

Course Announcement for WS06/7

PD Dr. Rochus Klesse

Elements of Quantum Information Theory

“Information is physical”¹, this simple but important insight together with the well-known fact that our physical world is actually quantum mechanical explains the necessity of a *Quantum* Information Theory. The last decade has witnessed significant progress in the development of such a theory. Selected key concepts will be highlighted in this course.

Topics

- Quantum operations
- Distance measures for quantum states
- Entropies
- Quantum error correction
- Capacity of a quantum information channel

Time: Tuesday, 3pm (c.t)

Location: Seminar room, Inst. of Theoretical Physics

Begin: October 17

Auf Wunsch wird die Vorlesung auf deutsch gehalten.

¹R. Landauer, Nature **335**, 779, 1988