数理解析研究所講究録 1797

RIMS共同研究

Introductory Workshop on Feynman Path Integral and Microlocal Analysis

京都大学数理解析研究所

２０１２年６月

Introductory Workshop on

Feynman Path Integral and Microlocal Analysis

June 21～24, 2011

edited by Naoto Kumano-go, Susumu Yamazaki,

Byoung Soo Kim and Yasuo Chiba

June, 2012

Research Institute for Mathematical Sciences

Kyoto University, Kyoto, Japan

PREFACE

This volume contains a set of introductory articles which were contributed by the invited speakers of the RIMS joint research workshop: "Introductory Workshop on Feynman Path Integral and Microlocal Analysis", which was held at Research Institute for Mathematical Sciences, Kyoto University in June 21–24, 2011. The aims of this workshop were to overview the present stage of Japanese and Korean research in Feynman path integral and microlocal analysis and to obtain prospects for the future research. In order to do so, all the speakers gave the introductory lectures about their research fields, which contributed to capturing a whole picture of the current progress in the field. The editors would like to thank all the speakers who submitted their papers to this volume and also all those participants who attended the workshop.

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Naoto KUMANO-GO

Susumu YAMAZAKI

Byoung Soo KIM

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Introductory Workshop on
Feynman Path Integral and Microlocal Analysis

Organizers: Naoto Kumano-go (Kogakuin University)

Byoung Soo Kim (Seoul National University of Science and Technology)

Susumu Yamazaki (Nihon University)

Yasuo Chiba (Tokyo University of Technology)

Date: from June 21 (Tuesday) to June 24 (Friday), 2011

Venue: RIMS, Kyoto University, Room No. 111

The following program is tentative. We can get the present version of the program from the URL: http://www.ns.kogakuin.ac.jp/~ft24343/workshop2011-6

June 21 (Tuesday)

10:00~11:00   **Takashi Ichinose** (Kanazawa University)

Imaginary-time path integrals for three magnetic relativistic Schrödinger operators, Part 1

11:20~12:20   **Bong Jin Kim** (Daejin University)

A note on the integral transforms on function spaces, Part 1

14:00~15:00   **Takeyuki Hida** (Nagoya University)

White noise approach to Feynman path integrals, Part 1

15:20~16:20   **Kun Sik Ryu** (Hannam University)

Introduction to the analogue of Wiener measure space and its applications, Part 1

June 22 (Wednesday)

10:00~11:00   **Daisuke Fujiwara** (Gakushuin University)

Stationary phase method for oscillatory integrals over a space of large dimension, Part 1

11:20~12:20   **Bong Jin Kim** (Daejin University)

A note on the integral transforms on function spaces, Part 2

14:00～15:00   **Takeyuki Hida** (Nagoya University)

White noise approach to Feynman path integrals, Part 2

15:20～16:20   **Kun Sik Ryu** (Hannam University)

Introduction to the analogue of Wiener measure space and its applications, Part 2

June 23 (Thursday)

10:00～11:00   **Daisuke Fujiwara** (Gakushuin University)

Stationary phase method for oscillatory integrals over a space of large dimension, Part 2

11:20～12:20   **Dong Hyun Cho** (Kyonggi University)

A survey of an analogue of conditional analytic Feynman integrals on a function space, Part 1

14:00～15:00   **Byoung Soo Kim** (Seoul National University of Science and Technology)

Introduction to Feynman's operational calculi for noncommuting operators, Part 1

15:20～16:20   **Naoto Kumano-go** (Kogakuin University)

Phase space Feynman path integrals by time slicing approximation, Part 1

June 24 (Friday)

10:00～11:00   **Takashi Ichinose** (Kanazawa University)

Imaginary-time path integrals for three magnetic relativistic Schrödinger operators, Part 2

11:10～12:10   **Dong Hyun Cho** (Kyonggi University)

A survey of an analogue of conditional analytic Feynman integrals on a function space, Part 2

14:00～15:00   **Byoung Soo Kim** (Seoul National University of Science and Technology)

Introduction to Feynman's operational calculi for noncommuting operators, Part 2

15:20～16:20   **Naoto Kumano-go** (Kogakuin University)

Phase space Feynman path integrals by time slicing approximation, Part 2

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