

令和元年度 教員・数学研究所特任教員の業績
(論文と口頭発表)

(秋吉 宏尚)

• 論文・著書

[1] H. Akiyoshi, "Thin representations for the one-cone torus group", *Topology Appl.* 264 (2019), 115--144.

[2] H. Akiyoshi, K. Ohshika, J. Parker, M. Sakuma, H. Yoshida, "Classification of non-free Kleinian groups generated by two parabolic transformations", arXiv:2001.09564 [math.GT]

• 口頭発表

(国外)

[1] Dirichlet domains for one-cone torus bundles, Third Pan-Pacific International Conference on Topology and Applications (中国), 2019年11月11日

(阿部 健)

• 論文

[1] K. Abe, Liouville theorems for the Stokes equations with applications to large time estimates, *J. Funct. Anal.*, 278 (2020), 108321

[2] K. Abe, Vanishing viscosity limits for axisymmetric flows with boundary, *J. Math. Pures Appl.*, in press, arXiv:1806.04811

[3] K. Abe, The vorticity equations in a half plane with measures as initial data, arXiv:1904.03809

[4] K. Abe, K. Choi, Stability of Lamb dipoles, arXiv:1911.01795

[5] K. Abe, On the large time L^∞ -estimates of the Stokes semigroup in two-dimensional exterior domains, arXiv:1912.01193

• 講演

[1] K. Abe, Stability of Lamb dipoles, Muroran nonlinear analysis seminar, Muroran Institute of Technology, January 12, 2020

[2] K. Abe, Stability of Lamb dipoles, Workshop on nonlinear wave equations and related topics, Kobe University, November 21, 2019

[3] K. Abe, The vorticity equations in a half plane with measures as initial data, Handayama Differential Equation Seminar, Okayama university of science, July 7, 2019

[4] K. Abe, The vorticity equations in a half plane with measures as initial data, Workshop on the asymptotic analysis of partial differential equations and related topics, Osaka university, May 8, 2019

(伊師英之)

• 論文

[1] E. Kurniadi and H. Ishi, Harmonic analysis for 4-dimensional real Frobenius Lie

algebras, Springer Proc. Math. Stat., 290, 95--109.

[2] H. Ishi and B. Kolodziejek, Characterization of the Riesz exponential family on homogeneous cones, Colloq. Math. 158 (2019), no. 1, 45--57.

[3] P. Graczyk, H. Ishi and B. Kolodziejek, Wishart laws and variance function on homogeneous cones, Probab. Math. Statist. 39 (2019), no. 2, 337--360.

• 口頭発表

[1] Open orbits and primitive zero ideals for solvable Lie algebras,

ジェルバ島 (チュニジア), 研究集会 6th Tunisian-Japanese Conference 'Geometric and Harmonic Analysis on Homogeneous Spaces and Applications', 2019年12月19日

[2] 行列式の素因子分解とジョルダン代数の既約分解,

鳥取県立生涯学習センター, 2019年度表現論ワークショップ, 2020年1月12日

(石原 秀樹)

• 論文

[1] Yoshiyuki Morisawa, Soichi Hasegawa, Tatsuhiko Koike, and Hideki Ishihara, "Cohomogeneity-one-string integrability of spacetimes", Class.Quant.Grav. 36 (2019) no.15, 155009.

[2] Takahisa Igata, Hideki Ishihara, and Yu Yasunishi, "Observability of spherical photon orbits in near-extremal Kerr black holes", Phys.Rev. D100 (2019) no.4, 044058.

[3] Hideki Ishihara, Tatsuya Ogawa, "Homogeneous Balls in a Spontaneously Broken U(1) Gauge Theory", Phys.Rev. D99 (2019) no.5, 056019.

[4] Hideki Ishihara, Tatsuya Ogawa "Charge Screened Nontopological Solitons in a Spontaneously Broken U(1) Gauge Theory", PTEP 2019 (2019) no.2, 021B01.

• 口頭発表

[1] "Can we observe spherical photon orbits in near-extremal Kerr black holes?", 22nd INTERNATIONAL CONFERENCE ON GENERAL RELATIVITY AND GRAVITATION, Valencia, Spain, 7 - 12 July 2019.

(糸山 浩司)

• 学術論文

学術誌:

[1] Correspondence between Feynman diagrams and operators in quantum field theory that emerges from tensor model, N. Amburg, H. Itoyama, A. Mironov, A. Morozov, D. Vasiliev, R. Yoshioka. e-Print: arXiv:1911.10574 [hep-th] | PDF

[2] Complete solution to Gaussian tensor model and its integrable properties, H. Itoyama, A. Mironov, A. Morozov Oct 8, 2019. 9 pp. Phys.Lett. B802 (2020)

135237, e-Print: arXiv:1910.03261 [hep-th]

[3] Multicritical points of unitary matrix model with logarithmic potential identified with Argyres-Douglas points, H. Itoyama (Osaka City U. & Osaka City U. & OCAMI, Osaka), T. Oota (Osaka City U. & Osaka City U.), Katsuya Yano (Osaka City U.). e-Print: arXiv:1909.10770 [hep-th]

