

RIMS conference

# MATHEMATICAL ASPECTS OF QUANTUM FIELDS AND RELATED TOPICS



We organize an international conference as one of the common enterprises of

Res. Inst. for Mathematical Sci., Kyoto Univ. as follows.

We welcome the participation of many all of you.

**Date** : 2 of July 2018 (Mon) 10:00 – 4 of July (Wed) 17:00

**Venue** : Room 111, RIMS, Kyoto University

**HP**: <http://www2.math.kyushu-u.ac.jp/~hiroshima/rims2018.html>

**Organizer** : Fumio Hiroshima (Kyushu)

## PROGRAM

### 2 of July(Mon)

10:00 – 10:50 Tomohiro Kanda (Kyushu)

A model of Josephson junctions on boson systems –currents and entropy production rate–

11:00 – 11:50 Yohei Kashima (Osaka)

Methods of improving correction term estimates in the BCS model with imaginary magnetic field

### **LUNCH BREAK**

13:10 – 14:00 Mi Ra Lee (Chungbuk National University)

One-parameter groups involving Bogoliubov and quantum Girsanov transforms

14:10 – 15:00 Un Cig Ji (Chungbuk National University)

Anticipating stochastic integrals for Levy processes

15:10 – 16:00 Takahiro Hasebe (Hokkaido)

Unimodality for classical and free Brownian motions with initial distributions

16:10 – 17:00 Serge Richard (Nagoya)

Spectral and scattering theory for Schrödinger operators on perturbed topological crystals

### 3 of July(Tue)

10:00 – 10:50 Fumio Hiroshima (Kyushu)

Integral kernel of semigroup generated by a model in QFT

11:00 – 11:50 Jérémy Faupin (Université de Lorraine)

Scattering theory for dissipative quantum systems

#### **LUNCH BREAK**

14:00 – 14:50 Asao Arai (Hokkaido)

Representation of canonical commutation relations associated with the Casimir effect

15:00 – 15:50 Itaru Sasaki (Shinshu)

Existence of ground state of the model of a massless charged particle interacting with the quantized radiation field

16:00 – 16:50 Thomas Norman Dam (Aarhus University)

Non-renormalizability of Spin-Boson type models

### 4 of July(Wed)

10:00 – 10:50 Cid Reyes Bustos (Kyushu)

Spectral degeneracies in the asymmetric quantum Rabi model

11:00 – 11:50 Izumi Ojima

Micro-Macro duality for inductions/ reductions

#### **LUNCH BREAK**

14:00 – 14:50 Kazuyuki Wada (Hachinohe)

An asymptotic velocity operator for a class of long-range type quantum walks

15:00 – 15:50 Kazuya Okamura (Nagoya)

A  $C^*$ -algebraic approach to quantum measurement

16:00 – 16:50 Akito Suzuki (Shinshu)

Supersymmetric quantum walks

※This conference is financially supported by KAKENHI (B) 16H03942(Fumio Hiroshima)