

MONDAY ANALYSIS SEMINAR

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Monday Analysis Seminar

No. 4 (2011 Academic Year)

Speaker: Tsuyoshi Yoneda (Hokkaido University)

Title: A mathematical clue of the separation phenomena on the two-dimensional Navier-Stokes equation

Date: May 28, 2012 (15:00 – 16:15)

Place: Faculty of Science Building #3 Room 210

Abstract: In this talk we consider the separation phenomena on the two-dimensional Navier-Stokes equation. In general, before separating from a boundary, the flow moves toward reverse direction near the boundary against the laminar flow direction. We observe a mathematical clue of such reverse flow phenomena.

Note. Different starting time.

Monday Analysis Seminar

No. 3 (2011 Academic Year)

Speaker: Tadahiro Miyao (Hokkaido University)

Title: Spectral analysis of the Pauli-Fierz Hamiltonian

Date: May 7, 2012 (14:45 – 16:15)

Place: Faculty of Science Buliding #3 Room 210

Abstract: In my talk I consider an electron with radiation kinetic energy minimally coupled to the quantized radiation field . I study the spectral properties of the hamiltonian at fixed total momentum P . In particular I prove a spectral gap and double degeneracy of ground states for all P .

Monday Analysis Seminar

No. 2 (2011 Academic Year)

Speaker: Reiji Tomatsu (Hokkaido University)

Title: Rohlin flows on von Neumann algebras

Date: April 23, 2012 (14:45 – 16:15)

Place: Faculty of Science Buliding #3 Room 210

Abstract: Starting with an introduction of basics of operator algebras , I talk about a classification of actions of \mathbb{R} with Rohlin property on von Neumann algebras and its several applications .

Monday Analysis Seminar

No. 1 (2011 Academic Year)

Speaker: Hiroaki Aikawa (Hokkaido University)

Title: Extended Harnack inequalities with exceptional sets and a boundary Harnack principle

Date: April 9, 2012 (14:45 – 16:15)

Place: Faculty of Science Buliding #3 Room 210

Abstract: The Harnack inequality is one of the most fundamental inequalities for positive harmonic functions and , it is extended for positive solutions to general elliptic equations and parabolic equations . This talk gives a different view point of generalization . We generalize Harnack chains rather than equations . More precisely , we introduce a Harnack double chain in association with quasihyperbolic metric and allow a small exceptional set; and yet we obtain a similar Harnack inequality . The size of an exceptional set is measured by capacity . The results are new even for classical harmonic functions . Our extended Harnack inequality involves information for the boundary behavior of positive harmonic functions . It yields a boundary Harnack principle for a very nasty domain whose boundary is given locally by the graph of a function with modulus of continuity worse than Hölder continuity .