

# 論文リスト

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## (A) 査読付き

- (1) Kurando Baba, Kenro Furutani, *Calabi-Yau structure and Bargmann type transformation on the Cayley projective plane*, Advance publication (March 2022) in the Journal of the Mathematical Society of Japan.
- (2) Kenro Furutani, Irina Markina, *Automorphism groups of pseudo  $H$ -type algebras*, Journal of Algebra, **568**(2021), 91–138 (Available online 16 October 2020).
- (3) Kenro Furutani, *Residue of the spectral zeta function of a sub-Laplacian on a certain class of nilmanifolds*, Applied Analysis and Optimization, **4**(2020), no.1, 51–64.
- (4) Wolfram Bauer, Kenro Furutani, Chisato Iwasaki and Abdellah Laaroussi, *Spectral theory of a class of nilmanifolds attached to Clifford modules*, Mathematische Zeitschrift, published online 03 April 2020.
- (5) Kenro Furutani, Irina Markina, *Complete classification of pseudo  $H$ -type algebras:II*, Geometriae Dedicata, **202**(2019), 233–264.
- (6) Kenro Furutani, Mitsuji Tamura, *Riemann submersion and Maslov quantization condition*, Applied Analysis and Optimization, **2**, No. 3(2018), 373–401.
- (7) Kenro Furutani, Irina Markina, Mauricio Godoy Molina, Tohru Morimoto and Alexander Vasiliev, *Lie algebras attached to Clifford modules and simple graded Lie algebras*, J. Lie Theory, Vol. 28, no. 3(2018), 843–864.
- (8) Christian Autenried, Kenro Furutani, Irina Markina, and Alesander Vasiliev, *Pseudo metric 2-step nilpotent Lie algebras*, Advances in Geometry, **18**(2018), No. 2, 237–263.
- (9) Kenro Furutani, Mitsuji Tamura, *Double submersions and Hamilton flows*, Applied Analysis and Optimization, **1**, no. 3(2017), 381–400.
- (10) Wolfram Bauer, Kenro Furutani and Mitsuji Tamura, *First integrals of bi-characteristic curves of a sub-Laplacian and related Grushin type operators*, Journal of Non-linear and Convex Analysis, **18**, no. 5(2017), 893–917.
- (11) Wolfram Bauer and K. Furutani and Chisato Iwasaki, *Sub-Riemannian structures in a principal bundle and their Popp measures*, **96**(2017), no. 14, 2390–2407, published online on 02/June/2017 in Applicable Analysis.

- (12) Wolfram Bauer and Kenro Furutani and Chisato Iwasaki, *A codimension 3 sub-Riemannian structure on Gromoll-Meyer exotic sphere*, Differential Geometry and its Applications, **53**(2017), 114–136.
- (13) Kenro Furutani, Irina Markina, *Complete classification of pseudo H-type algebras:I*, Geometriae Dedicata, **190**(2017), 23–51.
- (14) Kenro Furutani and Mitsuji Tamura, *Submersion and bi-characteristic curves of Grushin type operators*, Journal of Non-linear and Convex Analysis, **17**(2016), no. 9, 1697–1716.
- (15) Kenro Furutani, Irina Markina and Alexander Vasiliev, *Free nilpotent and H-type Lie algebras. Combinatorial and orthogonal designs*, Journal of pure and applied algebra, **219**(2015), 5467–5492.
- (16) Wolfram Bauer and Kenro Furutani and Chisato Iwasaki, *Spectral zeta function on pseudo H-type nilmanifolds*, Indean Journal of Pure and Applied Mathematics, **46**(2015), no. 4, 539–582.
- (17) Wolfram Bauer and Kenro Furutani and Chisato Iwasaki, *The inverse of a parameter family of degenerate operators and applications to the Kohn-Laplacian*, Advances in Mathematics, **277**(2015), 283–337.
- (18) Wolfram Bauer and Kenro Furutani and Chisato Iwasaki, *Fundamental solution of a higher step Grushin type operator*, Advances in Mathematics, Vol. 271(2015), 188–234.
- (19) Kenro Furutani and Irina Markina, *Existence of the lattice on general H-type groups*, Journal of Lie Theory, **24**(2014), no. 4, 979–1011.
- (20) Wolfram Bauer and Kenro Furutani and Chisato Iwasaki, *Trivializable sub-Riemannian structures on spheres*, Journal : Bulletin des Sciences Mathématiques, **137**(2013), 361–385.
- (21) Kenro Furutani, Chisato Iwasaki and Toshinao Kagawa, *An action function for a higher step Grushin operator*, Journal of Geometry and Physics, **62**(2012), 1949–1976.
- (22) Wolfram Bauer and Kenro Furutani and Chisato Iwasaki, *Spectral zeta function of the sub-Laplacian on two step nilmanifolds*, Journal de Mathématiques pures et appliquées, **97**(2012), 242–261.
- (23) Wolfram Bauer and Kenro Furutani, *Spectral zeta function of a sub-Laplacian on product sub-Riemannian manifolds and zeta-regularized determinant*, Journal of Geometry and Physics, **60**(2010), 1209–1234.
- (24) Wolfram Bauer and Kenro Furutani and Chisato Iwasaki, *Spectral Analysis and Geometry of a sub-Laplacian and related Grushin type operators*, Trends in partial Differential Equations and Spectral Theory in "Advances in Partial Differential Equations", **211**, 183–290(2010), Birkhäuser.
- (25) Wolfram Bauer and Kenro Furutani, *Spectral Analysis and Geometry of a Sub-Riemannian Structure on  $S^3$  and  $S^7$* , Journal of Geometry and Physics, **58**, No. 12(2008), 1693–1738.
- (26) Wolfram Bauer, Kenro Furutani, *Quantization operators on Quadrics*, Kyushu Journal of Mathematics, Vol.**62**, No. 1(2008), 221–258.

