Aktuelle Veranstaltungen

Kolloquium

**Thema:** Why and how to observe at metre wavelength: the example of cosmic ray life cycle in galaxy clusters

**Datum:** 06.05.19

**Uhrzeit:** 16:15

**Ort:** H 5

**Vortragender:** Prof. Francesco de Gasparin

Hamburger Sternwarte, Universität Hamburg

Inhalt:

Thanks to the Low Band Antenna (LBA), LOFAR is the only telescope capable of ultra-low frequency (<100 MHz) observations of the sky. During this colloquium I will summarize the latest technical and scientific results involving LOFAR LBA observations. Firstly, I will show the results of the LOFAR LBA A-team (the brightest radiosources) survey, now completed. This includes high resolution and high dynamic range images of Cygnus A, Cassiopeia A, Taurus A, and Virgo A at 30-70 MHz. Furthermore, I will show the first wide-field direction-dependent calibrated LBA image, reaching a noise level of 1.2 mJy/beam at 20" resolution. Finally, I will show how these observations can be used to understand complex plasma dynamics in the intra-galaxy-cluster medium.

**Ansprechpartner:** D. Schwarz

Kolloquium Mathematische Physik

**Thema:** tba

**Datum:** 05.07.19
Seminar Hochenergiephysik

Thema: Lattice thermodynamics from fluctuation theorems

Datum: 14.05.19

Uhrzeit: 14:15

Ort: D6-135

Vortragender: Marco Panero

Univ of Turin and INFN, Turin

I present a lattice calculation of the equation of state in SU(3) Yang-Mills theory by a simulation algorithm based on Jarzynski's equality. The latter is an exact statistical-mechanics theorem, that relates the free-energy difference between two equilibrium ensembles of a statistical system to the exponential average of the work done on the system, when it is driven out of equilibrium. After comparing the results with other recent lattice studies of Yang-Mills thermodynamics, some possible generalizations are discussed.

Ansprechpartner: Ch. Schmidt

Seminar Kondensierte Materie

Logical inference applied to robust experiments yields equations of
It is well known that the (complex) empirical spectral distribution of a non-Hermitian random matrix with i.i.d. entries will converge to the uniform distribution on the complex disc as the size of the matrix tends to infinity. In this talk, we investigate the rate of convergence to the Circular Law in terms of a uniform, 2-dimensional Kolmogorov-like distance. The optimal rate of convergence is determined by the Ginibre ensemble and is given by $n^{-1/2}$. I will present a smoothing inequality for complex measures that quantitatively relates the Kolmogorov-like distance to the concentration of logarithmic potentials. Combining it with results from local circular laws, it is applied to prove nearly optimal rate of convergence to the circular law with overwhelming probability. Furthermore I will
It is well known that the (complex) empirical spectral distribution of a non-Hermitian random matrix with i.i.d. entries will converge to the uniform distribution on the complex disc as the size of the matrix tends to infinity. In this talk, we investigate the rate of convergence to the Circular Law in terms of a uniform, 2-dimensional Kolmogorov-like distance. The optimal rate of convergence is determined by the Ginibre ensemble and is given by $n^{-1/2}$. I will present a smoothing inequality for complex measures that quantitatively relates the Kolmogorov-like distance to the concentration of logarithmic potentials. Combining it with results from local circular laws, it is applied to prove nearly optimal rate of convergence to the circular law with overwhelming probability. Furthermore, I will relate the result to other distances, present an analogue for the empirical root measure of Weyl random polynomials with independent coefficients and discuss a possible generalization for products of independent matrices. The talk is based on joint work with Friedrich Götze.

Ansprechpartner: Gernot Akemann

Seminar AG Zufallsmatrizen

Thema: tba
Datum: 23.05.19
Uhrzeit: 16:15
Ort: V3-201
Vortragender: Nick Simm

University of Sussex

Inhalt:

Ansprechpartner: Gernot Akemann