

# Publications of Michael Schürmann

- (A) Monographs
- (B) Articles in journals
- (C) Contributions to books and proceedings
- (D) Others
- (E) Preprints
- (F) Books edited

## (A) Monographs

- (A01) White noise on bialgebras.  
Lect. Notes Math., vol. 1544. Berlin Heidelberg New York: Springer 1993

## (B) Articles in journals

- (B01) (with L. Accardi und W. von Waldenfels)  
Quantum independent increment processes on superalgebras.  
Math. Z. 198, 451-477 (1988)
- (B02) A class of representations of involutive bialgebras.  
Math. Proc. Camb. Phil. Soc. 107, 149-175 (1990)
- (B03) Noncommutative stochastic processes with independent and stationary increments  
satisfy quantum stochastic differential equations.  
Probab. Th. Rel. Fields 84, 473-490 (1990)
- (B04) Quantum stochastic processes with independent additive increments.  
J. Multivariate Anal. 38, 15-35 (1991)
- (B05) Quantum q-white noise and a q-central limit theorem.  
Commun. Math. Phys. 140, 589-615 (1991)
- (B06) (with P. Glockner und R. Speicher)  
Realization of free white noise.  
Arch. Math. 58, 407-416 (1992)
- (B07) Direct sums of tensor products and non-commutative independence.  
J. Funct. Anal. 133, 1-9 (1995)

- (B08) (with M. Skeide)  
 Infinitesimal generators on the quantum group  $SU_q(2)$ .  
 Inf. Dim. Anal. Quantum Probab. Rel. Topics 1, 573-598 (1998)
- (B09) Operator processes majorizing their quadratic variation.  
 Inf. Dim. Anal. Quantum Probab. Rel. Topics 3, 99-120 (2000)
- (B10) (with A. Ben Ghorbal)  
 Non-commutative notions of stochastic independence.  
 Math. Proc. Camb. Phil. Soc. 133, 531-561 (2002)
- (B11) (with A. Ben Ghorbal)  
 Quantum stochastic calculus on Boolean Fock space.  
 Inf. Dim. Anal. Quantum Probab. Rel. Topics 7, 631-650 (2004)
- (B12) (with A. Ben Ghorbal)  
 Quantum Lévy processes on dual groups.  
 Math. Z. 251, 147-165 (2005)
- (B13) (with L. Sahu and K.B. Sinha)  
 Unitary processes with independent increments and representations of Hilbert tensor algebras.  
 Publ. Res. Inst. Math. Sci. 45, 745-785 (2009)
- (B14) (with M. Skeide and S. Volkwardt)  
 Transformation of quantum Lévy processes on Hopf algebras.  
 Commun. Stoch. Anal., 4(4), 553-577 (2010)
- (B15) (with S. Voß)  
 Schoenberg Correspondence on Dual Groups.  
 Commun. Math. Phys. 328 (2), 849-865 (2014)
- (B16) (with S. Manzel)  
 Non-commutative stochastic independence and cumulants.  
 Infin. Dim. Anal. Quantum Probab. Rel. Top. 20 (2017) 1750010 (38 pages)

**(C) Contributions to books and proceedings**

- (C01) Positive and conditionally positive linear functionals on coalgebras.  
 In: Accardi, L., Waldenfels, W. v. (eds.) Quantum probability and applications II. Proceedings, Heidelberg 1984. (Lect. Notes Math., vol. 1136). Berlin Heidelberg New York: Springer 1985

- (C02) A central limit theorem for coalgebras.  
 In: Heyer, H. (ed.) Probability measures on groups VIII. Proceedings, Oberwolfach 1985. (Lect. Notes Math., vol. 1210). Berlin Heidelberg New York: Springer 1986
- (C03) (with W. von Waldenfels)  
 A central limit theorem on the free Lie group.  
 In: Accardi, L., Waldenfels, W. v. (eds.) Quantum probability and applications III. Proceedings, Oberwolfach 1987. (Lect. Notes Math., vol. 1303). Berlin Heidelberg New York: Springer 1988
- (C04) Infinitely divisible states on cocommutative bialgebras.  
 In: Heyer, H. (ed.) Probability measures on groups IX. Proceedings, Oberwolfach 1988. (Lect. Notes Math., vol. 1379). Berlin Heidelberg New York: Springer 1989
- (C05) Noncommutative stochastic processes with independent and stationary additive increments.  
 In: Accardi, L., Waldenfels, W. v. (eds.) Quantum probability and applications IV. Proceedings, Oberwolfach 1988. (Lect. Notes Math., vol. 1396). Berlin Heidelberg New York: Springer 1989
- (C06) (with W. von Waldenfels)  
 A central limit theorem on the free Lie group.  
 In: Accardi, L., Waldenfels, W. v. (eds.) Quantum probability and applications III. Proceedings, Heidelberg 1988. (Lect. Notes Math., vol. 1442). Berlin Heidelberg New York: Springer 1990
- (C07) Gaussian states on bialgebras.  
 In: Accardi, L., Waldenfels, W. v. (eds.) Quantum probability and applications III. Proceedings, Heidelberg 1988. (Lect. Notes Math., vol. 1442). Berlin Heidelberg New York: Springer 1990
- (C08) White noise on involutive bialgebras.  
 In: Accardi, L. (ed.) Quantum probability VI. Singapore New Jersey London Hong Kong: World Scientific 1991
- (C09) The Azéma martingales as components of quantum independent increment processes.  
 In: Azéma, J., Meyer, P. A., Yor, M. (eds.) Séminaire de probabilités XXV. (Lect. Notes Math., vol. 1485). Berlin Heidelberg New York: Springer 1991
- (C10) Realization of unitary  $q$ -white noise on Fock space.  
 A central limit theorem on the free Lie group.

