Electron. Commun. Probab. **24** (2019), no. 6, 1–1.
https://doi.org/10.1214/19-ECP210
ISSN: 1083-589X

ELECTRONIC COMMUNICATIONS in PROBABILITY

Erratum: Nonconventional random matrix products* †

Yuri Kifer‡ Sasha Sodin§

Abstract

The proof of Theorem 2.3 in our paper [3] is fully justified only under the additional assumption $q_i(n) = a_i n + b_i$, $i = 1, ..., \ell$.

Keywords: random matrix products; large deviations; avalanche principle; nonconventional limit theorems.
AMS MSC 2010: 60B20; 60F15; 60F10; 82B44.
Submitted to ECP on December 16, 2018, final version accepted on January 7, 2019.

1 Correction in Markov case

In the statement of Theorem 2.3, an additional assumption $q_i(n) = a_i n + b_i$ is required which yields a homogeneous in time ℓ-component Markov chain $\Xi_n = (\xi^{(1)}_{q_1(n)}, \xi^{(2)}_{q_2(n)}, ..., \xi^{(\ell)}_{q_\ell(n)})$, $n \geq 0$ with transition probabilities $P_\Xi(\bar{x}, \Gamma_1 \times \Gamma_2 \times \cdots \times \Gamma_\ell) = \prod_{i=1}^{\ell} P(a_i, x_i, \Gamma_i)$ where $\bar{x} = (x_1, ..., x_\ell)$ and $P(k, x, \cdot)$ is the k-step transition probability of the initial Markov chain ξ_n, $n \geq 0$. Without this assumption, Ξ_n, $n \geq 0$ forms, in general, an inhomogeneous Markov chain (even when $\ell = 1$), and so the limits (Lyapunov exponents) in (2.8) may fail to exists. In addition, the large deviations estimates and other results from [1] and [2] we relied upon are proved there for homogeneous Markov chains only.

References

[1] P. Bougerol, *Comparison des exposants de Lyapunov des processus markoviens multiplicatifs*, Ann. Inst. H. Poincaré (sec. B) 24 (1988), 439–489. MR-0978021

[2] P. Bougerol, *Théorémes limite pour les systémes linéares á coefficients markovien*, Probab. Theor. Rel. Fields 78 (1988), 193–221. MR-0945109

[3] Yu. Kifer and S. Sodin, *Nonconventional random matrix products*, Electron. Commun. Probab. 23 (2018), no.37, 1–12. MR-3820127

*Main article: https://doi.org/10.1214/18-ECP140.

†S.Sodin was supported in part by the European Research Council starting grant SPECTRUM (639305) and by a Royal Society Wolfson Research Merit Award.

‡Institute of Mathematics, Hebrew University of Jerusalem. E-mail: kifer@math.huji.ac.il

§School of Mathematical Sciences, Queen Mary University of London & School of Mathematical Sciences, Tel Aviv University. E-mail: asodin@qmul.ac.uk

Electronic Journal of Probability
Electronic Communications in Probability

Advantages of publishing in EJP-ECP

- Very high standards
- Free for authors, free for readers
- Quick publication (no backlog)
- Secure publication (LOCKSS[1])
- Easy interface (EJMS[2])

Economical model of EJP-ECP

- Non profit, sponsored by IMS[3], BS[4] , ProjectEuclid[5]
- Purely electronic

Help keep the journal free and vigorous

- Donate to the IMS open access fund[6] (click here to donate!)
- Submit your best articles to EJP-ECP
- Choose EJP-ECP over for-profit journals

[1]LOCKSS: Lots of Copies Keep Stuff Safe `http://www.lockss.org/`
[2]EJMS: Electronic Journal Management System `http://www.vtex.lt/en/ejms.html`
[3]IMS: Institute of Mathematical Statistics `http://www.imstat.org/`
[4]BS: Bernoulli Society `http://www.bernoulli-society.org/`
[5]Project Euclid: `https://projecteuclid.org/`
[6]IMS Open Access Fund: `http://www.imstat.org/publications/open.htm`