

RIMS 共同研究 (公開型)  
超局所解析と漸近解析



研究代表者: 岡田靖則 (千葉大)  
副代表者: 本多尚文 (北大), 山崎晋 (日大)

2017年10月16日(月) ~ 20日(金)  
京都大学数理解析研究所 111号室

プログラム

**October 16, Monday**

- 10:00 - 10:50 Toshinori Takahashi (Kindai University)  
The confluent hypergeometric function and WKB solutions
- 11:10 - 12:00 Shofu Uchida (Kindai University)  
Linear continuous operators acting on the space of entire functions of a given order
- 13:40 - 14:30 Kunio Ichinobe (Aichi University of Education)  
Experimental observation on  $k$ -summability of divergent solutions of the heat equation with  $k > 1$   
(a joint work with M. Miyake)
- 14:50 - 15:40 Yumiko Takei (Kobe University)  
On expressions of Voros coefficients for hypergeometric differential equations in terms of the topological recursion
- 16:00 - 16:50 Takashi Aoki (Kindai University)  
Exact WKB analysis of the Gauss hypergeometric function

**October 17, Tuesday**

- 10:00 - 10:50 Yasunori Okada (Chiba University)  
On the solvability of a coupling equation for PDEs of Briot-Bouquet type
- 11:10 - 12:00 Susumu Yamazaki (Nihon University)  
Nearby and Vanishing Cycles of Fuchsian D-Modules
- 13:40 - 14:30 Keisuke Uchikoshi (National Defense Academy)  
Singularities of gravity water waves
- 14:50 - 15:40 Kiyoomi Kataoka (the University of Tokyo)  
Some remarks on Hayato Chiba's theory about Kuramoto conjecture
- 16:00 - 16:50 Tatsuo Suwa (Hokkaido University)  
Relative Dolbeault cohomology and Sato hyperfunctions

**October 18, Wednesday**

- 10:00 - 10:50 Kohei Umeta (Nihon University)  
Laplace hyperfunctions from the viewpoint of Čech-Dolbeault cohomology  
(a joint work with N. Honda)

- 11:10 - 12:00 Naofumi Honda (Hokkaido University)  
Application of the theory of Čech-Dolbeault cohomology to operations on hyperfunctions  
(a joint work with T. Izawa and T. Suwa)
- 13:40 - 14:30 Joe Kamimoto (Kyushu University)  
Failure of meromorphy for local zeta functions
- 14:50 - 15:40 Sampei Hirose (Shibaura Institute of Technology), Takahiro Kawai (RIMS) and Yoshitsugu Takei (Doshisha University)  
On virtual turning points originating from a non-hereditary turning point
- 16:00 - 16:50 Yoshitsugu Takei (Doshisha University)  
Some recent topics in the exact WKB analysis related to the exact steepest descent method

**October 19, Thursday**

- 10:00 - 10:50 Jun Yamamoto (Shibaura Institute of Technology) and Hiroshi Yamazawa (Shibaura Institute of Technology)  
 $q$ -analogue of a system of equation from geometry
- 11:10 - 12:00 Hidetoshi Tahara (Sophia University)  
Some examples of the Borel summability of formal solutions of linear partial differential equations
- 13:40 - 14:30 Masafumi Yoshino (Hiroshima University)  
Movable Singularity of Hamiltonian System and Blowup of Semi linear Wave Equation
- 14:50 - 15:40 Saiei-Jaeyeong Matsubara-Heo (the University of Tokyo)  
On Laplace and Euler integral representations of GKZ hypergeometric functions
- 16:00 - 16:50 Toshio Oshima (Josai University)  
Transformation of KZ type equations

**October 20, Friday**

- 10:00 - 10:50 Naoto Kumano-go (Kogakuin University)  
Phase space Feynman path integrals of parabolic type with functional derivatives
- 11:10 - 12:00 Takeshi Morita (Osaka University)  
On some divergent bilateral basic hypergeometric series and connection formulae
- 13:40 - 14:30 Toshinori Oaku (Tokyo Woman's Christian University)  
An attempt to compute holonomic systems for Feynman integrals in two-dimensional space-time
- 14:50 - 15:40 Shinichi Tajima (University of Tsukuba)  
A method for computing generic Lê numbers associated with hypersurface non-isolated singularities

本共同研究は JSPS 科研費 JP16K05170, JP15K04887, JP15K04908 の助成を受けています。