- (27) Wolfram Bauer, Kenro Furutani, *Zeta-regularized Determinant of the Laplacian for classes of spherical space forms*, Journal of Geometry and Physics, Vol. **58**(2008), 64–88.
- (28) Wolfram Bauer, Kenro Furutani, *Compact Operators and the Pluriharmonic Berezin Transform*, International Journal of Mathematics, Vol.**19**, No. 6(2008), 645–669.
- (29) Wolfram Bauer, Kenro Furutani, *Hilbert-Schmidt Hankel Operators and Berezin Iterations*, Tokyo Journal of Mathematics, Vol. **31**, No. 2, 293–319 (2008).
- (30) Kenro Furutani, *Heat kernels of the sub-Laplacian and Laplacian on nilpotent Lie groups*, Analysis, Geometry and Topology of Elliptic Operators, papers in honour of Krzysztof P. Wojciechowski, pp.185–226 (2006)(World Scientific, London-Singapore).
- (31) Kenro Furutani, *Pseudo-differential operator and Reproducing kernels arising in Geometric quantization*, Operator theory : Advances and Application(Birkhäuser verlag) Vol. 164, pp. 133–151 (2006).
- (32) Kenro Furutani, *Atiyah-Patodi-Singer boundary condition and a splitting formula of a spectral flow*, Journal of Geometry and Physics, Vol. 56, No. 2(2006), pp. 310–321.
- (33) Kenro Furutani, *Fredholm-Lagrangian-Grassmannian and the Maslov index*, Journal of Geometry and Physics, Vol. 51, No. 3(2004), pp. 269–331.
- (34) Kenro Furutani, *On the Quillen determinant*, Journal of Geometry and Physics, Vol. 49, No. 3-4, pp. 366-375 (2004).
- (35) Kenro Furutani and Serge de Gosson, *Determinant of Laplacians on Heisenberg Manifolds*, Journal of Geometry and Physics, Vol. 48, No. 2-3, pp. 438-479 (2003).
- (36) Kenro Furutani, *A Kähler structure on the punctured cotangent bundle of the Cayley projective plane*, Jean Leray '99 Conference Proceedings, pp. 163-182, in Math. Phy. Studies 24(2003), Kluwer academic publishers.
- (37) B. Booss-Bavnbek, Kenro Furutani and Krzysztof P. Wojciechowski, *The Geometry of Cauchy Data Spaces* Jean Leray '99 Conference Proceedings, pp. 321-354 (2003), in Math. Phy. Studies Vol. 24, Kluwer academic publishers.
- (38) Kenro Furutani, *Quantization of the Geodesic Flow on Quaternion Projective Spaces*, Annals of Global Analysis and Geometry, Vol. 22, No. 1, 1–27(2002).
- (39) Bernhelm Booss-Bavnbek, Kenro Furutani and Nobukazu Otsuki, *Criss-Cross reduction of the Maslov index and a proof of Yoshida-Nicolaescu Spectral flow formula*, Tokyo Journal of Mathematics. Vol. 24, No. 1, 113-128 (2001).
- (40) Bernhelm Booss-Bavnbek and Kenro Furutani, *Symplectic Functional Analysis and Spectral Invariants*, AMS Contemporary Mathematics, Vol. 242, 53-79 (1999).
- (41) Bernhelm Booss-Bavnbek and Kenro Furutani, *The Maslov Index:a Functional Analytical Definition and the Spectral Flow Formula*, Tokyo Journal of Mathematics, Vol. 21, No. 3, 1-34 (1998).

