

International Workshop on “Fundamental Problems in Mathematical and Theoretical Physics”

Date: July 22 – July 26, 2025

Venue: 02 Conference Room, 1st Floor, 55N Bldg., Waseda University, Nishi-Waseda Campus

早稲田大学 西早稲田キャンパス 55 号館 N 棟 1 階 第 2 会議室

Quantum Physics

July 22, Tuesday

- 10:30 - 12:00 Paolo Facchi (University of Bari), **Minicourse I**
From Micro to Macro, There and Back Again
- 14:45 - 16:15 Saverio Pascazio (University of Bari), **Minicourse I**
Can decay be attributed to classical noise?
- 16:30 - 18:00 Daniel Burgarth (University of Erlangen-Nürnberg), **Minicourse I**
The Wrong Quantum Physics: Counterexamples to Simple Proofs

July 23, Wednesday

- 10:30 - 12:00 Paolo Facchi (University of Bari), **Minicourse II**
From Micro to Macro, There and Back Again
- 14:45 - 16:15 Saverio Pascazio (University of Bari), **Minicourse II**
Can decay be attributed to classical noise?
- 16:30 - 18:00 Daniel Burgarth (University of Erlangen-Nürnberg), **Minicourse II**
The Wrong Quantum Physics: Counterexamples to Simple Proofs

July 24, Thursday

- 10:30 - 12:00 Paolo Facchi (University of Bari), **Minicourse III**
From Micro to Macro, There and Back Again

Mathematical Physics

July 24, Thursday

- 13:30 - 14:30 Vladimir Georgiev (University of Pisa, Waseda University),
Minicourse I
Qualitative properties of minimizers of Hamiltonians with nonlocal interactions
Local uniqueness of ground states for generalized Choquard problem ($p > 2$)
- 15:00 - 16:00 Nicola Visciglia (University of Pisa), **Minicourse I**
Global H^2 solutions for the generalized DNLS on \mathbb{T}
- 16:10-17:00 Ryosuke Hyakuna (Polytechnic University of Japan)
Well-posedness for the nonlinear Schrödinger equations in L^p and Bessel potential spaces
- 17:30 - Reception

July 25, Friday

- 10:00 - 11:00 Nicola Visciglia (University of Pisa), **Minicourse II**
Global H^2 solutions for the generalized DNLS on \mathbb{T}
- 11:10 - 12:10 Vladimir Georgiev (University of Pisa, Waseda University),
Minicourse II
Qualitative properties of minimizers of Hamiltonians with nonlocal interactions
Uniqueness, nondegeneracy of ground states for generalized Choquard problem ($p < 2$)
- 13:30-14:20 Kouichi Taira (Kyushu University)
Dispersive estimates for Schrödinger equations on conic manifolds
- 14:30-15:20 Hironobu Sasaki (Chiba University)
On inverse scattering for the two-dimensional nonlinear Klein-Gordon equation
- 16:00-16:50 Ryunosuke Kusaba (Waseda University)
On the asymptotic expansions with optimal convergent rates for the convection-diffusion equation

July 26, Saturday

- 10:00-11:00 Vladimir Georgiev (University of Pisa, Waseda University),
Minicourse III
Qualitative properties of minimizers of Hamiltonians with nonlocal interactions
Coercive estimates. Further discussion and some open problems
- 11:10-12:10 Nicola Visciglia (University of Pisa), **Minicourse III**
Global H^2 solutions for the generalized DNLS on \mathbb{T}
- 14:00-15:00 Masaya Maeda (Chiba University)
Asymptotic stability of solitons for pure power NLS in 1D
- 15:30-16:30 Haruya Mizutani (The University of Osaka)
(866 th Applied Analysis Seminar, 第 866 回 応用解析研究会)
Modified wave operators for the defocusing cubic nonlinear Schrödinger equation in one space dimension with large scattering data

This workshop is a part of "Special Lecture on Quantum Physics".

このワークショップは量子物理学特別講義「Special Lecture on Quantum Physics」を兼ねています。

Organized by Hiromichi Nakazato, Tohru Ozawa, Kazuya Yuasa, Vladimir Georgiev

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