

General References

1. J. Azéma, M. Yor, (eds.) Temps locaux. Astérisque 52–53 (1978)
2. A.N. Borodin, P. Salminen, Handbook of Brownian motion—facts and formulae. *Probability and Its Applications*, (Birkhäuser, Boston, 1996)
3. K.L. Chung, R.J. Williams, Introduction to stochastic integration, *Probability and Its Applications*, 2nd edn. (Birkhäuser, Boston, 1990)
4. N. Ikeda, S. Watanabe, Stochastic differential equations and diffusion processes. *North-Holland Mathematical Library*, vol. 24, 2nd edn. (North-Holland Publishing, Amsterdam, 1989)
5. I. Karatzas, S.E. Shreve, Brownian motion and stochastic calculus. *Graduate Texts in Mathematics*, vol. 113, 2nd edn. (Springer, Berlin, 1991)
6. F.B. Knight, Essentials of Brownian motion and diffusion. *Math. Surv.* 18 (1981)
7. B. Mallein, M. Yor, Temps locaux de semi-martingales continues et excursions browniennes. In preparation (2013)
8. R. Mansuy, M. Yor, Aspects of Brownian motion. *Universitext*. (Springer, Berlin, 2008)
9. P. Mörters, Y. Peres, *Brownian Motion*. (Cambridge University Press, Cambridge, 2010)
10. L.C.G. Rogers, D. Williams, Diffusions, Markov processes, and martingales. *Cambridge Mathematical Library, Itô Calculus*, Vol. 1. Reprint of the second edition (1994) (Cambridge University Press, Cambridge, 2000)
11. L.C.G. Rogers, D. Williams, Diffusions, Markov processes, and martingales. *Cambridge Mathematical Library, Itô Calculus*, Vol. 2. Reprint of the second (1994) edition. (Cambridge University Press, Cambridge, 2000)
12. D. Revuz, M. Yor, Continuous martingales and Brownian motion. *Grundlehren der Mathematischen Wissenschaften [Fundamental Principles of Mathematical Sciences]*, vol. 293, 3rd edn. (Springer, Berlin, 1999)
13. M. Yor, Some aspects of Brownian motion. Part I. Some special functionals. *Lectures in Mathematics ETH Zürich* (Birkhäuser, Basel, 1992)
14. M. Yor, Some aspects of Brownian motion. Part II. Some recent martingale problems. *Lectures in Mathematics ETH Zürich*. (Birkhäuser, Basel, 1997)

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