

Oberseminar Geometrie und Topologie

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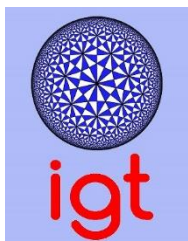
Universität Stuttgart

The laws of black hole thermodynamics from a mathematical viewpoint

16. November 2021 – 16.15 Uhr

IGT-Seminarrau 7.530, Pfaffenwaldring 57

Abstract: The applicability of thermodynamic principles to the theory of black holes is one of the most intriguing stories of late-twentieth century theoretical physics. The talk focuses on a small aspect of this major storyline, namely a geometric framework and proof of Hawking's area theorem. Stating a non-decrease in the surface area of black holes, this theorem is analogous to the second law of thermodynamics (non-decrease of entropy). Pursuing the analogy between black hole theory and thermodynamics further leads to the formulation of the laws of black hole mechanics.



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