

Vortragsthemen für das Masterseminar “Theorie komplexer Systeme”
– Wintersemester 2018/2019 –

1) Langevin-Gleichungen und Itô-Stratonovich-Problem

Langevin equations and Itô-Stratonovich problem

Literatur: [1, 2]

2) Mori-Zwanzig-Projektionsoperatorformalismus

Mori-Zwanzig projection operator formalism

Literatur: [3–7]

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- [1] A. W. C. Lau and T. C. Lubensky, *Physical Review E* **76**, 011123 (2007).
 - [2] W. T. Coffey, Y. P. Kalmykov, and J. T. Waldron, *The Langevin Equation: With Applications to Stochastic Problems in Physics, Chemistry and Electrical Engineering*, 2nd ed., World Scientific Series in Contemporary Chemical Physics, Vol. 14 (World Scientific Publishing, Singapore, 2004).
 - [3] R. Zwanzig, *Nonequilibrium Statistical Mechanics*, 3rd ed. (Oxford University Press, New York, 2001).
 - [4] J.-P. Hansen and I. R. McDonald, *Theory of Simple Liquids: with Applications to Soft Matter*, 4th ed. (Elsevier Academic Press, Oxford, 2009).
 - [5] H. Grabert, *Projection Operator Techniques in Nonequilibrium Statistical Mechanics*, 1st ed., Springer Tracts in Modern Physics, Vol. 95 (Springer-Verlag, Berlin, 1982).
 - [6] H. Grabert, *Journal of Statistical Physics* **19**, 479 (1978).
 - [7] D. Forster, *Hydrodynamic Fluctuations, Broken Symmetry, and Correlation Functions*, 1st ed., Frontiers in Physics, Vol. 47 (Addison Wesley, Redwood City, 1989).