

河合隆裕教授還暦記念 国際研究集会

Algebraic Analysis of Differential Equations

— from Microlocal Analysis to Exponential Asymptotics —

平成 17 年 7 月 7 日 (木) ~ 7 月 14 日 (木)

京都大学数理解析研究所 4 階 420 号室 (7 日、8 日)、及び
京都大学時計台記念館国際交流ホール (11 日~14 日)

Scientific Committee :

M. Kashiwara (RIMS, Kyoto Univ.), T. Miwa (Kyoto Univ.),
Y. Takei (RIMS, Kyoto Univ.)

Organizers :

T. Aoki (Kinki Univ.), T. Koike (Kyoto Univ.), H. Majima (Ochanomizu Univ.),
Y. Okada (Chiba Univ.), Y. Takei (RIMS, Kyoto Univ.), N. Tose (Keio Univ.)
問合わせ : Y. Takei (075-753-7249, takei@kurims.kyoto-u.ac.jp)

招待講演者 :

T. Aoki (Kinki Univ.), C. M. Bender (Washington Univ.),
L. Boutet de Monvel (Univ. de Paris VI),
O. Costin (Rutgers Univ. & Ohio State Univ.), E. Delabaere (Univ. d'Angers),
L. Ehrenpreis (Temple Univ.), C. J. Howls (Univ. of Southampton),
K. Iwasaki (Kyushu Univ.), M. Jimbo (Univ. of Tokyo),
M. Kashiwara (RIMS, Kyoto Univ.), K. Kataoka (Univ. of Tokyo),
T. Kawai (RIMS, Kyoto Univ.), Y. Laurent (Univ. de Grenoble),
G. Lebeau (Univ. de Nice-Sophia Antipolis), G. Nakamura (Hokkaido Univ.),
S. Ōuchi (Sophia Univ.), F. Pham (Univ. de Nice-Sophia Antipolis),
A. Shudo (Tokyo Metropolitan Univ.), H. J. Silverstone (Johns Hopkins Univ.),
J. Sjöstrand (Ecole Polytechnique), H. Tahara (Sophia Univ.),
Y. Takei (RIMS, Kyoto Univ.), G. Uhlmann (Univ. of Washington),
A. Voros (CEA Saclay), M. Yoshino (Hiroshima Univ.).

この研究集会は、京都大学 21 世紀 COE プログラム「先端数学の国際拠点形成と次世代研究者育成」の支援を受けて、京都大学数理解析研究所の共同研究事業の一つとして行われるものです。

プログラム

7月7日 (木)

- 13:30 – 14:30 Johannes Sjöstrand (Ecole Polytechnique)
Spectral instability for non-self-adjoint operators
- 15:00 – 16:00 Kiyoomi Kataoka (Univ. of Tokyo)
Boundary value problems with fractional power singularities
- 16:30 – 17:30 Yves Laurent (Univ. de Grenoble)
Inverse image of D-modules and weighted b-functions

7月8日 (金)

- 9:30 – 10:30 Gen Nakamura (Hokkaido Univ.)
Inverse problem for reconstructing medium singularity
- 10:45 – 11:45 Leon Ehrenpreis (Temple Univ.)
The edge of the wedge theorem
- 13:15 – 14:15 Gilles Lebeau (Univ. de Nice-Sophia Antipolis)
The hypoelliptic Laplacian of J.-M. Bismut
- 14:30 – 15:30 Hidetoshi Tahara (Sophia Univ.)
Coupling of two partial differential equations and its application

7月11日 (月)

- 10:00 – 11:00 Louis Boutet de Monvel (Univ. de Paris VI)
Logarithmic trace of Szegő and Toeplitz projectors
- 11:30 – 12:30 Michio Jimbo (Univ. of Tokyo)
Correlation functions in solvable lattice models: history and recent advances
- 14:00 – 15:00 Masaki Kashiwara (RIMS, Kyoto Univ.)
Codimension three conjecture for holonomic modules
- 15:45 – 16:45 Takahiro Kawai (RIMS, Kyoto Univ.)
Virtual turning points — A gift of microlocal analysis to the exact WKB analysis
(Joint work with T. Aoki, T. Koike, Y. Nishikawa, S. Sasaki, A. Shudo and Y. Takei)
- 17:30 – < Party >

7月12日(火)

- 9:30 – 10:30 Takashi Aoki (Kinki Univ.)
Exact WKB analysis via computers
(Joint work with N. Honda and T. Koike)
- 11:00 – 12:00 Gunther Uhlmann (Univ. of Washington)
Boundary rigidity and the Dirichlet-to-Neumann map
- 13:30 – 14:30 André Voros (CEA Saclay)
From exact-WKB towards singular quantum perturbation theory
- 15:00 – 16:00 Frédéric Pham (Univ. de Nice-Sophia Antipolis)
A baby physicist's view of Feynman path integrals
- 16:30 – 17:30 Carl M. Bender (Washington Univ. in St. Louis)
Ghost busting: Making sense of non-Hermitian Hamiltonians

7月13日(水)

- 9:30 – 10:30 Sunao Ōuchi (Sophia Univ.)
The behaviors of singular solutions of some partial differential equations
in the complex domain
- 11:00 – 12:00 Ovidiu Costin (Rutgers Univ. & Ohio State Univ.)
Borel summability and rigorous WKB for partial differential equations
- 13:30 – 14:30 Harris J. Silverstone (Johns Hopkins Univ.)
Some observations on the JKWB treatment of the quadratic barrier
- 15:00 – 16:00 Eric Delabaere (Univ. d'Angers)
Resurgent reduction near a simple turning point
- 16:30 – 17:30 Akira Shudo (Tokyo Metropolitan Univ.)
A role of new Stokes curves in the quantized Henon map

7月14日(木)

- 9:30 – 10:30 Masafumi Yoshino (Hiroshima Univ.)
WKB analysis and small denominators for vector fields
- 11:00 – 12:00 Christopher J. Howls (Univ. of Southampton)
Recent developments in exponential asymptotics for nonlinear partial
differential equations
- 13:30 – 14:30 Katsunori Iwasaki (Kyushu Univ.)
Bounded trajectories in the sixth Painlevé dynamics
- 15:00 – 16:00 Yoshitsugu Takei (RIMS, Kyoto Univ.)
Instanton-type formal solutions for the first Painlevé hierarchy

スケジュール

	午前		午後		
7日(木)			J. Sjöstrand	K. Kataoka	Y. Laurent
8日(金)	G. Nakamura	L. Ehrenpreis	G. Lebeau	H. Tahara	
11日(月)	L. Boutet de Monvel	M. Jimbo	M. Kashiwara	T. Kawai	< Party >
12日(火)	T. Aoki	G. Uhlmann	A. Voros	F. Pham	C.M. Bender
13日(水)	S. Ōuchi	O. Costin	H.J. Silverstone	E. Delabaere	A. Shudo
14日(木)	M. Yoshino	C.J. Howls	K. Iwasaki	Y. Takei	