Ⅰ　数学専攻・数学科

１　数学専攻

1-1　専攻の理念と目標

1-2　専攻の組織と運営

教職員

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H28.4.1

H29.3.1

教員の異動

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1-3　専攻の大学院教育

大学院教育の目標と

Marble Problem

G-Hilb(C3)

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QMC ,

Generalization of Orizuru; Onagazuru, King Ghidorah, and beyond

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A family of bi-orderable non-fibered 2-bridge knot groups

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博士学位

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On a Riemannian submanifold whose slice representation has no nonzero fixed points

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Multifractal rigidity for piecewise linear Markov maps

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Gevrey

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Jorge Mozo Fernandez Valladolid
Monomial summability and Pfaffian systems

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Xiaochun Rong Rutgers

Introduction to Capital Normal University

数学専攻構成員主催の研究集会

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○ Fundamental Groups, Representations and Geometric Structures in 3-Manifold Topology [ ]

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○ Durham-Hiroshima Student Mini-Workshop [ ]

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John Parker University of Durham

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○ Branched Coverings, Degenerations, and Related Topics 2017 [ ]

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ů The 13th OCAMI-RIRCM Joint Differential Geometry Workshop on Submanifold Geometry and Lie Theory [ ]

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ﾍ ﾆ Yoshihiro Ohnita OCU , Young Jin Suh (KNU),
Hiroshi Tamaru Hiroshima University ,
Takashi Sakai (Tokyo Metropolitan University),
Toru Kajigaya AIST & OCAMI , Hyunjin Lee (KNU & RIRCM)

数学専攻各研究ダルセヴに非ヲ開催さ礼たセミﾈセ

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Zhang Mingwei ﾇ

♥▬Ł ' A boundedness result on the rational equivalences of zero cycles of algebraic varieties with trivial Chow groups

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♥▬Ł ' p- ﾫ ≤ convolution

28 20 15:00
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♥▬Ł ' Some group-theoretic properties of the image of the universal pro-l outer monodromy representation of the moduli stack of once-punctured elliptic curves

28 27 15:00
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♥▬Ł ' p- ﾫ ≤ convolution II

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Álvaro Nolla de Celis Universidad Rey Juan Carlos

Group actions on dimer models

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Exact asymptotics and resurgent analysis

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Simon Brandhorst Insitut fuer Algebraische Geometrie, Leibniz Universitaet Hannover
Minimal Salem numbers on supersingular K3 surfaces

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Robert Laterveer IRMA, Strasbourg
About a conjecture of Voisin

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Recent development of tropical curve theory

○広島大学トポ

On cork twists

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Spherical Fourier transforms and Delsarte theory on compact symmetric spaces

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Disk graphs and right-angled Artin subgroups of handlebody groups

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Strong algebraization of fixed point properties

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3-dimensional braids and codimension two contact embeddings

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(OCAMI)

The d_3-invariant of fibered knots

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(Invariant Seifert surfaces for strongly invertible knots)

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Non-fibered 2-bridge knots with bi-orderable knot groups

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(Vertex-transitive graphs and flat homogeneous quandles)

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(Notes of plane crystallographic groups)

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Higher-dimensional contact manifolds with infinitely many Stein fillings

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Singularities of three functions and the product maps

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John Parker Durham
A complex hyperbolic Riley slice

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Description of infinite orbits on multiple flag varieties of type A

2017 23 15:00 16:30
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Iain Aitchison (Melbourne)
Transcription complexes

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Stefan Rosemann ( )
C-projective transformations on Kahler manifolds

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Union of 3-punctured spheres in a hyperbolic 3-manifold

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Vladimir Matveev (Friedrich Schiller University Jena)
Finsler metrics of constant curvature

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Sang-hyun Kim Seoul National University
Flexibility of PSL(2,R) representations

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Xiaochun Rong , Rutgers
Gromov-Hausdorff convergence in Metric Riemannian Geometry

○広島数理解析

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Salomé Oudet

Hamilton-Jacobi equations for optimal control problems on 2-dimensional junctions

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Exact asymptotics and resurgent analysis

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Lawrence C. Evans University of California, Berkeley

Weak Convergence Methods for Adiabatic Invariance

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On small solutions of discrete NLS with potential

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Convexity preserving properties for Hamilton-Jacobi equations in geodesic metric spaces

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Nam Q. Le Indiana University

Global smoothness of the Monge-Ampère eigenfunctions

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Irregular conformal blocks, with applications to Painleve tau functions

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Singular solutions of q-difference-differential equations of the Briot-Bouquet type

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Multifractal rigidity for piecewise linear Markov maps

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Matricial Baxter’s theorem in terms of the Nahari sequence

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Robust estimation for location and scale parameters using heavy-tailed distribution

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Qu FENG (Nanyang Technological University and Hiroshima University)

Structural changes in heterogeneous panels with endogenous regressors

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Simple Order Restriction ⅜ ∑ ╠╣ √ ANOVA ¦ ł ' ⌐ Δ ╢ AIC

