

### **Literatur zur Vorlesung**

#### **Funktionale Quantisierung für stochastische Prozesse**

Bogachev, V.I. (1998): Gaussian Measures. AMS.

Dudley, R.M. (1989): Real Analysis and Probability. Chapman + Hall.

Elstrodt, J. (2007): Mass- und Integrationstheorie, 5. Auflage. Springer.

Gersho, A., Gray, R.M., (1992): Vector Quantization and Signal Compression. Kluwer.

Graf, S., Luschgy, H. (G/L) (2000): Foundations of Quantization for Probability Distributions. Lecture Notes in Math. 1730. Springer.

Meise, R., Vogt, D. (1992): Einführung in die Funktionalanalysis. Vieweg.

Okabe, A. et al. (1992): Spatial Tesselations. Concepts and Applications of Voronoi Diagrams. Wiley.

Rachev, S.T., Rüschendorf, L. (1998): Mass Transportation Problems, Vol. I. Springer.

Vakhania, N.N., Tarieladze, V.I., Chobanyan, S.A. (1987): Probability Distributions on Banach Spaces. Kluwer.

---

Aurzada, F., Dereich, S. (2009): The coding complexity of Lévy Processes. Foundations of Computational Mathematics 9, 359-390.

Cohort, P. (2001): Sur quelques problèmes de quantification. PhD thesis, Univ. Paris 6.

Delattre, S. Graf, S., Luschgy, H., Pagès, G. (2004): Quantization of probability distributions under norm-based distortion measures. Statistics and Decisions 22, 261 - 282.

Dereich, S., Scheutzow, M. (2006): High resolution quantization and entropy coding for fractional Brownian motion. Electronic Journal of Probability 11, 700-722.

Dereich, S. (2008): The coding complexity of diffusion processes under supremum norm distortion. Stochastic Processes and their Applications 118, 917 - 937.

Dereich, S. (2008): The coding complexity of diffusion processes under  $L^p[0, 1]$ -norm distortion. Stochastic Processes and their Applications 118, 938 - 951.

- Graf, S., Luschgy, H., Pagès, G. (2003): Functional quantization and small ball probabilities for Gaussian processes. *J. Theoretical Probability* 16, 1047-1062.
- Graf, S., Luschgy, H. (2005): The point density measure in the quantization of self-similar probabilities. *Math. Proceedings of the Cambridge Phil. Society* 138, 513-531.
- Graf, S., Luschgy, H., Pagès, G. (2007): Optimal quantizers for Radon random vectors in a Banach space. *Journal of Approximation Theory* 144, 27-53.
- Graf, S., Luschgy, H., Pagès, G. (2008): Distortion mismatch in the quantization of probability measures. *ESAIM: Probability and Statistics* 12, 127 - 153.
- Junglen, S., Luschgy, H. (2009): A constructive approach to functional quantization of stochastic processes. Preprint, Univ. Trier.
- Luschgy, H., Pagès, G. (2002): Functional quantization of stochastic processes. *Journal of Functional Analysis* 196, 486-531.
- Luschgy, H., Pagès, G. (2004): Sharp asymptotics of the functional quantization problem for Gaussian processes. *Annals of Probability* 32, 1574-1599.
- Luschgy, H., Pagès, G. (2006): Functional quantization of a class of Brownian diffusions: a constructive approach. *Stochastic Processes and their Applications* 116, 310 - 336.
- Luschgy, H., Pagès, G. (2008): Functional quantization rate and mean regularity of processes with an application to Lévy processes. *Annals of Applied Probability* 18, 427 - 469.
- Luschgy, H., Pagès, G., Wilbertz, B. (2010): Asymptotically optimal quantization schemes for Gaussian processes. *ESAIM: Probability and Statistics* (erscheint).
- Pagès, G., Pham, H., Printems, J. (2004): Optimal quantization methods and applications to numerical problems in finance. *Handbook of Computational and Numerical Methods in Finance* (S.T. Rachev, ed.), 253 - 298. Birkhäuser.
- Pagès, G., Printems, J. (2005): Functional quantization for numerics with an application to option pricing. *Monte Carlo Methods and Appl.* 11, 407 - 446.
- Pagès, G. (2008): Quadratic functional quantization of stochastic processes and numerical applications. In A. Keller et.al (editors), *Monte Carlo -and Quasi-Monte Carlo Methods* 2006, 101 - 142. Springer.
- Wilbertz, B. (2003): Computational aspects of functional quantization for Gaussian measures and applications. Diplomarbeit, Univ. Trier.

Wilbertz, B. (2008): Construction of optimal quantizers for Gaussian measures on Banach spaces. PhD thesis, Univ. Trier.

Website [www.quantize.maths-fi.com](http://www.quantize.maths-fi.com)