[4] Tensorial generalization of characters, H. Itoyama, A. Mironov and A. Morozov. JHEP 1912 (2019) 127 e-Print: arXiv:1909.06921 [hep-th]

[5] Exponentially suppressed cosmological constant with enhanced gauge symmetry in heterotic interpolating models, H. Itoyama, Sota Nakajima. PTEP 2019 (2019) no.12, 123B01, e-Print: arXiv:1905.10745 [hep-th]

[6] Discrete Painlevé system associated with Unitary matrix model, Hiroshi Itoyama, Takeshi Oota, Katsuya Yano, J.Phys.Conf.Ser. 1194 (2019) no.1, 012050, “The 32nd International Colloquium on Group Theoretical Methods in Physics (Group32)” .

[7] Generalized cut operation associated with higher order variation in tensor models, Hiroshi Itoyama , Reiji Yoshioka (OCAMI, Osaka), Nucl.Phys. B945 (2019) 114681, e-Print: arXiv:1903.10276 [hep-th]

[8] H. Itoyama and Sota Nakajima, “Structure of moduli space in 9D heterotic interpolating models” ,OCU-PHYS 517, NITEP 63 to appear

• 講演・口頭発表

(国内)

[1] 糸山浩司, 大田武志, 矢野勝也, “ユニタリー行列モデルの臨界点に関して”, 日本物理学会、山形大学キャンパス, 2019年9月18日

[2] 糸山浩司, 中島爽太, “Exponentially suppressed cosmological constant with enhanced gauge symmetry in heterotic interpolating models,” , 日本物理学会、山形大学キャンパス, 2019年9月19日

[3] 糸山浩司、吉岡礼治 et al、 “Operators, Feynman Diagrams and Dessin” , 日本物理学会、山形大学キャンパス, 2019年9月19日

[4] 糸山浩司、吉岡礼治 et al、 , “Correspondence between Feynman diagrams and operators in quantum field theory that emerges from tensor model” , 日本物理学会、名古屋大学キャンパス, 2020年3月16日 cancelled

[5] 糸山浩司, 中島爽太, “Suppressed cosmological constant with enhanced gauge symmetry in heterotic interpolating models” , 日本物理学会、名古屋学キャンパス, 2020年3月18日 cancelled

[6] 糸山浩司, 中島爽太, “Stability analysis and enhanced gauge symmetry in heteroticinterpolating models” , 日本物理学会、名古屋学キャンパス, 2020年3月18日 cancelled

(国際)

[1] H.Itoyama, “Successes and challenges in quantum field theory” , colloquim delivered on May 31, 2019 at USTC, Hefei, China

[2] H.Itoyama, “Exponentially Suppressed Cosmological Constant in Heterotic String

Models Revisited” , seminar delivered on May 30, 2019 at USTC, Hefei, China

[3] H. Itoyama, “Progress in Rainbow(Aristotelian) Tensor Model” , Moscow, 31 August, 2018, talk delivered at the workshop on duality, integrability and matrix model, Institute of Information and Transmission Problem(IITP), Moscow, invited talk

[4] H. Itoyama, “Exponentially Suppressed Cosmological Constant with Enhanced Gauge Symmetry

in Heterotic Interpolating Models” , East Asia Joint Symposium on Fields and Strings 2019,NCTS, China U. Shin-Chu, 30 October, 2019, invited talk

(大仁田 義裕)

• 論文, 著書, 編集

(論文)

[1] R. Miyaoka and Y. Ohnita: Lagrangian geometry of the Gauss images of isoparametric hypersurfaces in spheres, Complex Manifolds 2019; 6:265-278.
<https://doi.org/10.1515/coma-2019-0013>

[2] Y. Ohnita: Minimal Maslov number of R-spaces canonically embedded in Einstein-Kähler C-spaces, Complex Manifolds 2019; 6:303-319.
<https://doi.org/10.1515/coma-2019-0016>

[3] Y. Ohnita: Geometry of R-spaces canonically embedded in Kähler C-spaces as Lagrangian submanifolds, Proceedings of the 22nd International Workshop on Differential Geometry of Submanifolds in Symmetric Spaces and Related Problems, 22 (2019), pp.115-132.

(編集)

(1) Proceedings of the 22nd International Workshop on Differential Geometry of Submanifolds in Symmetric Spaces and Related Problems, 22 (2019), Edited by Young Jin Suh, Yoshihiro Ohnita, Byung Hak Kim, Hyunjin Lee. ISSN:2093-9485

• 口頭発表

[1] Minimal Maslov number of R-spaces canonically embedded in Einstein-Kähler C-spaces, Conference “Variational problems and the geometry of submanifolds”, CIRM Luminy, France, 27-31 May 2019. 2019年5月29日.

[2] Lagrangian geometry of the Gauss images of isoparametric hypersurfaces, 2019 Workshop on the Isoparametric Theory, Beijing Normal University, Beijing, China, June 2-6 2019. 2019年6月2日.

