令和 3 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, ″Dirichlet domains for some one-cone torus bundles″, Topology and its Applications 301 (2021), Paper No. 107490, 26 pp.,
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[1] 双曲多様体の基本多面体と射影モデル，研究集会「拡大 KOOK セミナー2021」（オンライン開催），2021 年 8 月 30 日．

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・論文出版

[1] K. Abe, K. Choi, Stability of Lamb dipoles, Arch. Rational Mech. Anal., to appear, arXiv:1911.01795

[2] K. Abe, Existence of vortex rings in Beltrami flows, Commun. Math. Phys., to appear, arXiv:2008.09345

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・セミナー講演

[1] Nov 5, 2021, online, Princeton U., NJ, US, Fluids seminar, Rigidity of Beltrami fields with a non-constant proportionality factor

[2] Sep 15, 2021, online, Seoul National U., Seoul, Korea, PDE seminar, Rigidity of Beltrami fields with a non-constant proportionality factor

[3] Dec 14, 2018, KIAS, Seoul, Korea, 3rd meeting of young researchers in PDES, Vanishing viscosity limits for axisymmetric flows with boundary

[4] Dec 7, 2021, online, RIMS conference: Mathematical analysis of viscous incompressible flows, Rigidity of Beltrami fields with a non-constant proportionality factor

[5] Oct 7, 2021, online, OCAMI joint usage: Helicity and space-time symmetry - a new perspective of classical and quantum systems, Rigidity of Beltrami fields with a non-constant proportionality factor

[6] Jun 23, 2021, online, workshop for nonlinear PDEs, Existence of vortex rings in Beltrami flows

[7] Jan 18, 2022, online, Kyushu U., Kyushu DE conference, Rigidity of Beltrami fields with a non-constant proportionality factor

[8] Nov 12, 2021, online, Osaka U. DE seminar, Rigidity of Beltrami fields with a non-constant proportionality factor

[9] Oct 8, 2021, online, Hiroshima DE seminar, Rigidity of Beltrami fields with a

non-constant proportionality factor

[10] Sep 28, 2021, online, Meiji nonlinear PDE seminar, Rigidity of Beltrami fields with a non-constant proportionality factor

[11] Aug 10, 2021, online, Meiji nonlinear summer seminar, Meiji University, Existence of vortex rings in Beltrami flows

[12] Apr 20, 2021, online, Kobe analysis seminar, Existence of vortex rings in Beltrami flows

・主催した研究集会

[1] Quasi-linear PDEs in fluids II (online), co-organized with K.Choi (UNIST), K.Yamazaki (Texas Tech U.), 2022.2.21-22, joint usage (C), Osaka City U.

・プレプリント

[1] K. Abe, Rigidity of Beltrami fields with a non-constant proportionality factor, arXiv:2108.03870

(伊師 英之)

・論文

[1] H. Ishi, "On Gaussian group convex models", Lecture Notes in Computer Science 12829, pp. 256--264, Springer, 2021.

[2] H. Ishi and K. Oshiro, "Continuous wavelet transforms for vector-valued functions", Lecture Notes in Computer Science 12829, pp. 331--339, Springer, 2021.

[3] H. Ishi and K. Koufany, "The compression semigroup of the dual Vinberg cone", Springer Proceedings in Mathematics and Statistics 366, pp. 123--136, Springer, 2021.

[4] P. Graczyk, H. Ishi, B. Kolodziejek and H. Massam, "Model selection in the space of Gaussian models invariant by symmetry", to appear in Annals of Statistics.

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[1] H. Ishi, "Special Issue: Affine differential geometry and Hesse geometry --- a tribute and memorial to Jean-Louis Koszul" [preface], Information Geometry 4 (2021), 155-157.

[2] A. Baklouti and H. Ishi, "Takaaki Nomura: a prominent figure of the Tunisia-Japan cooperation", Springer Proceedings in Mathematics and Statistics 366, pp. 1--6, Springer, 2021.

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[2] On algebraic structure in decomposable graphical Gaussian models with group symmetry, OCAMI 共同利用・共同研究「統計的推測理論への幾何学的アプローチ」，2021.12.11.

[3] ベクトル値函数の連続ウェーブレット変換（共著者：大城和秀），日本数学会 2022
年度年会函数解析学分科会一般講演，2022.3.29，コロナ禍のためアブストラクトの公開の
み.
（海外）
[1] On Gaussian group convex models, 5th Conference on Geometric Science of
Information, 2021.7.22.
[2] Continuous wavelet transforms for vector-valued functions, 5th Conference
on Geometric Science of Information, 2021.7.22.
[3] On normalizing constants of chordal graphical Gaussian models with group
symmetry, 14th International Conference of the ERCIM WG on Computational
and Methodological Statistics, 2021.12.19.