In: Heyer, H. (ed.) Probability measures on groups X. Proceedings, Oberwolfach 1990.  
New York: Plenum Press 1991

(C11) The Azéma martingales as central limits.

In: Accardi, L. (ed.) Quantum probability VII. Singapore New Jersey London Hong Kong: World Scientific 1992

(C12) Non-commutative probability on algebraic structures.

In: Heyer, H. (ed.) Probability measures on groups and related structures XI. Proceedings, Oberwolfach 1994. Singapore New Jersey London Hong Kong: World Scientific 1995

(C13) Quantenstochastik: Eine mathematische Theorie und ihre Wurzeln.

In: Flachsmeyer, J., Fritsch, J., Reichel, H.-C. (eds.) Mathematik - Interdisziplinär Aachen: Shaker 2000

(C14) (with U. Franz)

Lévy processes on quantum hypergroups.

In: Heyer, H., Hirai, T., Obata, N. (eds.) Infinite dimensional harmonic analysis. Transactions of a Japanese-German symposium, Kyoto 1999

(C 15) Lévy processes on deformations of Hopf algebras.

In: Heyer, H., Hirai, T., Kawazoe, T., Saito, K. (eds.) Infinite dimensional harmonic analysis III. Proceedings of the third German-Japanese symposium, Tübingen 2003

(C16) (with S. Voß)

Positivity of Free Convolution Semigroups.

In: (J.C. Garcia, R. Quezada, S.B. Sontz (eds.) Quantum probability and related topics. Proceedings of the 28th Conference, Mexico 2007

## (D) Others

(D01) Positiv definite Funktionen auf der freien Lie-Gruppe und stabile Grenzverteilungen.

Heidelberg: Diploma thesis 1979

(D02) Über \*-Bialgebren und quantenstochastische Zuwachsprozesse.

Heidelberg: PhD thesis 1985

(D03) White noise on bialgebras.

Heidelberg: Habilitation thesis 1993

(D04) Cours d'introduction à la statistique.  
Strasbourg: Lectures 1995

(D05) Cours d'introduction aux probabilités.  
Strasbourg: Lectures 1995

### (E) Preprints

(E01) (with A. Ben Ghorbal)  
On the algebraic foundations of a non-commutative probability theory.  
Greifswald: Preprint-Reihe Mathematik 8 (1999)

(E02) (with U. Franz und R. Schott)  
Lévy processes and Brownian motion on braided spaces.  
Greifswald (2002)

(E03) (with M. Skeide and S. Volkwardt)  
Transformations of Lévy processes.  
Greifswald: Preprint-Reihe Mathematik 13 (2007)

(E04) (with M. Gerhold and S. Lachs)  
Categorical Lévy processes  
arXiv:1612.05139 <https://arxiv.org/abs/1612.05139> [math.CT]

### (F) Books edited

(F01) D. Applebaum, B.V.R. Bhat, J. Kustermans, J.M. Lindsay  
Quantum Independent Increment Processes I: From Classical Probability to Quantum  
Stochastic Calculus, (U. Franz and M. Schürmann, eds.)  
Lecture notes of a school held in Greifswald in March 2003  
Springer Lecture Notes in Mathematics, Vol. 1865, 2005

(F02) Quantum Probability and Infinite Dimensional Analysis: From Foundations to Ap-  
plications (U. Franz and M. Schürmann, eds.)  
Proceedings of a conference held in Greifswald in June 2003  
Quantum Probability and White Noise Calculus, Volume XVIII, World Scientific,  
2005

(F03) O.E. Barndorff-Nielsen, U. Franz, R. Gohm, B. Kümmerer, S. Thorbjørnsen  
Quantum Independent Increment Processes II: Quantum Lévy Processes, Classical

Probability, and Applications (U. Franz and M. Schürmann, eds.)  
Lecture notes of a school held in Greifswald in March 2003  
Springer Lecture Notes in Mathematics, Vol. 1866, 2006

**(F04)** Quantum Probability and Infinite Dimensional Analysis (L. Accardi, W. Freuden-  
berg and M. Schürmann, eds.)  
Proceedings of the 26th conference held in Levico in February 2005  
Quantum Probability and White Noise Analysis, Volume XX, World Scientific, 2007

**(F05)** Ph. Biane, L. Bouten, F. Cipriani, N. Konno, N. Privault, Q. Xu  
Quantum Potential Theory (U. Franz and M. Schürmann, eds.)  
Lecture notes of a school held in Greifswald in March 2007  
Springer Lecture Notes in Mathematics, Vol. 1866, 2008