



RIMS Symposium on

Prospects in microlocal analysis and asymptotic analysis

Organizer Naofumi Honda (Hokkaido Univ.)

Coorganizer Yasunori Okada (Chiba Univ.) and Susumu Yamazaki (Nihon Univ.)

October 3 (Mon.) ~ 7 (Fri.), 2022

Room No. 111 of RIMS, Kyoto University

Program

October 3, Monday

Chairman Sampei Hirose (Shibaura Institute of Technology)

13:15 - 14:00 Takashi Aoki (Kindai University)

An elementary approach to the exact WKB analysis of the Pearcey system with a large parameter (Collaborators: T. Suzuki and S. Uchida)

14:15 - 15:00 Yumiko Takei (Ibaraki College)

Voros coefficients and the topological recursion for the hypergeometric equation of type $(1, 2, 2)$

15:15 - 16:00 Kohei Iwaki (University of Tokyo)

Voros coefficients for isomonodromy systems associated with Painlevé equations and BPS invariants

16:15 - 17:00 Yoshitsugu Takei (Doshisha University)

Comparison between WKB solutions and convergent solutions at a regular singular point of simple pole type via the confluence

October 4, Tuesday

Chairman Shinji Sasaki (Shibaura Institute of Technology)

- 10:15 - 11:00 Mika Tanda (Kwansei Gakuin University)
The standard solutions at the origin of HGDE with a simple-pole-type turning point and WKB solutions (Collaborator: T.Takahashi)
- 11:15 - 12:00 Takahiro Shigaki (Kobe University)
Secular equations for an ordinary differential equation with a ghost point arising from the mathematical model of mesons

Chairman Kohei Iwaki (University of Tokyo)

- 13:30 - 14:15 Kento Osuga (University of Tokyo)
Refined Donaldson-Thomas invariants from Topological Recursion
- 14:30 - 15:15 Shinji Sasaki (Shibaura Institute of Technology)
To be announced
- 15:30 - 16:15 Sampei Hirose (Shibaura Institute of Technology)
Exact WKB analysis for differential equations satisfied by oscillatory integrals
- 16:30 - 17:00 Shofu Uchida (Kindai University)
On the differential-difference equations satisfied by the Voros coefficients at the unit of the generalized hypergeometric differential equation (Collaborator: T. Aoki)

October 5, Wednesday

Chairman Susumu Yamazaki (Nihon University)

- 10:15 - 11:00 Takuro Mochizuki (RIMS)
 L^2 -complexes and twistor complexes of tame harmonic bundles
- 11:15 - 12:00 Tatsuki Kuwagaki (Kyoto University)
To be announced

Chairman Takashi Aoki (Kindai University)

- 13:30 - 14:15 Kunio Ichinobe (Aichi University of Education)
On 1-summability of formal solution of inhomogeneous heat equation
- 14:30 - 15:15 Hiroshi Yamazawa (Shibaura Institute of Technology)
Singular solutions of q -difference-differential equations of Briot-Bouquet type
—a concreted form and higher order version—
- 15:30 - 16:15 Sunao Ouchi (Sophia University)
A study of solutions of nonlinear irregular singular differential equations by using Borel summable functions
- 16:30 - 17:00 Tatsuki Nishida (Hokkaido University)
Embedding of C^m functions into the space of hyperfunctions and Čech-Dolbeault cohomology

October 6, Thursday

Chairman Yasunori Okada (Chiba University)

10:15 - 11:00 Joe Kamimoto (Kyushu University)

Resolution of singularities for C^∞ functions and meromorphy of local zeta functions

11:15 - 12:00 Daichi Komori (Hokkaido University)

The Čech-Dolbeault representative of action of microdifferential operators to microfunctions

Chairman Kazuki Hiroe (Chiba University)

13:30 - 14:15 Hideshi Yamane (Kwansei Gakuin University)

Generalized spherical mean value operators on Euclidean space (joint work with Yasunori Okada)

14:30 - 15:15 Saiei-Jaeyeong Matsubara-Heo (Kumamoto University)

Hypergeometric system of contingency table

15:30 - 16:15 Toshio Oshima (Josai University)

Fractional calculus of hypergeometric systems

16:30 - 17:00 Ken Shibusawa (Chiba University)

An extension of contiguity relations for confluent hypergeometric systems (joint work with Kazuki Hiroe and Yasunori Okada)

October 7, Friday

Chairman Yutaka Matsui (Kindai University)

10:15 - 11:00 Keisuke Uchikoshi (National Defense Academy)

Nonlinear perturbation of the wave equation

11:15 - 12:00 Kohei Umeta (Nihon University)

Application of Laplace hyperfunctions to PDE with constant coefficients (joint work with Naofumi Honda)

Chairman Keisuke Uchikoshi (National Defense Academy)

13:30 - 14:15 Yutaka Matsui (Kindai University)

Sheaf theoretical study of bicomplex hyperfunctions

14:30 - 15:15 Kazuki Hiroe (Chiba University)

Long-Moody construction of braid representations and Katz' middle convolution (joint work with Haru Negami)

15:30 - 16:15 Yasunori Okada (Chiba University)

Projective descriptions and continuous homomorphisms for some spaces of entire functions (Collaborators: T. Aoki and R. Ishimura)

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