich phase structures in complete analogy with non-gravitational thermodynamic system similar to van der Waals gas system. In this regard, the reentrant of the phase transition, existence of the triple point, and analogous heat engines are investigated in the literature.



mdpi.com/si/11408

Special Issue



universe



an Open Access Journal by MDPI

Editor-in-Chief

Prof. Dr. Lorenzo Iorio

Ministero dell' Istruzione e del
Merito, Viale Unità di Italia 68,
70125 Bari, Italy

Message from the Editor-in-Chief

The multidisciplinary journal *Universe* is aiming to follow and, hopefully, to lead to the largest extent as possible the ever-self renovating threads which weave mathematical theories with our understanding of the magnificent natural world. On behalf of all the distinguished members of the Advisory and Editorial Boards, I extend my welcome to this journal and look forward to hearing from the interested contributors and learning about their valuable research.

Author Benefits

Open Access: free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility: indexed within Scopus, SCIE (Web of Science), Astrophysics Data System, INSPIRE, CAPus / SciFinder, Inspec, and other databases.

Journal Rank: JCR - Q2 (Astronomy and Astrophysics) / CiteScore - Q2 (General Physics and Astronomy)

Contact Us

Universe Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

Tel: +41 61 683 77 34
www.mdpi.com

mdpi.com/journal/universe
universe@mdpi.com
[X@Universe_MDPI](https://twitter.com/Universe_MDPI)