- (42) Kenro Furutani, *The Heat Kernel and The Spectrum of A Class of Nilmanifolds*, Communications in Partial Differential Equations, Vol. 21(3&4), 423-438 (1996).
- (43) Kenro Furutani and Shintarou Yoshizawa, *A Kähler structure on the punctured cotangent bundle of complex and quaternion projective spaces and its application to a geometric quantization II*, Japanese Journal of Math., Vol. 21, No. 2, 355-392 (1995).
- (44) Kenro Furutani and Ryuichi Tanaka, *A Kähler structure on the punctured cotangent bundle of complex and quaternion projective spaces and its application to a geometric quantization I*, Journal of Math. of Kyoto Univ. Vol.34, No. 4, 719-737 (1994).
- (45) Kenro Furutani and Nobukazu Otsuki, *Spectral flow and intersection number*, Journal of Math. of Kyoto Univ. Vol. 33, No. 1, 261-283 (1993).
- (46) Kenro Furutani, Kei Sagami and Nobukazu Otsuki, *The spectrum of the Laplacian on a certain nilpotent Lie groups*, Communications in Partial Differential Equations. Vol.18, No. 3, 533-555 (1993).
- (47) Nobukazu Otsuki, Kenro Furutani, *Spectral flow and Maslov index arising from Lagrangian intersections*, Tokyo J. Math. 14, No. 1, 135-150 (1991).
- (48) Kenro Furutani, *On a differentiable map commuting with an elliptic pseudo-differential operator*, J. Math. Kyoto Univ. 24, 197-203 (1984).
- (49) Kenro Furutani, *On an isomorphism of the algebra of pseudo-differential operators*, J. Math. Kyoto Univ. 24, 269-274 (1984).
- (50) Kenro Furutani, *On the group of diffeomorphisms commuting with an elliptic operator*, J. Math. Soc. Japan 35, 153-162 (1983).
- (51) Kenro Furutani, *On eigenvalues and eigenspaces of a Laplace operator on the sphere  $S^n$* , TRU Math. 17, No. 2, 273-283 (1981).
- (52) Kenro Furutani, *On a stability of essential spectra of Laplace operators on non-compact Riemannian manifolds*, Proc. Jap. Acad., Ser. A 56, 425-428 (1980).
- (53) Kenro Furutani, *A group of isometries and eigenspaces of a Laplace operator on  $S^2$* , TRU Math. 15, No. 1, 19-22 (1979).
- (54) Kenro Furutani, *A note on the Arens-Royden theorem for real Banach algebras*, TRU Mathematics 11, 5-8 (1975).

(B) 単行本

• O.Calin, D-C. Chang, K. Furutani and C. Iwasaki, *Heat Kernels for Elliptic and Sub-elliptic Operators Method and Techniques*, Applied and Numerical Harmonic Analysis, **19**(2010), 451 pages, Birkhäuser.

(C) 査読なし

- (1) Wolfram Bauer, Kenro Furutani, Chisato Iwasaki, *On the heat kernel on forms on the Heisenberg group* RIMS Kokyuroku (Symmetry and Singularity of Geometric Structures and Differential Equations), No.**2137**, 17 pages (2019).
- (2) Wolfram Bauer, Kenro Furutani, *Spectral zeta functions of a Riemannian manifold of positive constant curvature*, Proceeding of the “Sophia symposium 2007” Modern mathematics and its applications to modern Technology, 1.-3. Nov., pp. 82-88 (2007).
- (3) Kenro Furutani, *Complexified Hopf fibration and a pseudo-differential operator*, RIMS Kokyuroku (Analytic Function Spaces and Their Operators), No.**1519**, pp. 38–58(2006).
- (4) Kenro Furutani and Chisato Iwasaki *Grushin operator and heat kernel on nilpotent Lie groups*, RIMS Kokyuroku (Developments of Cartan Geometry and Related Mathematical Problems), No.**1502**, pp. 173–184(2006).
- (5) Kenro Furutani and Serge de Gosson, *Determinant of Laplacians on Heisenberg Manifolds*, Reports from MSI (School of Mathematics and System Engineering) at Växjö University, No. 03004 Jan 2003.

(D) 準備中

- (1) Kenro Furutani, Chisato Iwasaki, Daisuke Tarama, *Radon transformation and Fourier integral operator*.
- (2) Kenro Furutani, Chisato Iwasaki, *Fuchs-type differential equation and symbolic calculus on manifolds with conical singularities*.
- (3) Kenro Furutani, Irina Markina, *Uniform discrete subgroups of pseudo H-type Lie groups*.