

Extreme Waves

International Workshop 28 Aug - 1 Sept 2023

Oceanic rogue waves are large and unexpected surface water waves that are extremely dangerous, even to large ships such as ocean liners or submarines as well as to marine structures. They exist everywhere: on the surface of deep and shallow waters and even in the deep internal layers of the ocean. Similar waves on a much smaller scale in optical fibres are in many ways analogous to their larger counterparts of the oceanic scale. Extreme waves are presently an interdisciplinary research subject covering BEC, plasma waves and even quantum optics. Knowledge accumulated so far in this active research area may add new ideas on how extreme events of more general nature occur. The most recent findings and major concepts of extreme waves, which include rogue waves as well as exploding dissipative solitons, will be elaborated and discussed in this workshop.

Topics

- Extreme waves in the ocean
- Optical rogue waves
- Interdisciplinary approach to extreme waves
- Mathematical description of extreme waves
- Rogue wave prediction
- Extreme waves in turbulent fields
- Extreme waves in water tanks
- Statistics of rogue waves
- Extreme waves in shallow water
- Exploding dissipative solitons



Picture by K. Hokusai (1760-1849)

Invited speakers

Thomas Adcock (UK)
Shalva Amiranashvili (DE)
Uwe Bandelow (DE)
Fabio Baronio (IT)
Fabio Biancalana (UK)
Maura Brunetti (CH)
Svetlana Bugaichuk (UA)
Wonkeun Chang (SG)
Matteo Conforti (FR)
Orazio Descalzi (CL)
Giillaume Ducrozet (FR)
Margarida Facão (PT)
Mathias Fink (FR)
Goëry Genty (FI)
Brian Haus (US)
Norbert Hoffmann (DE)
Bahram Jalali (US)
Holger Kantz (DE)
Bertrand Kibler (FR)
Kenichi Maruno (JP)
Cristina Masoller (ES)
Nobuhito Mori (JP)
Arnaud Mussot (FR)
Alan Newell (US)
Alfred R. Osborne (US)
Joachim Peinke (DE)

Davide Pierangeli (IT)
Michelle Sander (US)
Paolo Santini (IT)
Roland Schiek (DE)
Victor Shrira (UK)
Pierre Suret (FR)
Abdelmajid Taki (FR)
Mustapha Tlidi (BE)
Karsten Trulsen (NO)
Ton van den Bremer (UK)
Stefan Wabnitz (IT)
Takuji Waseda (JP)

Scientific coordinators

Nail Akhmediev
Canberra, Australia

Helmut Brand
Bayreuth, Germany

Amin Chabchoub
Kyoto, Japan

Organisation

Maria Voigt
MPIPKS Dresden

Applications received before 15th May 2023 are considered preferentially.

We will have an in-person meeting, with all participants attending on-site. 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 – Maria Voigt
MPI for the Physics of Complex Systems
Nöthnitzer Str. 38, D-01187 Dresden
Tel: +49-351-871-1934
Fax: +49-351-871-2199
extrem23@pks.mpg.de
www.pks.mpg.de/extrem23/