[3] Minimal Maslov number of R-spaces canonically embedded in Einstein-Kähler C-spaces , The 22nd International Workshop on Differential

Geometry of Submanifolds in Symmetric Spaces and Related Problems & The 17th RIRCM-OCAMI Joint Differential Geometry Workshop, Kyungpook National University,

Korea, July 31 (Wed) - August 5 (Mon), 2019. 2019年8月2日.

[4] 等径超曲面論入門, 東京理科大学学部・大学院集中講義(数学科・数学専攻), 世話人: 小池直之教授(東京理科大学理学部数学科), 2019年9月23,24,26,27日.

[5] Minimal Maslov number of R-spaces canonically embedded in Einstein-Kähler C-spaces, 第5回神楽坂微分幾何学セミナー, 東京理科大学 神楽坂キャンパス, 2019年9月28日.

(尾角 正人)

• 論文

[1] A. Kuniba, M. Okado, A. Yoneyama,
Matrix product solution to the reflection equation associated with a
coideal subalgebra of $U_q(A^{(1)}_{n-1})$,
Letters in Mathematical Physics (2019) 109, 2049-2067.

[2] A. Kuniba, M. Okado, A. Yoneyama,
Reflection K matrices associated with an Onsager coideal of
 $U_p(A^{(1)}_{n-1})$, $U_p(B^{(1)}_n)$, $U_p(D^{(1)}_n)$ and
 $U_p(D^{(2)}_{n+1})$,
J. Phys. A: Math. Theor. 52 (2019) 375202 (27pp).

[3] A. Kuniba, M. Okado,
Set-theoretical solutions to the reflection equation associated to the
quantum affine algebra of type $A^{(1)}_{n-1}$,
J. Int. Systems (2019) 4, xyz013 (10 pages).

• 口頭発表

[1] Quantum super duality,
RIMS 研究集会 Representation theory of algebraic groups and quantum groups,
2019年10月21日-25日、京都大学数理解析研究所

(加藤 信)

• 口頭発表

[1] 光的直線の彼方の特異点,
淡路島幾何学研究集会 2020,
南あわじ市阿那賀地区公民館, 2020年1月26日.

(金信 泰造)

• 論文・著書

[1] Kanenobu, T. and Moriuchi, H., Coherent band-Gordian distances between knots and links with up to seven crossings, Topology Appl. Vol. 264 (2019) 233-250.
[2] Kanenobu, T. and Sumi, T., Classification of ribbon 2-knots presented by virtual arcs with up to four crossings, Journal of Knot Theory and Its Ramifications Vol. 28,

No. 10, 1950067 (2019) (18 pages)

• 口頭発表

[1] Classification of ribbon 2-knots of 1-fusion with up to six crossings,
2019 年 11 月 11 日, Third Pan-Pacific International Conference on Topology and
Applications

8-13 November 2019, 四川大学, 成都, 中国.

[2] Classification of ribbon 2-knots of 1-fusion with length up to seven

, 2019 年 9 月 6 日, Knots in Tsushima 2019, 6-8 September 2019, 対馬市.

[3] 小さい 2 次元リボン結び目の分類をめぐって, 2019 年 8 月 21 日, 研究集会「拡大 KOOK
セミナー 2019」, 8 月 20-22 日, 神戸大学.

(河村 建吾)

• 論文

[1] K. Kawamura, No immersed 2-knot with at most one self-intersection point has
triple point number two or three, *Topology and its Applications* 264(1) 394--412,
2019 年 9 月.

• 口頭発表

[1] Calculating the Arf invariant of a proper link from a bicolored diagram, Third
Pan-Pacific International Conference on Topology and Applications,
中国・成都, 2019 年 11 月 9 日.

[2] Irreducibility of immersed 2-knots and quandle invariants, Tsuda-Gakugei
Topology Workshop, 津田塾大学, 2019 年 9 月 29 日.

[3] Calculation of the Arf invariant via a bicolored diagram, 拡大 KOOK セミナー 2019,
神戸大学, 2019 年 8 月 20 日.

[4] A certain calculation of the Arf invariant of a proper link, The 11th KOOK-TAPU
Joint Seminar on Knots and Related Topics, 大阪市立大学,
2019 年 8 月 1 日.

[5] A simple calculation of the Arf invariant of a proper link, Friday Seminar on Knot
Theory, 大阪市立大学, 2019 年 4 月 19 日.

(神田 遼)

• 論文

[1] Ryo Kanda, Construction of Grothendieck categories with enough compressible
objects using colored quivers, *J. Pure Appl. Algebra* 224 (2020), no. 1, 53-65

• 口頭発表

[1] Ryo Kanda, 非可換正則代数と Feigin-Odesskii 楕円代数, 談話会, 大阪市立大学,
日本, 2020 年 1 月 29 日

[2] Ryo Kanda, Elliptic algebras, 第 9 回 (非)可換代数とトポロジー, 信州大学, 日本, 2020
年 2 月 18 日, 2020 年 2 月 19 日, 2020 年 2 月 20 日

[3] Ryo Kanda, Elliptic algebras and twisted homogeneous coordinate rings, 東京可換
環論セミナー, 東京大学, 日本, 2020 年 2 月 21 日

(小池 貴之)

• 論文

[1] T. Koike, Plurisubharmonic functions on a neighborhood of a torus leaf of a certain class of foliations, Forum Math., Volume 31, Issue 6 (2019), 1457--1466.

