

Integrability in Atomic and Condensed Matter Physics

Session CXI

July 30 – August 24, 2018

Organizers: J.-S. Caux (Amsterdam), N. Kitanine (Dijon), A. Klümper (Wuppertal), R. M. Konik (Brookhaven)

Overview: Many developments have recently occurred in the field of exactly-solvable quantum models in one dimension. Integrability-based methods have found applications in describing equilibrium dynamical properties of spin chains and quantum gases, allowed to study transport problems in detail, and have opened up new research fronts in out-of-equilibrium physics. The purpose of this school is to provide a solid grounding in integrability and its applications, bringing young researchers up-to-date with the most recent developments.

Website: <http://jscaux.org/LesHouches2018>

Lectures: B. Doyon (King's Col. London) Generalized Hydrodynamics (6 lectures)
F. H. L. Essler (Oxford) Integrability In and Out of Equilibrium (6 lectures)
F. Göhmann (Wuppertal) Integrable Lattice Models at Finite Temperature (6 lect.)
J. M. Maillet (ENS Lyon) Algebraic Bethe Ansatz and Correlation Functions (6 l.)
G. Mussardo (SISSA) Dynamics in Integrable Field Theory (6 lectures)
T. Prosen (Ljubljana) Integrability in Open Quantum Systems (6 lectures)
N. Slavnov (Moscow) ABA, Matrix Elements and Higher Symmetries (6 lect.)
P. Calabrese (SISSA) Quenches and Entanglement using Integrability (3 lect.)
R. M. Konik (Brookhaven) Perturbed Integrable Models via the TSA (3 lectures)
J. Sirker (Manitoba) Transport from Integrability (3 lectures)
Guests including H.C. Nägerl, J. Schmiedmayer, I. Zaliznyak Seminars: Experimental Applications of Integrability in Atomic and Condensed Matter Physics

Registration: The online application can be found at <https://houches.univ-grenoble-alpes.fr/>. Applications must reach the School before March 15, 2018, in order to be considered by the selection committee. The full cost per participant, including housing, meals and the book of lecture notes is given on the website. We should be able to provide financial aid to a limited number of students. Further information can be found on the website. One can also contact the School at:

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Location: Les Houches is a village located in Chamonix valley, in the French Alps. Established in 1951, the Physics School is situated at 1150 m above sea level in natural surroundings, with breathtaking views on the Mont-Blanc mountain range, conducive to reflection and discussion.