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Asymptotic non-null distributions of test statistics for redundancy in the high-dimensional canonical correlation analysis

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Effects of additive covariate error on parameters and covariates of a linear regression model

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Quantile Hodrick-Prescott filtering

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Comparison of several methods for selecting variables in discriminant analysis

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Principal component regression via sparse regularization

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Bayesian estimation of beta-type distribution parameters based on grouped data

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○広島統計談話会

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学術団体からの受賞実績

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学生の受賞実績

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国際交流実績

Robert Laterveer IRMA 2016 10 21 10 22

Xiochan Rong /Rutgers / 2017

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X Professor Michael Loenne Bayreuth University) 2017

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Iain Aitchison 2017 22

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Sangbum Cho Hanyang University 2016 17

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Shicheng Wang Peking University 2016 11 20 11

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Yi Liu Peking University/BICMR, 2016 11 20 11 25

Evgeny Fominykh Chelyabinsk State University , 2016 11

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Andrei Vesnin Sobolev Institute of Mathematics , 2016 11

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Université de Nantes 2016 10 10
Vladimir V. Ulyaov 2016 12 15 19
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Álvaro Nolla de Celis Universidad Rey Juan Carlos 2016
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Junfeng Li , 2016 11 11
Vladimir Matveev Friedrich Schiller University Jena, 2017
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国際共同研究。国際会議開催実績

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Mao Sheng
Mingwei Zhang
Jinwon Choi Sookmyung Women's University
Michel van Garrel KIAS
Sheldon Katz University of Illinois at Urbana-Champaign
Donghi Lee
Brian Bowditch Warwick University
Jurgen Berndt King’s College London
Jong Taek Cho Chonnam National University
Sangbum Cho Hanyang University
Seo Arim Korea University
Maciej Bochenski University of Warmia and Mazury
Piotr Jastrzebski University of Warmia and Mazury
Aleksy Tralle University of Warmia and Mazury
Tian-Jun Li
Cheuk Yu Mak
Mohsen Pourahmadi Texas A&M
Álvaro Nolla de Celis Universidad Rey Juan Carlos

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28 …

multisummability

Chambery

Ichiro Shimada Connected components of the moduli of elliptic K3 surfaces “The 10th Arithmetic and Algebraic Geometry” 2016 12 14 The University of Tokyo

Ichiro Shimada On an Enriques surface associated with a quartic Hessian surface “Topology of Singularities” 2017 21 , Vietnam Institute for Advanced Study in Mathematics Hanoi

Ichiro Shimada On an Enriques surface associated with a quartic Hessian surface “Algebraic Geometry Conference” 2017 29 Haeundae Busan

松本 眞

Abel J. Number Theory

(2) p -
p (local non-torsion prime)

arXiv

◎論文

T. Hiranouchi, A Hermite-Minkowski type theorem of varieties over finite fields, *J. Number Theory* **176** (2017), 473-499.

◎国内会議での講演

2016 12 – 15

宮谷和尭（特任助教）

◎研究概要

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◎国際会議での講演

Hakodate Workshop on Arithmetic Geometry 2016
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◎国内学会での講演

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飯島　優（特任助教）

◎研究概要

◎国内学

Makoto Sakuma Fundamental groups, Representations and Geometric Structures in 3-Manifold Topology 2016 11 22 11 23

◎国内学会での講演

63 2016

田丸博士（

◎国際会議での講演

Hiroshi Tamaru　On totally geodesic surfaces in symmetric spaces and applications　Japan-China Geometry Conference　2016

Hiroshi Tamaru　Left-invariant metrics and submanifold geometry　Differential Geometry, Lie Theory and Low-Dimensional Topology　2016　12　20　Melbourne گn Ù L o w n i　Ṫ ̈Ωd g j o t]- τ

spaces, *International Mathematics Research Notices* **IMRN 2016** (2016), no. 23, 7302-7340.

Masaharu Ishikawa, Yuya Koda, Stable maps and branched shadows of 3-manifolds, *Mathematische Annalen* **367** (2017), no. 3, 1819-1863.

Masaharu Ishikawa, Yuya Koda, Stable maps and branched shadows of 3-manifolds, **1991** “Topology, Geometry and Algebra of low-dimensional manifolds” (2016), 88-97.