• 口頭発表

[1] Complex analysis on a neighborhood of a complex submanifold and its applications, Geometrie Analytique, Campus de Beaulieu - Universite de Rennes 1, レンヌ, フランス, 2019年4月.

[2] On a neighborhood of an elliptic curve and a gluing construction of K3 surfaces, Mini-workshop on Complex Geometry, 高等科学院, ソウル特別市, 韓国, 2019年5月.

[3] Gluing construction of K3 surfaces, 複素解析幾何セミナー, 東京大学, 東京都目黒区, 2019年5月.

[4] Gluing construction of K3 surfaces, 幾何学セミナー, 名古屋大学, 愛知県名古屋市, 2019年6月.

[5] On a neighborhood of an elliptic curve and a gluing construction of K3 surfaces, Complex Geometry 2019 Tokyo, 東京大学, 東京都目黒区, 2019年7月.

[6] Complex analysis on a neighborhood of a complex submanifold and its applications, 理研 iTHEMS Math セミナー, 理化学研究所, 埼玉県和光市, 2019年7月.

[7] Points of the Period domain which correspond to K3 surfaces constructed by gluing, 日本数学会年会函数論分科会, 金沢大学, 石川県金沢市, 2019年9月.

[8] Gluing construction of K3 surfaces and complex analysis on a neighborhood of a complex submanifold, 代数セミナー, 神戸大学, 兵庫県神戸市, 2019年9月.

[9] Gluing construction of K3 surfaces and complex analysis on a neighborhood of a complex submanifold, 城崎代数幾何シンポジウム, 城崎国際アートセンター, 兵庫県豊岡市, 2019年10月.

[10] K3 曲面の貼り合わせ構成, 談話会, 大阪市立大学, 大阪府大阪市, 2019年12月.

Hermitian metrics on the anti-canonical bundle of the blow-up of the projective plane at nine points, 複素解析セミナー, 大阪市立大学, 大阪府大阪市, 2019年12月.

[11] K3 曲面とその幾何学的構成, ENCOUNTERwithMATHEMATICS, 中央大学, 東京都文京区, 2019年12月.

[12] K3 曲面の貼り合わせ構成, 淡路島幾何学研究集会 2020, 南あわじ市阿那賀地区公民館, 兵庫県南あわじ市, 2020年1月.

(佐野 昂迪)

• 論文

[1] D. Burns, M. Kurihara, T. Sano, On Stark elements of arbitrary weight and their p -adic families, to appear in Iwasawa 2017 proceedings.

[2] D. Burns, T. Sano, On the theory of higher rank Euler, Kolyvagin and Stark systems, to appear in Int. Math. Res. Not.

[3] D. Burns, T. Sano, K.-W. Tsoi, On higher special elements of p -adic

representations, to appear in Int. Math. Res. Not.

[4] D. Burns, A. Daoud, T. Sano, S. Seo, On Euler systems for the multiplicative group over general number fields, submitted. arXiv:1906.01565

[5] D. Burns, M. Kurihara, T. Sano, On derivatives of Kato's Euler system for elliptic curves, preprint. arXiv:1910.07404

[6] D. Burns, T. Sano, On functional equations of Euler systems, preprint. arXiv:2003.02153

[7] D. Burns, T. Sano, On non-commutative Euler systems, preprint.

• 口頭発表

[1] On a new conjecture on Kato's zeta elements, Oberseminar, LMU Munich (Germany), 10 July 2019.

[2] On a generalization of Perrin-Riou's conjecture on Kato's zeta elements, Recent advances in the arithmetic of Galois representations, University of Genova (Italy), 15 July 2019.

[3] Tamagawa Number Conjecture and Iwasawa Theory, Algebra and Number Theory Seminar, University College Dublin (Ireland), 14 November 2019.

[4] On functional equations of Euler systems, Number Theory Seminar, Autonomous University of Madrid (Spain), 11 December 2019.

[5] On the local Tamagawa number conjecture and functional equations of Euler systems, KAH-INI Seminar, Isaac Newton Institute (UK), 29 January 2020.

[6] On a generalization of Perrin-Riou's conjecture on Kato's zeta elements, Number Theory Seminar, The University of Cambridge (UK), 11 February 2020.

(関 行宏)

• 論文

[1] Pawel Biernat and Yukihiro Seki,
Type II blow-up mechanism in supercritical harmonic map heat flow,
Int. Math. Res. Not. (IMRN)

(2019), No. 2, pp. 407--456
(Advance Access Publication June 22, 2017),

DOI=<https://doi.org/10.1093/imrn/rnx122>

[2] Yukihiro Seki,
Type II blow-up mechanisms in a semilinear heat equation with Lepin exponent,
J. Differential Equations, 268 (2020), 853--900.

