RIMS Symposium on
Several aspects of microlocal analysis

Organizers:
Naofumi Honda, Yasunori Okada and Susumu Yamazaki

October 20(Mon.) $\sim$ 24(Fri.), 2014
Room No. 111 of RIMS, Kyoto University

Program

October 20, Monday

10:00 - 10:50 Shinya Moritoh (Nara Women's Univ.)
Detection of singularities in wavelet and ridgelet analyses

11:10 - 12:00 Hideshi Yamane (Kwansei Gakuin Univ.)
Asymptotics for the defocusing integrable discrete nonlinear Schrödinger equation

13:40 - 14:30 Akira Shudo (Tokyo Metropolitan Univ.)
Quantum tunneling in nonintegrable systems: beyond the leading order WKB description

14:50 - 15:40 Sampei Hirose (Shibaura Institute of Technology)
On unfoldings of differential operators

16:00 - 16:50 Takashi Aoki (Kinki Univ.)
The hypergeometric function and WKB solutions

October 21, Tuesday

10:00 - 10:50 Yasunori Okada (Chiba Univ.)
Solvability of coupling equations and infinite dimensional holomorphy

11:10 - 12:00 Toshinori Oaku (Tokyo Woman's Christian Univ.)
Annihilators of Laurent coefficients of the complex power of a real analytic function – example and algorithm

13:40 - 14:30 Kunio Yoshino (Tokyo City Univ.)
Spectral analysis of Toeplitz operators on Bargmann - Fock space via hyperfunctions

14:50 - 15:40 Kohei Umeta (Hokkaido Univ.) and Naofumi Honda (Hokkaido Univ.)
On the construction of Laplace transforms for Laplace hyperfunctions

16:00 - 16:50 Hidetoshi Tahara (Sophia Univ.)
q-Analogues of Laplace and Borel transforms by using q-exponentials

October 22, Wednesday

10:00 - 10:50 Luca Prelli (Univ. Lisbon), Naofumi Honda (Hokkaido Univ.) and Susumu Yamazaki (Nihon Univ.)
Multi-microlocalization

11:10 - 12:00 Keisuke Uchikoshi (National Defense Academy of Japan)
Singularities in a compressible perfect fluid

13:40 - 14:30 Yoko Umeta (Tokyo Univ. of Science) and Shinichi Tajima (Tsukuba Univ.)
On the monodromy structure of holonomic D-modules associated with simple line singularities

14:50 - 15:40 Joe Kamimoto (Kyushu Univ.)
On local zeta functions in two dimensions

16:00 - 16:50 Kiyoomi Kataoka (Univ. Tokyo)
A review of the results on second analytic singularities in diffraction problems, and some geometric proofs

October 23, Thursday

10:00 - 10:50 Susumu Yamazaki (Nihon Univ.)
Boundary value problem for hyperfunction solutions to Fuchsian systems

11:10 - 12:00 Takashi Takiguchi (National Defense Academy of Japan)
On uniqueness problems for the Radon transform

13:40 - 14:30 Naofumi Honda (Hokkaido Univ.) and Takahiro Kawai (RIMS)
A study of pinch points and cups in the Landau-Nakanishi geometry

14:50 - 15:40 Tatsuya Koike (Kobe Univ.)
On Voros coefficients and middle convolutions for linear ordinary differential equations with a large parameter

16:00 - 16:50 David Sauzin (French National Center for Scientific Research)
Nonlinear analysis with resurgent functions, I

October 24, Friday

10:00 - 10:50 David Sauzin (French National Center for Scientific Research)
Nonlinear analysis with resurgent functions, II

11:10 - 12:00 Shingo Kamimoto (RIMS), Takahiro Kawai (RIMS) and Tatsuya Koike (Kobe Univ.)
Exact WKB analysis of simple pole type operators — alien calculus using the differential operators of infinite order

13:40 - 14:30 Hidekazu Ito (Kanazawa Univ.)
Some aspects of integrability of vector fields and normal form theory

14:50 - 15:40 Kohei Iwaki (RIMS)
Exact WKB analysis and cluster algebras

16:00 - 16:50 Masafumi Yoshino (Hiroshima Univ.)
Monodromy of confluent hypergeometric system