



**Various Problems of Algebraic Analysis**  
**— Microlocal Analysis and Asymptotic Analysis —**

Organizer: Susumu YAMAZAKI (Nihon University)

Co-Organizers: Naofumi HONDA (Hokkaido University), Yasunori OKADA (Chiba University)

October 15, Monday — 19, Friday, 2018

Room 420, Research Institute for Mathematical Sciences, Kyoto University

**Program**

**October 15, Monday**

- 10:40–11:10: Mika TANDA (Kwansei Gakuin University)  
Exact WKB analysis of the hypergeometric differential equation
- 11:30–12:00: Toshinori TAKAHASHI (Kindai University)  
Exact WKB analysis of the confluent hypergeometric differential equation
- 13:40–14:30: Yoshitsugu TAKEI (Doshisha University)  
On the instanton-type expansion of solutions and the transformation theory of differential equations
- 14:50–15:40: Kunio ICHINOBE (Aichi University of Education)  
Characterization of  $k$ -summability of formal solutions to some  $q$ -difference-differential equations
- 16:00–16:50: Shinichi TAJIMA (Niigata University)  
Computing  $\text{Ann}(f^s)$  via generalized integral dependence relations

**October 16, Tuesday**

- 10:00–10:50: Hideshi YAMANE (Kwansei Gakuin University)  
Scales of Banach spaces and pseudodifferential equations of the Camassa-Holm type
- 11:10–12:00: Naoto KUMANO-GO (Kogakuin University)  
Phase space Feynman path integrals of parabolic type with smooth functional derivatives
- 13:40–14:30: Kohei IWAKI (Nagoya University)  
Topological recursion for a genus 1 spectral curve
- 14:50–15:20: Takashi AOKI (Kindai University)  
Toward the exact WKB analysis of the generalized hypergeometric differential equation, I
- 15:35–16:05: Shofu UCHIDA (Kindai University)  
Toward the exact WKB analysis of the generalized hypergeometric differential equation, II
- 16:20–16:50: Gergő NEMES (Kindai University)  
Transitional expansions

**October 17, Wednesday**

- 10:00–10:50: Hidetoshi TAHARA (Sophia University)  
Maillet type theorem for nonlinear totally characteristic partial differential equations
- 11:10–12:00: Masafumi YOSHINO (Hiroshima University)  
Parametric Borel summability of some partial differential equation related to construction of movable branch points

- 13:40–14:30: Saiei-Jaeyeong MATSUBARA-HEO (Kobe University)  
Integral representations and intersection theory of GKZ system
- 14:50–15:20: Toshinori OAKU (Tokyo Woman’s Christian University)  
On various  $b$ -functions of specializable  $D$ -modules
- 15:35–16:05: Xiaoran JIN (Chiba University)  
Infinite order differential equations in the space of entire functions of normal type and minimal type with respect to a proximate order
- 16:20–16:50: Shunya ADACHI (Aichi University of Education)  
Connection problem of a linear  $q$ -difference equation satisfied by divergent basic hypergeometric series  ${}_4\varphi_1(a_1, a_2, a_3, a_4; b; q, x)$

**October 18, Thursday**

- 10:00–10:50: Toshio OSHIMA (Josai University)  
Confluence and unfolding of irregular singularities of hypergeometric equations
- 11:10–12:00: Joe KAMIMOTO (Kyushu University)  
Regular and singular orders of contact on real hypersurfaces
- 13:40–14:30: Takuro MOCHIZUKI (RIMS, Kyoto University)  
Stokes shells and Fourier transform
- 14:50–15:40: Kazuki HIROE (Josai University)  
Ramified irregular singularities of differential equations and their spectral curves
- 16:00–16:50: Sampei HIROSE (Shibaura Institute of Technology), Takahiro KAWAI (RIMS, Kyoto University), Shinji SASAKI (University of Toronto), and Yoshitsugu TAKEI (Doshisha University)  
Stokes geometry of ordinary differential equations with double turning points related to confluent hypergeometric equations of two variables

**October 19, Friday**

- 10:00–10:50: Yasunori OKADA (Chiba University)  
Inductive and projective descriptions for entire functions with a prescribed growth
- 11:10–12:00: Yutaka MATSUI (Kindai University)  
Topological Radon transforms on various Grassmann manifolds
- 13:40–14:30: Naofumi HONDA (Hokkaido University)  
 $\mu\hbar om$  and microlocal operators for multi-microlocalizations
- 14:50–15:40: Susumu YAMAZAKI (Nihon University)  
Microlocal boundaty value problem for Fuchsian  $\mathcal{D}$ -Modules

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