DOI=<https://doi.org/10.1016/j.jde.2019.08.026>

[3] Yukihiro Seki and Pawel Biernat,
Transitions of blow-up mechanisms in supercritical harmonic map heat flow,
Nonlinearity (in press)

• 口頭発表

[1] Yukihiro Seki,
Transitions of blow-up mechanisms in S^1 -equivariant harmonic map heat flow,

4th Swiss-Japanese PDE Seminar, 大阪府立大学 I-site なんば, 2019年9月4日
(招待講演)

[2] 関 行宏,

藤田方程式における臨界指数と解の爆発構造,

南大阪応用数学セミナー, 大阪市立大学, 2019年4月13日 (招待講演)

[3] 関 行宏,

球面に値を取る調和写像流方程式の解の爆発について,

解析学研究特別セミナー, 日本医科大学, 2019年4月20日 (招待講演)

[4] 関 行宏,

球面に値を取る調和写像流方程式における爆発構造の遷移,

日本数学会秋季総合分科会(函数方程式論分科会), 金沢大学,

2019年9月18日(一般講演)

[5] 関 行宏,

On type II blow-up mechanisms in a semilinear heat equation with
supercritical nonlinearity,

名古屋微分方程式セミナー, 名古屋大学, 2019年11月18日 (招待講演)

[6] 関 行宏,

Transitions of blow-up mechanisms in k -equivariant harmonic map heat flow,

応用解析セミナー, 熊本大学, 2019年12月14日 (招待講演)

[7] 関 行宏,

On type II blow-up mechanisms in a semilinear heat equation with
supercritical nonlinearity,

若手研究者による実解析と偏微分方程式 2019, 東京理科大学理学部,

2019年12月20日(招待講演)

[8] 関 行宏,

球面に値を取る調和写像流方程式における爆発構造について,

第45発展方程式研究会, 日本女子大学, 2019年12月26日(一般講演)

(高橋 太)

• 論文

[1] Critical and subcritical fractional Trudinger-Moser type inequalities on
 \mathbb{R}^n

Advances in Nonlinear Analysis, 8, (2019), 868--884.

[2] Weighted Hardy's inequality in a limiting case and the perturbed Kolmogorov
equation (with M. Sano)

Applicable Analysis, 98, no.10, (2019), 1875--1888.

[3] Hardy's inequality in a limiting case on general bounded domains
(with J. Byeon)

Communications in Contemporary Math., 21, no. 8, 1850070, 24 pp. (2019
December)

• セミナー • 学会発表

- [1] 大阪大学基礎工学研究科セミナー (Elide Terraneo 氏招聘) 講演
「Sharp Hardy-Leray inequality for curl-free vector fields」
(2019年5月8日)
- [2] 6th Italian-Japanese workshop on "Geometric Properties for Parabolic and Elliptic PDE's"
(於 Palazzone, Cortona, Italy) 講演
「Sharp Hardy-Leray inequalities for curl-free vector fields」
(2019年5月24日)
- [3] 京都大学数理解析研究所研究集会
「偏微分方程式の臨界現象と正則性理論及び漸近解析」 (代表・小川卓克氏、三沢正史氏) 講演
「A regularity result for the best constant function of the Sobolev embedding in BV」
(2019年5月29日)
- [4] 室蘭工業大学「2019年度第1回数理解析学談話会」講演
「有界変動関数空間におけるソボレフ最良定数関数の正則性」
(2019年6月14日)
- [5] 東北大学「理学部数学科談話会」講演
「有界変動関数空間におけるソボレフ最良定数関数の正則性」
(2019年6月17日)
- [6] 11th Brazilian-Italian Workshop on Nonlinear Differential Equations
(Varese, Italy) 講演
「Sharp Hardy-Leray inequalities for curl-free vector fields」
(2019年7月31日)
- [7] IMPAN (Institute of Mathematics Polish Academy of Science, Warsaw)
Simons semester "Geometry and analysis in function and mapping theory on Euclidean and metric measure spaces" 講演
「Sharp Hardy-Leray inequalities for curl-free vector fields」
(2019年10月24日)
- [8] Critical exponent and Nonlinear Evolution Equations 2020
(於東京理科大学) 講演
「Sharp Hardy-Leray inequalities for curl-free vector fields」
(2020年2月15日)

(田丸 博士)

• 雑誌・論文発表--名前、タイトル、雑誌名、等

[1] Takayuki Okuda, Akira Kubo, Hiroshi Tamaru, Dynkin indices for totally geodesic submanifolds in compact symmetric spaces. In: Proceedings of the 22nd International Workshop on Differential Geometry of Submanifolds in Symmetric Spaces and Related Problems (2019), 195--200.

[2] Shinobu Fujii, Hiroshi Tamaru, Moment maps and isoparametric hypersurfaces in spheres --- some recent results. In: Proceedings of the 22nd International Workshop on Differential Geometry of Submanifolds in Symmetric Spaces and Related Problems

(2019), 97--104.

[3] Hiroshi Tamaru, 対称空間論の離散化とカンドル代数, Part IV. In: 研究集会「部分多様体論・湯沢 2018」記録集 (2019).

