RIMS Joint Research

Algebraic analytic methods in complex partial differential equations

Organizers: Yasunori Okada, Naofumi Honda, and Hiroshi Yamazawa

December 8(Tue) ~ 11(Fri), 2015
Room No. 111, RIMS, Kyoto University

Program

December 8, Tuesday

10:00 - 10:50 Naofumi Honda (Hokkaido University)
   Apparent parameter technique and vanishing of cohomology groups with Whitney holomorphic functions

11:10 - 12:00 Luca Prelli (Universidade de Lisboa)
   Generalization of multi-specializations and multi-asymptotics

13:30 - 14:20 Kohei Umeta (Hokkaido University)
   On the theory of Laplace hyperfunctions in several variables
   (a joint work with Naofumi Honda)

14:40 - 15:30 Giovanni Morando (Augsburg University)
   Enhanced sheaves, direct images and Fourier transform of D-modules

15:50 - 16:40 Masatake Miyake (Nagoya University)
   A counterexample for Barkatou’s conjecture on the exponential growth of solutions for Mose irreducible system and surgery operations of system transformations

December 9, Wednesday

10:00 - 10:50 Hiroshi Yamazawa (Shibaura Institute of Technology)
   Summability of formal solutions for $\epsilon t^{r+1} \frac{\partial}{\partial t} u = f(t, u)$

11:10 - 12:00 Stéphane Malek (University of Lille)
   Parametric multisummable formal solutions to nonlinear PDEs

13:30 - 14:20 Sunao Ōuchi (Sophia University)
   Functional equations with solutions of irregular singular type
14:40 - 15:30 Jose Ernie C. Lope (University of the Philippines Diliman)
A Nagumo-type theorem on nonlinear Fuchsian partial differential equations

15:50 - 16:40 Hidetoshi Tahara (Sophia University)
On singular solutions of nonlinear singular partial differential equations in a sectorial domain

December 10, Thursday

09:00 - 09:50 Alberto Lastra (University of Alcalá)
Parametric multilevel $q$-Gevrey asymptotics for some linear Cauchy problem

10:00 - 10:50 Yasunori Okada (Chiba University)
Coupling transforms and the reversibility

11:10 - 12:00 Kunio Ichinobe (Aichi University of Education)
$k$-summability of formal solutions for certain partial differential equations and the method of successive approximation

13:30 - 14:20 Jorge Mozo Fernández (University of Valladolid)
Application of monomial summability to singularly perturbed Pfaffian systems

14:40 - 15:30 Yoshishige Haraoka (Kumamoto University)
Connection problem for regular holonomic systems

15:50 - 16:40 Toshio Oshima (Josai University)
Reducibility of hypergeometric equations

December 11, Friday

10:00 - 10:50 Yoko Umeta (Yamaguchi University)
Instanton-type solutions for a unified family of $(P_J)_m$ $(J = I,II,IV,34)$

11:10 - 12:00 Javier Sanz (Universidad de Valladolid)
Multisummability in ultraholomorphic classes associated to strongly regular sequences

13:30 - 14:20 Free discussion

14:40 - 15:30 Masafumi Yoshino (Hiroshima University)
Semi-global non integrability of Hamiltonian system and Borel summability

15:50 - 16:40 Susumu Yamazaki (Nihon University)
Boundary value problem for hyperfunction solutions to Fuchsian systems

This joint research is supported by JSPS KAKENHI Grant Number 25287017.
(Principal Investigator: Toshio Oshima).