◎国際会議での講演

_____ The 7th HYU Math-Workshop “Low Dimensional Topology” 2016 Hanyang University Seoul

_____ AMS Sectional Meeting “Special Session on Decomposing 3-manifolds” 2016 24 Bowdoin College Brunswick

◎国内学会での講演

_____, transient number Graph 2016 10 26

土井英雄（准教授）

◎研究概要

2014

H.S.M.Coxeter & W.O.J.Moser, Generators and Relations for Discrete groups Springer Verlag 1972

list tiling Cayley graph

list up

B.Grünbaum & G.C.Shepard, The eighty-one types of isohedral tilings in the plane, Math.Proc.Camb.Phil.Soc. (1977)82, 177-195

list up 46 adjacent symbol tiling Net type Cayley graph algorithm javascript method Coding list

J.H.Conway, H.Burgiel & C.Goodman-Strauss, The Symmetries of Things, CRC Press, 2008

orbifolds 2*22 = cmm list

xx=pg 2*22 list
tiling Net type
Automatic automaton

奥田隆幸（助教）

◎研究概要

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(G,X)- G Lie L X
G Lie X
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[J. Differential Geom. 2013] L SO(n,1)
SU(n,1)
28 “(G,L) ” L
L SU(n,1) SO(n,1)

◎論文

Maciej Bochenski, Piotr Jastrzebski, Takayuki Okuda, Aleksy Tralle, Proper SL(2,R)-actions on homogeneous spaces, *Internat. J. Math.* **27** (2016), 1650106, 10pp.

Masatake Hirao, Takayuki Okuda, Masanori Sawa, Some remarks on cubature formulas with linear operators, *J. Math. Soc. Japan* **68** (2016), 711-735.

Takayuki Okuda, Wei-Hsuan Yu, A new relative bound for equiangular lines and nonexistence of tight spherical designs of harmonic index 4, *European J. Combin.* **53** (2016), 96-103.

◎国際会議での講演

Takayuki Okuda The fifth International Colloquium of Differential Geometry and its Related Fields 2016 2016 Veliko Tarnovo University

Takayuki Okuda International Workshop of Algebraic Combinatorics 2016 10 Anhui University

Hirotake Kurihara, Takayuki Okuda RIMS Workshop: Research on Finite Groups, Algebraic Combinatorics and Vertex Operator Algebras 2016 12

Takayuki Okuda Japan-Korea workshop on algebra and combinatorics 2017

◎国内学

◎国内学

◎国内学会での講演

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吉野正史（教授）

◎研究概要

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“Parametric Borel summability of first order partial differential equation not satisfying the Poincare condition”

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“Blowup of wave equation and Birkoff theory of some Hamiltonian system”

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“Moving singularity and monodromy of some Hamiltonian system”

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“Moving singularity and monodromy of Hamiltonian system containing generalized Emden-Fowler equation”

◎論文

- ヒ M. Yoshino, Monodromy of confluent hypergeometric system of Okubo type, *RIMS Kokyuroku Bessatsu* **B57**, (2016) 281-296.
- ヒ M. Yoshino and Yoshikatsu Sasaki, Nonintegrability of Hamiltonian system pert tegrable system with two singular points, *Math. Zeitschrift* **284**, (2016) 1005-1020.

◎国際会議での講

2017 , Torino

◎国内

◎論文

Kentaro Hirata　Removable sets for subcaloric functions and solutions of semilinear heat　equations with absorption, *Hokkaido Math. J.* **45** (2016), no. 2, 195-222.

◎国内学会での講演

_____ Lipschitz
2016　13

_____ Growth estimates for nonnegative supertemperatures satisfying a nonlinear inequality in a Lipschitz domain　2016　2016

_____ Lane-Emden　RIMS
2017

倉　猛（助教）

◎研究概要

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◎論文

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◎国内学会での講演

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柳原宏和（教授）

◎研究概要

◎論文

Yanagihara, H., A high-dimensionality-adjusted consistent C_p-type statistic for selecting variables in a normality-assumed linear regression with multiple responses, *Procedia Computer Science* **96** (2016), 1096-1105.

Yamamura, M., Yanagihara, H., Solvang, H. K., Øien, N. & Haug, T., Canonical correlation analysis for geographical and chronological responses, *Procedia Computer Science* **96** (2016), 1351-1360.

Solvang, H. K., Yanagihara, H., Øien, N. & Haug, T., Temporal and geographical variation in body condition of common minke whales (Balaenoptera acutorostrata acutorostrata) in the Northeast Atlantic, *Polar Biology* **40** (2017), 667-683.

Yanagihara, H., Oda, R., Hashiyama, Y. & Fujikoshi, Y., High-dimensional asymptotic behaviors of differences between the log-determinants of two Wishart matrices, *a*

, York, UK

Yanagihara, H. A high-dimensionality-adjusted consistent C_p-type criterion in multivariate linear regression models International Symposium on Statistical Analysis for Large Complex Data 2016 11 21 11 23 Tsukuba Japan

◎国内学会での講

大和祐一（助教）

◎研究概要

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澁谷一博（准教授）

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学界ならびに社会での活動

◎研究成果の社会への還元実績

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◎公開講座

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◎学会役員

◎学術

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1-5 その他特記事項

◎統計相

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◎雑誌「WIRED」WEB記事への協力

WIRED WEB

https://wired.jp/2016/10/21/ramanujyan/

◎Hiroshima Mathematical Journal

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◎数学図書室

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2-3　学科の学士課程教育

アドミッション・ポリシーとその目標

学士課程教育の理念と達成のための具体策