# **Publication List**

## Pure Mathematics (main subject)

#### Preprints

- Yuichi Shiozawa and Seiichiro Kusuoka, "Berry-Esseen bounds for large-time asymptotics of one-dimensional diffusion processes via Malliavin-Stein method", arXiv:2411.08725.
- Martin Hairer, Seiichiro Kusuoka and Hirotatsu Nagoji, "Singularity of solutions to singular SPDEs", arXiv:2409.10037.
- Sergio Albeverio, Seiichiro Kusuoka, Song Liang and Makoto Nakashima, "Stochastic quantization of the three-dimensional polymer measure via the Dirichlet form method", arXiv:2311.05797.
- Seiichiro Kusuoka, "Remarks on Stochastic Systems I: Markov properties, local and global uniqueness, and limits of stochastic equations", arXiv:2209.05961.

## **Published Papers**

- Sergio Albeverio and Seiichiro Kusuoka, "Construction of a non-Gaussian and rotationinvariant Φ<sup>4</sup>-measure and associated flow on ℝ<sup>3</sup> through stochastic quantization", Memoirs of the AMS, vol. 308, Amer. Math. Soc., Providence, RI, 2025, pp. 1–114.
- 20. I. Bailleul, M. Hoshino and S. Kusuoka, "Regularity structures for quasilinear singular SPDEs", Archive for Rational Mechanics and Analysis 248, 127 (2024).
- 19. Masato Hoshino, Hiroshi Kawabi and Seiichiro Kusuoka, "Stochastic quantization associated with the  $\exp(\Phi)_2$ -quantum field model driven by space-time white noise on the torus in the full  $L^1$ -regime", Probability Theory and Related Fields 185 (2023), 391-447.
- 18. Seiichiro Kusuoka, "An improvement of the integrability of the state space of the  $\Phi_3^4$ -process and the support of the  $\Phi_3^4$ -measure constructed by the limit of stationary processes of approximating stochastic quantization equations", Mathematical Journal of Okayama University 65 (2023), 97-116.
- 17. Masato Hoshino, Hiroshi Kawabi and Seiichiro Kusuoka, "Stochastic quantization associated with the  $\exp(\Phi)_2$ -quantum field model driven by space-time white noise on the torus", Journal of Evolution Equations, Vol. 21, Issue 1 (2021), 339-375.
- 16. Sergio Albeverio and Seiichiro Kusuoka, "The invariant measure and the flow associated to the  $\Phi_3^4$ -quantum field model", Annali della Scuola Normale Superiore di Pisa (5), Vol. 20, Issue 4 (2020), 1359-1427.

- Daehong Kim and Seiichiro Kusuoka, "Recurrence of direct products of diffusion processes in random media having zero potentials", Electronic Journal of Probability, Vol. 25 (2020), paper no. 139, 1-18.
- 14. Seiichiro Kusuoka and Ciprian A. Tudor, "Characterization of the convergence in total variation and extension of the Fourth Moment Theorem to invariant measures of diffusions", Bernoulli, Vol. 24, No. 2 (2018), 1463-1496.
- Shigeki Aida, Takanori Kikuchi and Seiichiro Kusuoka, "The rates of the L<sup>p</sup>-convergence of the Euler-Maruyama and Wong-Zakai approximations of path-dependent stochastic differential equations under the Lipschitz condition", Tohoku Mathematical Journal, Vol 70, No. 1 (2018), 65-95.
- Seiichiro Kusuoka, "Hölder and Lipschitz continuity of the solutions to parabolic equations of the non-divergence type", Journal of Evolution Equations, Vol. 17, No. 3 (2017), 1063-1088.
- Seiichiro Kusuoka, "Continuity and Gaussian two-sided bounds of the density functions of the solutions to path-dependent stochastic differential equations via perturbation", Stochastic Processes and their Applications, Vol. 127, No. 2 (2017), 359-384.
- Seiichiro Kusuoka, Hiroshi Takahashi and Yozo Tamura, "Recurrence and transience properties of multi-dimensional diffusion processes in selfsimilar and semi-selfsimilar random environments", Electronic Communications in Probability, Vol. 22 (2017), paper no. 4, 1-11.
- Seiichiro Kusuoka, Hiroshi Takahashi and Yozo Tamura, "Recurrence of the Brownian motion in multidimensional semi-selfsimilar environments and Gaussian environments", Potential Analysis, Vol. 43, No. 4 (2015), 695-705.
- 8. Seiichiro Kusuoka, "Hölder continuity and bounds for fundamental solutions to nondivergence form parabolic equations", Analysis & PDE, Vol. 8, No. 1 (2015), 1-32.
- 7. Seiichiro Kusuoka and Carlo Marinelli, "On smoothing properties of transition semigroups associated to a class of SDEs with jumps", Annales de l'Institut Henri Poincaré, Probabilités et Statistiques, Vol. 50, No. 4, (2014), 1347-1370.
- Seiichiro Kusuoka and Ichiro Shigekawa, "Exponential convergence of Markovian semigroups and their spectra on L<sup>p</sup>-spaces", Kyoto Journal of Mathematics, Vol. 54, No. 2 (2014), 367-399.
- Tetsuya Hattori and Seiichiro Kusuoka, "Stochastic ranking process with space-time dependent intensities", ALEA, Lat. Am. J. Probab. Math. Stat., 9(2), 571-607 (2012).