・セミナー等での口頭発表--タイトル、場所、セミナー(等)名、日程、等

[1] Quandles and discrete symmetric spaces. 第 15 回代数・解析・幾何学セミナー (鹿児島大学), 2020/02/13.

[2] Quandles and discrete symmetric spaces. 淡路島幾何学研究集会 2020 (南あわじ市阿那賀地区公民館), 2020/01/24.

[3] Left-invariant metrics and submanifold geometry of noncompact symmetric spaces. AMS Special Session on Differential Geometry and Global Analysis, Honoring the Memory of Tadashi Nagano (1930-2017) (Colorado Convention Center, USA), 2020/01/16.

[4] Geometry of homogeneous hypersurfaces in noncompact symmetric spaces. Symmetry and shape - Celebrating the 60th birthday of Prof. J. Berndt (Universidade de Santiago de Compostela, Spain), 2019/10/28.

[5] Moment maps and isoparametric hypersurfaces in spheres --- some recent results. The 22nd International Workshop on Differential Geometry of Submanifolds in Symmetric Spaces and Related Problems (Kyungpook National University), 2019/08/02.

[6] On the moduli spaces of left-invariant geometric structures. Workshop on geometric analysis and homogeneous geometry (The University of Queensland), 2019/06/27.

[7] Geometry of homogeneous hypersurfaces in noncompact symmetric spaces. 第 2 回水戸幾何小研究集会 (茨城大学), 2019/06/22.

[8] Moment maps and isoparametric hypersurfaces in spheres. Workshop on the Isoparametric Theory (Beijing Normal University), 2019/06/04.

(坪田 誠)

・論文

[1] Nir Navon, Christoph Eigen, Jinyi Zhang, Raphael Lopes, Alexander L. Gaunt, Kazuya Fujimoto, Makoto Tsubota, Robert P. Smith, Zoran Hadzibabic
Synthetic dissipation and cascade fluxes in a turbulent quantum gas
Science 366, 382-385(2019)

[2] P. Moroshkin, P. Leiderer, K. Kono, Sosuke Inui, and M. Tsubota
Dynamics of the Vortex-Particle Complexes Bound to the Free Surface of Superfluid Helium
Phys. Rev. Lett.122, 174502 (2019)

[3] Toshiaki Kanai, Wei Guo and Makoto Tsubota
Merging of Rotating Bose- Einstein Condensates
J. Low Temp. Phys. (2019) 195:37- 50

[4] Junsik Han and Makoto Tsubota

Phase separation of quantized vortices in two-component miscible Bose- Einstein condensates in a two-dimensional box potential

Phys. Rev. A 99, 033607 (2019)

• 口頭発表

[1] Makoto Tsubota(invited)

Quantum Turbulence

ICFD2019: Internatinal Conference on Flow Dynamics, Tohoku University, Sendai, Japan, November, 6-8,2019

[2] Makoto Tsubota(Plenary)

Hydrodynamics and turbulence in quantum fluids

QFS2019: Internatinal Conference on Quantum Fluids and Solids, University of Alberta, Edmonton, Canada, August, 7-13,2019

[3]Makoto Tsubota(invited)

Recent topics of quantum hydrodynamics and turbulence

Physics of Cold Atom Gases: Ordered and Chaotic Aspects, Institute of Advanced Studies of the University of Sao Paulo, University of Sao Paulo, Brazil, April 15-18, 2019.

(西尾 昌治)

• 口頭発表

[1] Masaharu Nishio, Weighted Bergman type spaces for the iterated parabolic operators of frac- tional order, 15th Romanian-Finich Analysis Seminar & 10th Function Spaces, Differential operators and Nonlinear Analysis, June 10- 15, 2019, Turku, Finland.

[2] Masaharu Nishio, Reproducing properties and function spaces for parabolic operators of fractional order, The Ninth Congress of Romanian Mathematicians June 28 - July 3, 2019, Galați, Romania.

[3] 下村勝孝, 西尾昌治, Reproducing property for iterated parabolic operators of fractional order, 2019 年度秋季総合分科会, 2019.9.17- 20, 金沢大学.

(濱野 佐知子)

• 論文

[1] Sachiko Hamano, Variational formulas for principal functions and applications, Proc. of Conference on Teichmüller and Grothendieck-Teichmüller theories, Chern Institute, Nankai, July 24-30, 2016 (ed. L.Ji, A.Papadopoulos and W.Su), Nankai Series in Pure, Applied Mathematics and Theoretical Physics, World Scientific (to appear).

[2] Sachiko Hamano and Hiroshi Yamaguchi, Pseudoconvex domains fibered by open Riemann surfaces of the same topological type, New Trends in Teichmüller Theory and Mapping Class Groups, Mathematisches Forschungsinstitut Oberwolfach Report No.40/2018, 15 (3) 2483--2486, 2019.