(大仁田 義裕)
・論文
[1] Y. Ohnita: Parallel Kähler submanifolds and R-spaces, to appear in
Contemporary Mathematics, Differential Geometry and Global Analysis.
In Honor of Tadashi Nagano.掲載決定済
[2] Y. Ohnita: Canonical connections of a Sasakian manifold and invariant
submanifolds with parallel second fundamental form, Proceedings of The 23rd
International Differential Geometry Workshop on Submanifolds in Homogeneous
Spaces and Related Topics 23 (2021), 31--40, Edited by Young Jin Suh,
Yoshihiro Ohnita, Changhwa Woo, Hiroshi Tamaru and Hyunjin Lee, KNU, RIRCM,
OCAMI, NRF, JSPS, Pukyong Univ.
[3] 大仁田義裕（Yoshihiro Ohnita），等径部分多様体に関連した部分多様体の幾何学
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[1] Y. Ohnita: Parallel K¥"ahler submanifolds and R-spaces, The 23rd
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Spaces and Related Topics & the 19th RIRCM-OCAMI Joint Differential
Geometry Workshop (Zoom Meeting) on July 2-3 in 2021. 2021 年 7 月 2 日.
[2] 大仁田義裕: 等径部分多様体に関連した部分多様体の幾何学,
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[1] J.-T. Cho, K. Hashimoto and Y. Ohnita:
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[1] H. Kusano and M. Okado,
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・プレプリント

[1] M. Okado and R. Takenaka,
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$A_{2l-1}^{(2)},D_{l+1}^{(2)},E_6^{(2)}$ and $D_4^{(3)}$,
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[1] K.Hamada, S.Kato:
Nonorientable minimal surfaces with catenoidal ends,
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[2] N.Ando, K.Hamada, K.Hashimoto, S.Kato:
Regularity of ends of zero mean curvature surfaces in R^{2,1},
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[1] Kanenobu, Taizo and Takahashi, Kota, Classification of ribbon 2-knots of 1-fusion with length up to six, Topology Appl., Vol. 301 (2021), Paper No. 107521, 12 pp.

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[1] Polynomial invariants of a certain family of knots, The 12th TAPU-KOOK Joint Seminar on Knots and Related Topics, Kyungpook National Univ. (オンライン開催), 2021 年 7 月 28 日.

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[1] Ryo Kanda, ″Extension groups between atoms in abelian categories″, J. Pure Appl. Algebra 225, no. 9, 106669, 2021 年 9 月
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[2] Alex Chirvasitu, Ryo Kanda, and S. Paul Smith, ″Feigin and Odesskii's elliptic algebras″, J. Algebra 581, 173-225, 2021 年 9 月

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[3] Ryo Kanda, ″Integrality of noetherian Grothendieck categories″,

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[2] Ryo Kanda, ″Elliptic algebras and twisted homogeneous coordinate rings″,

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[5] Ryo Kanda, ″Exactness of direct products″,

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(小池 貴之)

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[1] T. Koike, Linearization of transition functions of a semi-positive line bundle along a certain submanifold, to appear in Ann. Inst. Fourier (Grenoble),

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[1] Minimal singular metrics and neighborhoods of subvarieties, Colloquiums, Beijing Normal University, online, 2021 年 4 月.

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[3] Projective K3 surfaces containing Levi-flat hypersurfaces, 複素解析幾何セミナー，東京大学, online, 2021 年 6 月.

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[5] Semipositive line bundles and holomorphic foliations, Dynamics, SCV and CR geometry, online, online, 2021 年 12 月.

[6] Holomorphic foliation associated with a semi-positive class of numerical dimension one, 2021 年度多変数関数論冬セミナー, online, online, 2021 年 12 月.

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(佐野 昂迪)

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[5] D. Burns, T. Sano, On non-commutative Iwasawa theory and derivatives of Euler systems, preprint.

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[3] Hilbert の第 12 問題への応用, Dasgupta Kakde の最近の仕事とその周辺 Workshop, 慶應義塾大学, 2022 年 2 月 18 日.

(砂川 秀明)
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[1] C. Li, Y. Nishii, Y. Sagawa and H. Sunagawa, "Upper and lower L^2-decay bounds for a class of derivative nonlinear Schrödinger equations."
[2] Y. Song, Q. Han, C. Li and H. Sunagawa, "Time decay of solutions to the damped nonlinear Schrödinger equations."
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[3] 李春花, 西井良徳, 佐川侑司, 砂川秀明, "On the derivative nonlinear Schrödinger equation with weakly dissipative structure," 日本数学会 2021 年度秋季総合分科会, 2021 年 9 月 16 日.（オンライン）

(高橋 太)
・論文
[1] A note on radial solutions to the critical Lane-Emden equation with a variable coefficient, (with D. Naimen)
"Geometric Properties for Parabolic and Elliptic PDE's"
(Springer INdAM Series 47 (V. Ferone, T. Kawakami, P. Salani, and F. Takahashi (eds.)), (June, 2021), 273--290.
[2] Best constant of the critical Hardy-Leray inequality for curl-free fields in two dimension, (with N. Hamamoto)
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[1] Asymptotic behavior of least energy solutions to the Finsler Lane-Emden problem with large exponents, (with Sadaf Habibi), arXiv:2108.07989
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[3] Critical Hardy inequality on the half-space via the harmonic transplantation, (with M. Sano), arXiv:2201.01593
・セミナー・学会発表
[1] 早稲田大学「応用解析研究会」（第 746 回）講演
「1 次元分数べき Trudinger-Moser 不等式の最大化元の存在・非存在と非斉次制約条件の影響」（2021 年 9 月 25 日）
[2] 熊本大学「応用解析セミナー」（第 154 回）講演
「1 次元分数べき Trudinger-Moser 不等式の最大化元の存在・非存在と非斉次制約条件の影響」（2021 年 10 月 2 日）
[3] 第 39 回 九州における偏微分方程式研究集会講演
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[4] 大阪市立大学数学研究所（OCAMI）談話会講演
「Asymptotic behavior of least energy solutions to the Finsler Lane-Emden problem with large exponents」（2022 年 2 月 9 日）
[5] 2022 年春季年会（埼玉大学）函数方程式論分科会（第 20 回解析学賞受賞記念特別講演）（遠隔リアルタイム配信）「Hardy 不等式に関連する数学解析」
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