RIMS Camp-style Seminar

Modern approach and developments to Onsager's theory on statistical vortices

August 28 (Sun.) - 31 (Wed.), Apical Inn Kyoto , Kyoto, Japan

http://www.bea.hi-ho.ne.jp/pickles/2011RIMS_Onsager/

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JSPS Grants-in-Aid for Scientific Research:
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Basic Research (C) 21540179 (Taku Yanagisawa)
Basic Research (C) 22540231 (Hiroshi Ohtsuka),

Program

Aug. 28 (Sun.)

(The semnar room is available from 14:00 to 21:00.)

15:30-16:00 (registration)

16:00-17:00 **Hiroshi Ohtsuka** (University of Miyazaki)
Opening Talk ; Purpose of this seminar

18:00- (Dinner)

Aug. 29 (Mon.)

(The semnar room is available from 9:00 to 21:00.)

- Recent Insights from Physics - (Chairman: Prof. Suzuki)

9:30-10:30 **Pierre-Henri Chavanis** (Université Paul Sabatier) : Plenary talk

Kinetic theory of two-dimensional point vortices

11:00-12:00 **Freddy Bouchet** (ENS de Lyon) : Plenary talk

Invariant measures of the 2D Euler equations and applications to equilibrium and non equilibrium phase transitions

12:00-14:30 (Lunch, free discussions)

- Session for Young Physicists - (Chairman: Prof. Yatsuyanagi)

14:30-15:00 **Hidetoshi Morita** (Kyoto University)

Non-"equilibrium" oscillations in two-dimensional Euler equations

15:00-15:30 **Akio Sanpei** (Kyoto Institute of Technology)

Experimental Study of Formation of Vortex Crystal Configuration in Pure Electron Plasma

15:30-16:00 **Makoto Hirota** (Japan Atomic Energy Agency)

Variational formulation of nonlinear hydrodynamic stability

- Developements of the theory of vortices - (Chairman: Prof. Fukumoto)

16:30-17:00 **Ken Sawada** (Meteorological College)

Mean field equation for vortex filament systems

17:00-17:30 **Yuichi Yatsuyanagi** (Shizuoka University)

Analytical derivation of diffusion coefficient of two-dimensional point vortex system with Klimontovich formalism

18:00- (Dinner)

Aug. 30 (Tues.)

(The semnar room is available from 9:00 to 21:00.)

- Leading-edge of the fluid equations - (Chairman: Prof. Yanagisawa)

9:30-10:30 **Zoran Grujic** (University of Virginia) : Plenary talk

Anomalous dissipation as a trigger for the energy cascade in 3D inviscid flows

11:00-12:00 **Dongho Chae** (Sungkyunkwan University) : Plenary talk

On the blow-up problem for the Euler equations and the Liouville type results in the fluid equations

12:00-14:00 (Lunch, free discussions)

- Session for Young Mathematicians I : Fluid equations - (Chairman: Prof. Chae)

14:00-14:30 **Ryo Takada** (Tohoku University)

Propagation of the analyticity for the solution to the Euler equations with non-decaying initial velocity

14:30-15:00 **Yasunori Maekawa** (Kobe University)

On vorticity concentration at the zero viscosity limit for the Navier-Stokes flows in the half plane

15:00-15:30 **Yasushi Taniuchi** (Shinshu University)

Uniqueness of almost periodic-in-time solutions to Navier-Stokes equations in unbounded domains

- Session for Young Mathematicians II : Elliptic equations - (Chairman: Prof. Ohtsuka)

16:00-16:30 **Toru Kan** (Tohoku University)

Bifurcation structure of the mean field equation for an annular domain

16:30-17:00 **Ryo Takahashi** (Osaka University)

Residual vanishing of concentration arising in the mean field equations

17:00-17:30 **Tonia Ricciardi** (FedericoII University of Naples)

Blow-up analysis and optimal Trudinger-Moser inequalities for some mean field equations in statistical hydrodynamics

19:00- (Banquet : Garden BBQ)

Aug. 31 (Wed.)

(The semnar room is available from 9:00 to 12:00.)

- Perspectives of futures - (Chairman: Prof. Yanagisawa)

10:00-10:45 **Yasuhide Fukumoto** (Kyushu University)

Kinematic variational principle for vortical structure of Euler flows and beyond

11:00-11:45 **Takashi Suzuki** (Osaka University)

From static to kinetic mean field theories - hierarchy and duality

11:45-12:00 (Closing)

12:00-13:00 (Lunch)