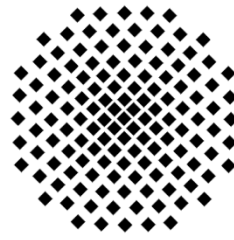


# Stuttgarter Physikalisches Kolloquium

Fachbereich Physik, Universität Stuttgart  
Max-Planck-Institut für Festkörperforschung  
Max-Planck-Institut für Intelligente Systeme

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**Dienstag, 13. November 2018**

**16:00 Uhr c.t.**

**Hörsaal V 57.01**

**Universität Stuttgart, Pfaffenwaldring 57, 70569 Stuttgart-Vaihingen**

Universität Stuttgart, Telefon: 0711 - 685-65110

## Irreversibility and the quantum arrow of time

**Eric Lutz - Antrittsvorlesung**  
Universität Stuttgart

### Abstract

Irreversibility is one of the most intriguing concepts in physics. While microscopic physical laws are perfectly reversible, macroscopic average behavior has a preferred direction in time. According to the second law of thermodynamics, this arrow of time is associated with a positive mean entropy production. We will discuss the physics of the quantum arrow of time and present results of recent experimental investigations of irreversibility in a nuclear magnetic resonance setup.