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Cerrection to "Convergence of Baire measures" Studia Mathematica 27(1966), pp. 251-268

by

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In my paper [2], Theorem 4 is false. It was quoted from [5], p. 223 (English), p. 96 (Russian). There exist separable metric spaces S on which every Borel probability measure is tight, but such that there are relatively compact sets of probability measures (for the usual weak topology) which are not uniformly tight. One example was given by R. Davies [1]. D. Preiss [4] showed that there are many such spaces, in particular the space of rational numbers, or any separable metric space which is a Borel subset, but not a G_δ, in its completion.

Theorem 4 was used in [2] only for a weakly convergent sequence, where it is true (LeCam [3], p. 222, Theorem 4). The proof is not difficult.

Another correction: the notation used near the end of p. 267 in [2] disagrees with the usual notations as in [3], [5]; σ should be replaced by τ.

References

[1] Roy O. Davies, *A non-Prohorov space*, Bull. London Math. Soc. 3 (1971), pp. 341–342.

[2] R. M. Dudley, *Convergence of Baire measures*, Studia Math. 27 (1966), pp. 251–268.

[3] Lucien LeCam, *Convergence in Distribution of Stochastic Processes*, Univer. of Calif. Publs. in Statistics 2 no. 11, 1957, pp. 207–236.

[4] D. Preiss, *Metric spaces in which Prohorov's theorem is not valid*, Z. Wahrscheinlichkeitsth. 27 (1973), pp. 109–116.

[5] V. S. Varadarajan, *Measures on topological spaces*, Amer. Math. Soc. Transl. 2 (48), pp. 161–228; Mat. Sbornik 55 (97) (1961), pp. 35–100.