

数理解析研究所講究録 1841

非線形解析学と凸解析学の研究

京都大学数理解析研究所

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Nonlinear Analysis and Convex Analysis

August 29~31, 2012

edited by Wataru Takahashi and Shigeo Akashi

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Research Institute for Mathematical Sciences

Kyoto University, Kyoto, Japan

This is a report of research done at the Research Institute for Mathematical Sciences, Kyoto University. The papers contained herein are in final form and will not be submitted for publication elsewhere.

The International Workshop Nonlinear Analysis and Convex Analysis

Research Institute for Mathematical Sciences, Kyoto University

Oiwake-town Kita-Shirakawa, Sakyou-ward, Kyoto-city, JAPAN

This Workshop is qualified by Research Institute for Mathematical Sciences as one of the series of important mathematical research programs in 2012.

Directed by Wataru Takahashi(Tokyo Institute of Technology)
and organized by Shigeo Akashi(Tokyo University of Science)

This workshop begins at 9:00 on the 29th of August in 2012 and ends at 16:50 on the 31st.

This workshop is held at North Comprehensive Education and Research Building (Maskawa Hall), which is north of RIMS and located within two minutes walk from RIMS.

Please refer to <http://www.kurims.kyoto-u.ac.jp/~kyodo/workshop-en.html>

August 29 (Wednesday)

- 9:00 ~ 9:05 Wataru Takahashi(Tokyo Institute of Tech., Keio Univ., Tokyo Univ. of Science, and National Sun Yat-sen Univ.)
Opening address
- 9:05 ~ 9:40 Hang-Chin Lai(Chung Yuan Christian Univ. and National Tsing Hua Univ., Taiwan)
On Minimax Programming Problems with Complex Variables
- 9:40 ~ 10:10 Yasunori Kimura*(Toho Univ.)
Kenzi Satô(Tamagawa Univ.)
Approximation of Fixed Points on Geodesic Spaces
- 10:10 ~ 10:40 Koichiro Naito(Kumamoto Univ.)
Unpredictability of Quasi-periodic Dynamical Systems with Frequency of P-adic Liouville Type Numbers
- 10:40 ~ 10:50 Tea Break
- 10:50 ~ 11:25 Kazimierz Goebel(Maria Curie-Sklodowska Univ., Poland)
"Exotic" Constructions in Banach Spaces
- 11:25 ~ 11:55 Mayumi Hojo*(Niigata Univ.)
Wataru Takahashi(Tokyo Institute of Tech.)
Jen-Chih Yao(Kaohsiung Medical Univ., Taiwan)
Fixed Point Theorems and Convergence Theorems for Nonself-Mappings in Hilbert Spaces
- 11:55 ~ 12:30 Jen-Chih Yao(Kaohsiung Medical Univ., Taiwan)
Weak and Strong Convergence Theorems for Positively Homogeneous Nonexpansive Mappings in Banach Spaces
- 12:30 ~ 13:30 Lunch Time
- 13:30 ~ 14:05 Do Sang Kim*(Pukyong National Univ., Korea)
Yu Jung Lee(Pukyong National Univ., Korea)
Nondifferentiable Higher Order Symmetric Duality in Multiobjective Programming Involving Cones

- 14:05 ~ 14:35 Sachiko Atsushiba(Yamanashi Univ.)
Convergence Theorems for Asymptotically Regular Mappings
- 14:35 ~ 15:05 Toshikazu Watanabe*(Niigata Univ.)
Issei Kuwano(Niigata Univ.)
Tamaki Tanaka(Niigata Univ.)
Separation Theorem for Chain Complete Partially Ordered Vector Spaces
and Its Applications
- 15:05 ~ 15:15 Tea Break
- 15:15 ~ 15:45 Hiroyasu Mizuguchi*(Niigata Univ.)
Kichi-Suke Saito(Niigata Univ.)
Ryotaro Tanaka(Niigata Univ.)
A Calculation of Dunkl-Williams Constant of Banach Spaces
- 15:45 ~ 16:15 Toshiharu Kawasaki*(Niigata Univ.)
Wataru Takahashi(Tokyo Institute of Tech.)
Fixed Point and Nonlinear Ergodic Theorems for New Nonlinear Mappings in
Hilbert Spaces
- 16:15 ~ 16:50 Mau-Hsiang Shih(National Taiwan Normal Univ., Taiwan)
The Dynamic State-Shifting Algorithm for Adaptive Pattern Recognition

August 30 (Thursday)

- 9:00 ~ 9:05 Announcement
- 9:05 ~ 9:40 Sehie Park(Seoul National Univ., Korea)
Recent Applications of the Fan-KKM Theorem
- 9:40 ~ 10:10 Koji Aoyama(Chiba Univ.)
Proximal Point Methods for Monotone Operators in Banach Spaces
- 10:10 ~ 10:40 Fumiaki Kohsaka(Oita Univ.)
On Fixed Points of Hybrid Mappings
- 10:40 ~ 10:50 Tea Break
- 10:50 ~ 11:25 Gue Myung Lee(Pukyong National Univ., Korea)
On Coderivatives for Implicit Multifunctions
- 11:25 ~ 11:55 Satoshi Suzuki*(Shimane Univ.)
Daishi Kuroiwa(Shimane Univ.)
Duality Theorems for Quasiconvex Programming
- 11:55 ~ 12:30 Yong Xia(Beihang Univ., China)
Reuy-Lin Sheu*(National Cheng Kung Univ., Taiwan)
Xiaoling Sun(Fudan Univ., China)
Duan Li(The Chinese Univ. of Hong Kong, Hong Kong)
Improved Estimation of Duality Gap in Binary Quadratic Programming
Using a Weighted Distance Measure
- 12:30 ~ 13:30 Lunch Time
- 13:30 ~ 14:05 Sangho Kum(Chungbuk National Univ., Korea)
A Geometric Mean of Parameterized Arithmetic and Harmonic Means of
Convex Functions

