



HGSFP- WORKSHOP

PATHS TO EQUILIBRIUM – RELAXATION, VIRIALISATION AND THERMALISATION

General Information

- Date: 23.-25.September 2015 in **Kloster Schöntal, Klosterhof 6, 74214 Schöntal**
- Number of participants: 14
- Application is open **here** for PhD students with a background in statistical physics or cosmology until July 19.
- Fees: none except for travel expenses.
- If you need further information do not hesitate to contact us via mail¹
- Invited Experts: Prof. Dr. Matthias Bartelmann, Prof. Dr. Björn Malte Schäfer

Concept

- The workshop is thought to consist of discussion rounds which are conducted by the participants and to provide an environment for discussing the listed topics in a much more detailed way than it would be possible during normal lectures.
- Experts offer help whenever needed.
- Meeting of all participants approximately two months before the workshop to distribute topics, discuss administrative points and provide suitable literature.
- Two to three students prepare one topic in more detail in order to introduce it in a short talk and lead the discussion afterwards
- **Note: The aim of this workshop is to gain knowledge on a new topic, hence no prior expertise is required.**

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Topics

- Which assumptions enter when defining relaxation, virialisation and thermalisation? What are the requirements?
- Is it possible to define state functions in non-equilibrium systems?
- Which equilibrium solutions exist for specific physical systems, e.g. galaxy clusters?
- What is the interpretation of the different definitions of entropy? How can the apparent loss of information be explained?
- Is equilibrium defined in a reference frame independent way? How can seeming paradoxes be resolved?