• 口頭発表

- [1] Sachiko Hamano, On variational formulas for hydrodynamic differentials and its application,
The 18th OCAMI-RIRCM Joint Differential Geometry Workshop on "Differential Geometry of Submanifolds in Symmetric Spaces and Related Problems" (大阪市立大学) 2020年2月19日.
- [2] 濱野佐知子, Rigidity of the directional moduli on pseudoconvex domains fibered by open Riemann surfaces,
2019年度多変数関数論冬セミナー (東北大学 AIMR 本館) 2019年12月22日.
- [3] 濱野佐知子, 開リーマン面のモジュライの多変数的性質について,
「等角写像論・値分布論」合同研究集会 (東北大学 情報科学研究科) 2019年12月1日.
- [4] Sachiko Hamano, On variational formula for hydrodynamic differentials and its application,
The 25th Symposium on Complex Geometry (石川県政記念しいのき迎賓館) 2019年11月12日.
- [5] 濱野佐知子, Rigidity of the directional moduli on pseudoconvex domains fibered by open Riemann surfaces,
東京大学・複素解析幾何セミナー (東京大学大学院数理科学研究科) 2019年9月30日.
- [6] Sachiko Hamano, Rigidity of the directional moduli on pseudoconvex domains fibered by open Riemann surfaces,
Riemann surfaces and Teichmüller theory, July 8-12, 2019 (Euler International Mathematical Institute, St. Petersburg, ロシア) 2019年7月8日.
- [7] 濱野佐知子, Pseudoconvex domains fibered by open Riemann surfaces of the same topological type,
名城大学・ポテンシャル論セミナー (名城大学) 2019年6月14日.
- [8] 濱野佐知子, 流体力学的微分の変分公式とその応用について,
大阪大学幾何セミナー (大阪大学大学院理学研究科) 2019年4月22日.

(福井 充)

• 論文

- [1] Matsumoto Y, Sawa K, Fukui M, Oyanagi J, Izumi M, Ogawa K, Suzumura T, Watanabe T, Kaneda H, Mitsuoka S, Asai K, Kimura T, Yamamoto N, Koh Y, Kawaguchi T
Impact of tumor microenvironment on the efficacy of epidermal growth factor receptor-tyrosine kinase inhibitors in patients with EGFR-mutant non-small cell lung cancer
Cancer science 2019(110)p3244-3254
- [2] Wada E, Fukui M, Takahashi K, Takeuchi D, Hashizume H, Kanamori M, Hosono N, Kanchiku T, Kasai Y, Sekiguchi M, Konno S, Kawakami M, Yonenobu K
Japanese orthopaedic association cervical myelopathy evaluation questionnaire (JOACMEQ): Part 5. Determination of responsiveness

(古澤 昌秋)

• 口頭発表

[1] On Boecherer's conjecture,
"Modular Forms on Higher Rank Groups" workshop,
TU Darmstadt, Germany, September 18, 2019.

(栞田 幹也)

• 論文 出版

[1] (with E. Lee) Generic torus orbit closures in Schubert varieties, Journal of Combinatorial Theory, Series A 170(2020),105143,44 pp.
[2] (with M. Harada, T. Horiguchi, and S. Park) The volume polynomial of regular semisimple Hessenberg varieties and the Gelfand-Zetlin polytope, Proceedings of the Steklov Institute of Mathematics, 2019, Vol. 305, pp. 318--344.

• 作成

[1] (with E. Lee and S. Park) Toric Bruhat interval polytopes, arXiv:1904.10187.
[2] (with E. Lee and S. Park) Torus orbit closures in flag varieties and retractions on Weyl groups, arXiv:1908.08310.
[3] (with A. Ayzenberg) Orbit spaces of equivariantly formal torus actions, arXiv:1912.11696.
[4] (with E. Lee, S. Park and J. Song) Poincare polynomials of generic torus orbit closures in Schubert varieties, arXiv:2002.05855.

• 口頭発表

(国外)

[1] Torus orbit closures in the flag varieties, Topology, Geometry, and Dynamics: Rokhlin-100, 2019年8月20日
[2] The face numbers of simplicial cell spheres and toric topology, Colloquium at McMaster Univ. 2020年3月13日
[3] Topology and geometry of torus actions and related combinatorics, Courses in Thematic Program on Toric Topology and Polyhedral Products at Fields Institute (10 lectures), 2020年2月18日~3月19日.

(国内)

[1] 旗多様体のトーラス軌道の閉包とワイル群上の距離, RIMS, 2019年5月27日
[2] 群作用と多面体 —トーリックトポロジーの観点から—, トポロジーシンポジウム (企画講演), 秋田市・にぎわい交流館 AU, 2019年8月8日
[3] Torus orbit closures in the flag varieties, 第46回変換群論シンポジウム, 大阪府立大学 I-site なんば, 2019年10月31日

(松岡 千博)

• 論文

[1] C. Matsuoka, K. Nishihara and T. Sano,
Nonlinear interfacial motion in magnetohydrodynamic flows, High Energy Density
Phys. Vol.. 31, 19-23 (2019). (査読有)

