MAX-PLANCK-GESELLSCHAFT

mpipks

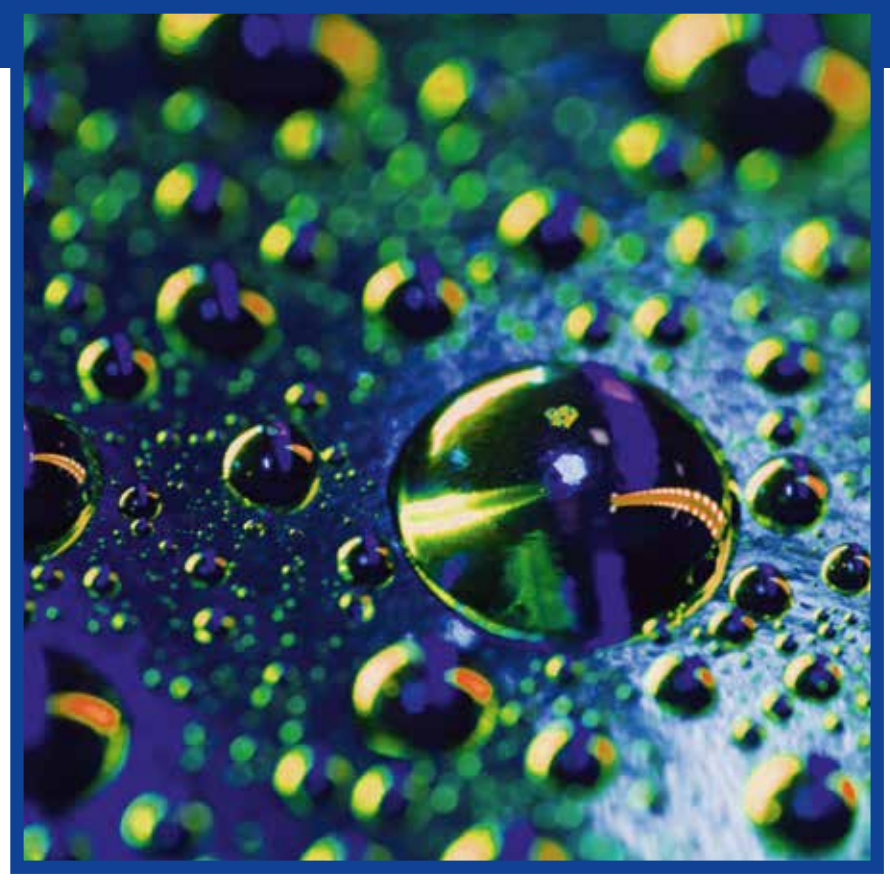
Emergent Hydrodynamics in Condensed Matter and High-energy Physics

Max Planck Institute for the Physics of Complex Systems

International Workshop
10 - 14 August 2020

Hydrodynamics is one of the cornerstones of physics. Recent revival of interests in hydrodynamics comes from the heavy-ion collisions and transport experiments in semimetals.

The goal of the workshop is to bring together the communities of high-energy and condensed matter physicists and to stimulate interdisciplinary scientific exchange.



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Topics:

- Conditions under which the hydrodynamic regime can be accessed in materials
- New proposals for experimental signatures of fluid mechanics in metals
- Three-dimensional formalism for fluids in metals
- Hydrodynamic/ballistic cross-over in electronic hydrodynamics
- Experimental signatures of field theory anomalies in macroscopic systems
- Properties of chiral kinetic theories
- Experimental signatures of Hall viscosity in materials
- Active systems with Hall viscosity
- Numerical methods in hydrodynamic systems with broken parity/time reversal
- Properties of relativistic fluids
- Applications of relativistic fluid dynamics
- Hydrodynamics with spin degrees of freedom

Invited speakers:

A. Abanov (US)
F. Becattini (IT)
B. Bradlyn (US)
A. Burkov (CA)
J. Erdmenger (DE)
P. Glorioso (US)
J. Gooth (DE)
A. Grushin (FR)
S. Ilani (IL)
K. Jensen (US)
D. Kharzeev (US)
P. Kovtun (CA)
A. Lucas (US)
A. Mackenzie (DE)
M. Metlitski (US)
L. Molenkamp (DE)
J. Moore (US)
T. Neely (AU)
F. Peña Benítez (DE)
M. Polini (IT)
G. Salbreux (UK)
T. Schäfer (US)
I. Shovkovy (US)
A. Souslov (UK)
M. Stone (US)
A. Varshney (AT)
V. Vitelli (US)
J. Waissman (US)
P. Wiegmann (US)

Scientific coordinators:

Andrey A. Gromov
Providence, USA

Dam T. Son
Chicago, USA

Piotr Surowka
Dresden, Germany

Organisation:

Katrin Lantsch
MPIPKS Dresden

Applications received before 31 March 2020 are considered preferentially.

Applications are welcome and should be made by using the application form on the event's web page. The number of attendees is limited. The registration fee for the international workshop is 140 Euro and should be paid by all participants. Costs for accommodation and meals will be covered by the Max Planck Institute. Limited funding is available to partially cover travel expenses.

For further information please contact:
Visitors Program – Katrin Lantsch
MPI for the Physics of Complex Systems
Nöthnitzer Str. 38, D-01187 Dresden
phone: +49-351-871-1931
fax: +49-351-871-2199
hydro20@pks.mpg.de
www.pks.mpg.de/hydro20/

We also offer individual fellowships (phd, postdoc, sabbatical). Applications are accepted continuously. For details, please check www.pks.mpg.de/visitors