- 14:05 ~ 14:35 Mitsuhiro Hoshino(Akita Prefectural Univ.)
Nearly Absorbing Property in Self-organizing Maps with General Inputs
- 14:35 ~ 15:05 Ryotaro Tanaka(Niigata Univ.)
Certain Characterization of Inner Product Space
- 15:05 ~ 15:15 Tea Break
- 15:15 ~ 15:45 Yasuyuki Hirano*(Niigata Univ.)
Syuuji Yamada(Niigata Univ.)
Tamaki Tanaka(Niigata Univ.)
Tetsuzo Tanino(Osaka Univ.)
A Successive Approximation Method for Solving a Fractional Programming Problem Based on DC Optimization
- 15:45 ~ 16:15 Kenji Kimura*(Niigata Institute of Tech.)
Tamaki Tanaka(Niigata Univ.)
Moon Hee Kim(Tongmyong Univ., Korea)
Gue Myung Lee(Pukyong National Univ., Korea)
Classification of Matrices for Bicriteria Matrix Game with 3×3 Skew Symmetric Matrices
- 16:15 ~ 16:50 Wataru Takahashi(Tokyo Institute of Tech., Keio Univ., Tokyo Univ. of Science, and National Sun Yat-sen Univ.)
Existence and Approximation of Attractive Points of Nonlinear Mappings in Banach Spaces

August 31 (Friday)

- 9:00 ~ 9:05 Announcement
- 9:05 ~ 9:40 Chih-Sheng Chuang (National Changhua Univ. of Education, Taiwan)
Zenn-Tsun Yu(Nan Kai Univ. of Tech., Taiwan)
Lai-Jiu Lin*(National Changhua Univ.of Education, Taiwan)
Attractive Point Theorems and Ergodic Theorems without Convexity and Mann's Type Iteration Process without Closedness for Attractive Points for Generalized Hybrid Mappings
- 9:40 ~ 10:10 Yusuke Saeki*(Shimane Univ.)
Daishi Kuroiwa(Shimane Univ.)
On Constraint Qualifications Which Characterize Optimality Conditions for DC Programming Problems with Convex Inequality Constraints
- 10:10 ~ 10:40 Shunsuke Yamamoto*(Shimane Univ.)
Ryohei Harada*(Shimane Univ.)
Daishi Kuroiwa(Shimane Univ.)
A Method for Checking the Basic Constraint Qualification at Every Feasible Solution and Its Applications
- 10:40 ~ 10:50 Tea Break
- 10:50 ~ 11:25 Yi-Chou Chen(National Army Academy, Taiwan)
Minmax Optimality for a Semi-Preinvex Programming

- 11:25 ~ 11:55 Yukari Fujiwara*(Shimane Univ.)
 Miwa Hidaka*(Shimane Univ.)
 Daishi Kuroiwa(Shimane Univ.)
 Decomposition to Convex Programming Problems of DC Programming Problems and Fractional Programming Problems
- 11:55 ~ 12:30 Shun-Chin Ho*(Chung-Jen College of Nursing, Taiwan)
 Hang-Chin Lai(Chung Yuan Christian Univ. and National Tsing Hua Univ., Taiwan)
 Parameter-Free Type Duality Models for Nonsmooth Minimax Fractional Programming with Exponential (p, r) -Invexity
- 12:30 ~ 13:30 Lunch Time
- 13:30 ~ 14:05 Chao Kan(Harbin Institute of Tech., China)
 Wen Song*(Harbin Normal Univ., China)
 Augmented Lagrangian Duality for Composite Optimization Problems
- 14:05 ~ 14:35 Takanori Ibaraki(Tsuruoka National College of Tech.)
 Shrinking Projection Methods for Common Fixed Points of Generalized Nonexpansive Mappings
- 14:35 ~ 15:05 Rieko Kubota(Yokohama So-Gakukan High School)
 Yukio Takeuchi*(Takahashi Institute for Nonlinear Analysis)
 An Extension of the Ishikawa Strong Convergence Theorem
- 15:05 ~ 15:10 Tea Break
- 15:10 ~ 15:45 Wei-Shih Du(National Kaohsiung Normal Univ., Taiwan)
 Some New Coincidence Point and Fixed Point Theorems for Nonlinear Multivalued Maps
- 15:45 ~ 16:15 Satoshi Kodama*(Tokyo Univ. of Science)
 Shigeo Akashi(Tokyo Univ. of Science)
 The Superposition Degree Problem of Boolean-valued Functions of Several Variables
- 16:15 ~ 16:50 Xi Yin Zheng (Yunnan Univ., China)
 Convergence of the Associated Sequence of Normal Cones of a Mosco Convergent Sequence of Sets

非線形解析学と凸解析学の研究
Nonlinear Analysis and Convex Analysis
RIMS 研究集会報告集

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研究提案者 高橋 渉 (Wataru Takahashi)
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