Takehiko Morita

An alternative proof of the uniqueness of martingale-coboundary decomposition of strictly stationary processes

Comment.Math.Univ.Carolin. 60,3 (2019) 415 –419.

Abstract: P. Samek and D. Volný, in the paper "Uniqueness of a martingale-coboundary decomposition of a stationary processes" (1992), showed the uniqueness of martingale-coboundary decomposition of strictly stationary processes. The original proof is given by reducing the problem to the ergodic case. In this note we give another proof without such reduction.

Keywords: strictly stationary process; martingale-coboundary decomposition
AMS Subject Classification: 28D05, 60G10, 60G42

References

[1] Billingsley P., *Ergodic Theory and Information*, John Wiley & Sons, New York, 1965.
[2] Hall P., Heyde C. C., *Martingale Limit Theory and Its Application*, Probability and Mathematical Statistics, Academic Press, New York, 1980.
[3] Samek P., Volný D., *Uniqueness of a martingale-coboundary decomposition of a stationary processes*, Comment. Math. Univ. Carolin. **33** (1992), no. 1, 113–119.
[4] Volný D., *Approximating martingales and the central limit theorem for strictly stationary processes*, Stochastic Process. Appl. **44** (1993), no. 1, 41–74.
[5] Walters P., *An Introduction to Ergodic Theory*, Graduate Texts in Mathematics, 79, Springer, New York, 1982.