- Sergio Albeverio and Seiichiro Kusuoka, "Diffusion Processes in Thin Tubes and their Limits on Graphs", The Annals of Probability, Vol. 40, No. 5 (2012), 2131-2167.
- Seiichiro Kusuoka and Ciprian A. Tudor, "Stein's method for invariant measures of diffusions via Malliavin calculus", Stochastic Processes and their Applications 122 (2012), 1627-1651.
- 2. Seiichiro Kusuoka, "Malliavin calculus for stochastic differential equations driven by subordinated Brownian motions", Kyoto Journal of Mathematics, Volume 50, Number 3 (2010), 491-520.
- 1. Seiichiro Kusuoka, "Existence of densities of solutions of stochastic differential equations by Malliavin calculus", Journal of Functional Analysis, **258** (2010), 758-784.

## Proceedings (refereed)

- Seiichiro Kusuoka, Kazuhiro Kuwae and Kouhei Matsuura, "Equivalence of the Strong Feller Properties of Analytic Semigroups and Associated Resolvents" In Dirichlet Forms and Related Topics, Springer Proceedings in Mathematics & Statistics 394 (2022), 279–307.
- 3. Masato Hoshino, Hiroshi Kawabi and Seiichiro Kusuoka, "Tightness of the solutions to approximating equations of the stochastic quantization equation associated with the weighted exponential quantum field model on the two-dimensional torus" In Stochastic Analysis, Random Fields and Integrable Probability Fukuoka 2019, Advanced Studies in Pure Mathematics 87 (2021), 341–361.
- 2. Seiichiro Kusuoka, "Stochastic approach to bounds and regularity of fundamental solutions to non-divergence form parabolic equations with irregular coefficients" In Regularity, singularity and long time behavior for partial differential equations with conservation law, RIMS Kôkyûroku Bessatsu, B80 (2020), 27-46.
- 1. Seiichiro Kusuoka, Hiroshi Takahashi, and Yozo Tamura, "Topics on multi-dimensional Brox's diffusions" In Stochastic Analysis on Large Scale Interacting Systems, RIMS Kôkyûroku Bessatsu, B59 (2016), 31-44.

# Applied Mathematics (contribution to other subjects)

## **Published Papers**

 Naoto Nakano, Masaru Inatsu, Seiichiro Kusuoka and Yoshitaka Saiki, "Empirical evaluated SDE modelling for dimensionality-reduced systems and its predictability estimates", Japan Journal of Industrial and Applied Mathematics, vol. 35, no. 2 (2018), 553-589. 1. Masaru Inatsu, Naoto Nakano, Seiichiro Kusuoka, and Hitoshi Mukougawa, "Predictability of Wintertime Stratospheric Circulation Examined Using a Non-stationary Fluctuation Dissipation Relation", Journal of the Atmospheric Sciences, Volume 72, Issue 2 (2015), 774-786.

#### Proceedings (refereed)

1. Naoto Nakano, Masaru Inatsu, Seiichiro Kusuoka and Yoshitaka Saiki, "Time-series analysis and predictability estimates by empirical SDE modelling", Proceedings of the ISCIE International Symposium on Stochastic Systems Theory and Its Application (2016), 332-339.