

Aktuelle Veranstaltungen

Kolloquium

Thema: **Statistical Mechanical Perspectives on Cosmological Puzzles**

Datum: 19.04.21

Uhrzeit: 16:15

Ort: cyberspace

Vortragender: [Christian Maes](#)

KU Leuven

Inhalt:

Ansprechpartner: [P. Reimann](#)

Kolloquium Mathematische Physik

Thema: [Integrability and Universality in nonlinear waves](#)

Datum: 05.02.21

Uhrzeit: 16:15

Ort: ZOOM/Konferenzschaltung

Vortragender: [Tamara Grava](#)

University of Bristol

What is an integrable system? Intuitively, an integrable system is a dynamical system that can be integrated directly. While in principle integrable systems should be very rare, it happens that in nature, a lot of fundamental systems are integrable such as many models of nonlinear waves, models in statistical mechanics and in theory of random matrices. The study of nonlinear waves has led to many remarkable discoveries, one of them being 'solitons', found some 50 years ago. Solitons motivated the development of the Inverse Scattering Transform (IST). History and some examples will be discussed. Finally I will present some universality results about small dispersion limits and semiclassical limits of nonlinear dispersive waves.

Inhalt:

Ansprechpartner: [G. Akemann](#)

Seminar Hochenergiephysik

Thema: tba

Datum: 23.03.21

Uhrzeit: 14:15

Ort: D6-135

Vortragender: [Marco Drewes](#)

Centre for Cosmology, Particle Physics and Phenomenology - CP3, Louvain-la-Neuve

Inhalt:

Ansprechpartner: [D. Bödeker](#)

Seminar Kondensierte Materie

Thema: [Bielefeld/El Paso Mini Symposium >> Tuesday, 16.00 hrs <<](#)

Datum: 02.03.21

Uhrzeit: 16:00

Ort: ZOOM / Konferenzschaltung

Vortragender: PhD students and PostDocs

Bielefeld & El Paso University

Inhalt: 16:00 CET, 8:00 MT: Mark Pederson and Jürgen Schnack - Welcome 16:05 CET, 8:05 MT: Patrick Vorndamme (UBI) - Free induction decay under unitary time evolution and Heisenberg interactions 16:25 CET, 8:25 MT: Alex Johnson (UTEP) – FLOSIC: A Method for F-Electron Molecular Magnets 16:45 CET, 8:45 MT: Julian Ehrens (UBI) - Classical Molecular Dynamics Simulations of Nanometer-thin Carbon Nanomembranes 17:05 CET, 9:05 MT: Coffee, soft drinks - Help yourself 17:10 CET, 9:10 MT: Karma Dema (UTEP) – Towards a fully coupled DFT-based spin-Hamiltonian 17:30 CET, 9:30 MT: Henrik Schlüter - Approximating thermodynamic functions of spin systems with the Chebychev Method 17:50 CET, 9:50 MT: Zahra Hooshmand (UTEP) – Multiferroicity in a Mn₃ Molecular Magnet 18:10 CET, 10:10 MT: Good bye - prepare for dinner/lunch

Ansprechpartner: [Jürgen Schnack](#)

Seminar Mathematische Physik

Thema: **The Character Expansion in effective Theories for chiral Symmetry Breaking**

Datum: 03.12.20

Uhrzeit: 16:30

Ort: ZOOM / Konferenzschaltung

Vortragender: [Noah Aygün](#)

Universität Bielefeld

Inhalt:

Ansprechpartner: [Gernot Akemann](#)

Seminar Bielefeld-Melbourne Zufallsmatrizen

[On integrals of the tronquée solutions and the associated Hamiltonians for the Painlevé II equation](#)

Thema:

Datum: 03.03.21

Uhrzeit: 09:00

Ort: ZOOM / Konferenzschaltung

Vortragender: [Lun Zhang](#)

Fudan University, Shanghai

Inhalt:

In this talk, we consider a family of tronquée solutions of the Painlevé II equation $q''(s) = 2q(s)^3 + sq(s) - (2\gamma + 1/2)$, $\gamma > -1/2$, which is characterized by the Stokes multipliers $s_{-1} = -\exp[-2\gamma i]$, $s_2 = \gamma$, $s_1 = -\exp[2\gamma i]$ with γ being a free parameter. These solutions include the well-known generalized Hastings-McLeod solution as a special case if $\gamma = 0$. We derive asymptotics of integrals of the tronquée solutions and the associated Hamiltonians over the real axis for $\gamma > -1/2$ and $\gamma \neq 0$, with the constant terms evaluated explicitly. Our results agree with those already known in the literature if the parameters γ and γ are chosen to be special values. Some applications of our results in random matrix theory are also discussed. Joint work with Dan Dai and Shuai-Xia Xu.

Ansprechpartner: [Anas Rahman](#)