

数理解析研究所講究録 2195

RIMS 共同研究 (公開型)

スペクトル・散乱理論とその周辺

京都大学数理解析研究所

2021年8月

数理解析研究所講究録は、京都大学数理解析研究所の共同利用研究集会および共同研究の記録として1964年に刊行が開始されました。当研究所が全国共同利用研究所として発足した翌年のことでしたが、以来半世紀、毎年数十巻を刊行し、2016年には第2000巻が刊行されるに至りました。第1巻から第2000巻までに収録された論文数は29,265編、総頁数は342,960頁という膨大なものであり、最先端の数学・数理科学分野の研究状況を伝えるのみならず、我が国の数学・数理科学の発展の歴史を留める文献として、他に類例を見ない論文集となっています。

講究録の内容は当研究所のウェブサイトおよび京都大学の学術情報リポジトリにおいても公開され、年間の総アクセス数は1,380,032回（2017年度）を数えるなど、多数の方にご利用いただいています。

講究録の使用言語は論文著者の判断に任されていますが、結果的に日本語が多用されていることが特徴の一つとなっています。その結果、講究録は、数学・数理科学の広い領域における最先端の専門知識に母国語でアクセスできるものとして、近年の英語化の流れの中で、重要な文献となりつつあります。

当研究所の共同利用事業に参加し講究録の論文を執筆していただいた多数の方々に対し、講究録を大きく成長させていただいたことを深く感謝いたしますとともに、これからも、当研究所の国際共同利用・共同研究拠点(*)としての活動にご参加いただき、講究録の発展にご協力いただけますよう心よりお願い申し上げます。

*数理解析研究所は2018年11月13日、共同利用・共同研究拠点の認定が廃止され、新しく国際共同利用・共同研究拠点に認定されました。

講究録

Kôkyûroku

RIMS Kôkyûroku was started in 1964 as the proceedings of symposia, colloquia and workshops supported by RIMS, the Research Institute for Mathematical Sciences, Kyoto University. It was the next year of the establishment of RIMS as one of the Nationwide Cooperative Research Centers. For half a century since then, several dozen volumes have been issued each year, and the 2,000th volume was issued in 2016. The volumes of Kôkyûroku from the 1st through the 2,000th, containing enormous 29,265 articles and 342,960 pages, not only deliver the latest research activities in mathematics and mathematical sciences but also constitute valuable and incomparable collections of articles that pass down history of progress of mathematics and mathematical science in Japan.

Articles in Kôkyûroku are available on the websites of RIMS and Kyoto University Research Information Repository. They are very frequently accessed on the internet, with a total of as many as 1,380,032 accesses in 2017.

The authors choose the languages to write articles, and many are written in Japanese, which is one of the characteristics of Kôkyûroku. As a result, Kôkyûroku is regarded as a significant and important literature which allows easy access to the latest specialized knowledge in the large fields of mathematics and mathematical sciences written in native language for Japanese readers, while more and more research papers are being written in English in recent years.

We are deeply grateful to many of those who have participated in cooperative research activities of RIMS and greatly developed Kôkyûroku. We heartily ask for your continuous participation in research activities at RIMS as an International Joint Usage/Research Center(*) and your warm support and cooperation for the fruitful development of Kôkyûroku.

* RIMS was certified as an International Joint Usage/Research Center on Nov. 13, 2018.

RIMS Kôkyûroku 2195

Spectral and Scattering Theory

and Related Topics

December 2 ~ 4, 2019

edited by Takuya Watanabe

August, 2021

Research Institute for Mathematical Sciences

Kyoto University, Kyoto, Japan

This is a report of research done at the Research Institute for Mathematical Sciences,
an International Joint Usage/Research Center located in Kyoto University.
The papers contained herein are in final form and will not be submitted for publication elsewhere.



RIMS Workshop

Spectral and Scattering Theory and Related Topics

Date: December 2nd (Mon.) – 4th (Wed.) 2019.

Place: Research Institute for Mathematical Sciences (RIMS) Room 111.

Program

December 2nd (Monday)

13:30 – 14:30 ISOZAKI, Hiroshi

Continuum limit for lattice Hamiltonians

14:45 – 15:45 RICHARD, Serge (Nagoya university)

*Discrete Laplacian in a half-space with a periodic surface potential:
- Resolvent expansions, scattering matrix, and wave operators -*

16:00 – 17:00 ASSAL, Marouane (Pontificia Universidad Católica de Chile)

Eigenvalue splitting for a system of Schrödinger operators with an energy-level crossing

December 3rd (Tuesday)

9:45 – 10:45 KAWASHITA, Mishio (Hiroshima university)

*Asymptotics of some function corresponding to refraction phenomena arising
in inverse problems for wave equations in flat two-layered medium*

11:00 – 12:00 MORIOKA, Hisashi (Ehime university)

Non-scattering energies for acoustic-type equations on manifolds with a single flat end

(Lunch)

13:30 – 14:30 KAWAMOTO, Masaki (Ehime university)

Mourre theory for time-periodic magnetic fields

14:45 – 15:45 KIYOSE, Amane (Kobe university)

On the Mourre estimates for Floquet Hamiltonians

16:00 – 17:00 TAIRA, Koichi (Tokyo university)

Scattering theory for repulsive Schrödinger operators and applications to limit circle problem

December 4th (Wed)

9:45 – 10:45 DIMASSI, Mouez (Université de Bordeaux)

On the Schrödinger operator with a confined magnetic field and a slowly varying potential

11:00 – 12:00 HIGUCHI, Kenta (Ritsumeikan university)

Resonance free domain for a system of Schrödinger operators with an energy-level crossing

Organizer : WATANABE, Takuya (Ritsumeikan university)

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スペクトル・散乱理論とその周辺
Spectral and Scattering Theory and Related Topics
RIMS 共同研究（公開型）報告集

2019 年 12 月 2 日～12 月 4 日
研究代表者 渡部 拓也 (Takuya Watanabe)

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