• 招待講演

[1]Chihiro Matsuoka

Vortex sheet dynamics in magnetohydrodynamic turbulence

NITEP Workshop “Turbulence of all kinds” 大阪市立大学文化交流センター

2019. 4. 25 - 26

[2]松岡千博

カオスの決定論的記述と未来予測

日本機械学会関西支部第20回秋季交流フォーラム

大阪市立大学第一学生ホール

2019. 10. 19

[3]Chihiro Matsuoka

Vortex sheet dynamics with bulk point vortices in Richtmyer-Meshkov instability,

61st Annual Meeting of the APS Division of Plasma Physics

October 21-25, 2019, Fort Lauderdale, Florida, USA

[4]Chihiro Matsuoka

Deterministic representation of chaotic attractors and capture of all homoclinic
points in Henon map,

3rd Asia-Pacific Conference on Plasma Physics,

November 4-8, 2019, Hefei, China

[5]Chihiro Matsuoka

Nonlinear motion of current-vortex sheets in magnetohydrodynamic flows

NITEP one year anniversary conference “Turbulence of all kinds” 大阪市立大学メディア

アセンター 2020. 1. 7 - 9

• 口頭発表

[1]磁場による流体不安定性の抑制に関する研究, 松岡千博「光・量子ビーム科学合同シンポジウム
2019」大阪大学レーザー科学研究所 2019. 6. 12 (発表午後)

[2] 2つの渦層とバルク渦との相互作用, 松岡千博「日本物理学会秋季大会〈物性〉」岐阜大柳戸
キャンパス 2019. 9. 10 - 13 (発表日 9. 11 午後)

[3]渦層界面とバルク点渦との相互作用, 松岡千博「日本流体力学会年会 2019」電通大調布キャン
パス 2019. 9. 13 - 15 (発表日 9. 15 午後)

[4]Nonlinear interaction between bulk vortices and the interface in the
incompressible Richtmyer-Meshkov instability,

Chihiro Matsuoka

Eleventh International Conference on Inertial Fusion Sciences and Applications (IFSA
2019), Osaka City Central Public Hall, Osaka, Japan, 2019. 9. 22 - 27

[5]渦層モデルによる多層界面の非線形解析, 松岡千博 研究集会「海洋・海岸等における波動の
解析モデルの発展」九州大学応用力学研究所 2019. 12. 8-9

[6]不変複素曲線の Laplace 積分による漸近展開表現と古典的整関数表現の関係, 松岡千博、

平出 耕一「2019 年度冬の力学系研究集会」日大軽井沢研修所 2020. 1. 10 - 1. 13

[7] 多層界面の非線形運動, 松岡千博「日本物理学会第 75 回年次大会」名古屋大東山キャンパス
2020. 3. 16 - 19

(宮地 兵衛)

• 論文

[1] M. Fang and H. Miyachi, Hochschild cohomology and dominant dimension
Trans. Amer. Math. Soc. 371 (2019), no. 8, 5267- 5292

[2] T. Kuwabara, H. Miyachi, and K. Wada, On the Mackey formulas for cyclotomic
Hecke algebras and categories \mathcal{O} of rational Cherednik algebras, Osaka Journal of
Mathematics 受理済

• 口頭発表

(国内)

[1] 宮地 兵衛, $G(r, 1, n)$ 型複素鏡映群に付随する Hecke 環の Mackey 公式について, 2019 年 8
月 1 日, 神楽坂代数セミナー, 東京理科大学

(山名 俊介)

• 論文

[1] Shunsuke Yamana, Degenerate principal series and Langlands classification.
Contemp. Math. 732 (2019) 275-286.

[2] Tamotsu Ikeda and Shunsuke Yamana, On the lifting of Hilbert cusp forms to
Hilbert-Siegel cusp forms. Ann. Sci. Ec. Norm. Sup. (4), to appear.

[3] Shunsuke Yamana, On the lifting of Hilbert cusp forms to Hilbert-Hermitian cusp
forms. Trans. Amer. Math. Soc., to appear.

• 口頭発表

[1] On exceptional zeros of p -adic L -functions, 京都大学, 第六回京都保型形式研究集会,
2019 年 6 月 22 日

[2] On central derivatives of triple product p -adic L -functions, University of
Bordeaux, Iwasawa2019, 2019 年 6 月 24 日

[3] p 進 L 関数の例外零点, 九州大学, 九大代数学セミナー, 2019 年 10 月 18 日

[4] Seesaw dual pairs and theta correspondence I, II(連続講演), KIAS, CMC special
weeks on number theory, 2019 年 11 月 14-15 日

[5] A twisted Ichino formula, 大阪市立大学, SOAR Seminar(南大阪保型表現セミナー)
2019 年 11 月 24 日

[6] p 進 L 関数の例外零点, 京都大学, RIMS 共同研究(公開型)「代数的整数論とその周辺」
2019 年 12 月 9 日

[7] On exceptional zeros of p -adic L -functions, University of Poitiers, Number Theory
Seminar, 2019 年 12 月 12 日

[8] On central derivatives of triple product p -adic L -functions, オーバーヴォルフアッハ
数学研究所, Modular Forms, 2019 年 12 月 17 日

