

Microlocal Analysis and Singular Perturbation Theory

October 5 (Mon) – October 9 (Fri), 2015
Lecture Hall (Room No. 420) of RIMS, Kyoto University

Program

October 5, Monday

- 13:00 – 13:50 Pierre Schapira (Paris, France)
Grothendieck topologies for analysis
- 14:00 – 14:50 Kiyoomi Kataoka (Univ. of Tokyo)
The functor $\beta_Y(\cdot)$ and mixed problems for \mathcal{D}_X -modules
- 15:10 – 16:00 Masafumi Yoshino (Hiroshima Univ.)
Monodromy of some resonant Hamiltonian system
- 16:10 – 17:00 Shinji Sasaki (RIMS, Kyoto Univ.)
Bifurcation phenomenon of Stokes curves around a double turning point and influence of virtual turning points upon nonadiabatic transition probabilities

October 6, Tuesday

- 10:00 – 10:50 Setsuro Fujiie (Ritsumeikan Univ.)
Resonances near an energy-level crossing
- 11:10 – 12:00 Johannes Sjöstrand (Dijon, France)
Non-self-adjoint perturbations of completely integrable Hamiltonians in 2D — rational tori and spectral centipedes
(joint work with Michael Hitrik)
- 14:00 – 14:50 Reinhard Schäfke (Strasbourg, France)
Factorisation of fundamental WKB-solutions
(joint work with Charlotte Hulek)
- 15:10 – 16:00 Keisuke Uchikoshi (National Defense Academy)
On gravity water waves
- 16:10 – 17:00 Takahiro Kawai (RIMS, Kyoto Univ.) and Naofumi Honda (Hokkaido Univ.)
An invitation to Sato's postulates in micro-analytic S -matrix theory

October 7, Wednesday

- 10:00 – 10:50 Ovidiu Costin (Ohio State, USA)
Exact WKB and resurgence
- 11:10 – 12:00 Masaki Kashiwara (RIMS, Kyoto Univ.)
Riemann-Hilbert problem of irregular holonomic \mathcal{D} -modules
- 18:30 – < Party >

October 8, Thursday

- 10:00 – 10:50 Yuichi Ike (Univ. of Tokyo)
Hyperbolic localization and Lefschetz fixed point formulas for
higher-dimensional fixed point sets
- 11:10 – 12:00 Yves Laurent (Grenoble, France)
 b -functions and regular holonomic \mathcal{D} -modules
- 14:00 – 14:50 Toshio Oshima (Josai Univ.)
Linear ordinary differential equations in the complex domain and
hypergeometric systems
- 15:10 – 16:00 Toshinori Oaku (Tokyo Woman's Univ.)
Some algorithmic problems for holonomic distributions
- 16:10 – 17:00 Hikosaburo Komatsu (Univ. of Tokyo)
History of mathematics of the world due to D.E. Smith

October 9, Friday

- 10:00 – 10:50 Tatsuya Koike (Kobe Univ.)
A remark on the growth order of Borel transform of WKB solutions
of one-dimensional Schrödinger equations — Toward a proof of its
multisummability
- 11:10 – 12:00 David Sauzin (Pisa, Italy & CNRS, France)
Nonlinear analysis with endlessly continuable functions
(joint work with Shingo Kamimoto)
- 14:00 – 14:50 Kohei Iwaki (Nagoya Univ.)
Topological recursion, quantum curves and Painlevé equations
- 15:10 – 16:00 Takashi Aoki (Kinki Univ.)
The hypergeometric function and WKB solutions
- 16:10 – 17:00 Yoshitsugu Takei (RIMS, Kyoto Univ.)
On the exact WKB analysis of discrete Painlevé equations