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ERRATUM

Translated Poisson Approximation for Markov Chains

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The geometrically small part of the error term in Lemma 4.1 was incorrectly treated in (4.7), and, as a result, the definition of the quantity b_i in the lemma needs to be altered to:

$$\begin{aligned} b_i := & \tilde{\varphi}(n) \left\{ \frac{1}{2} \mathbb{E} \{ |Y_i(A_i - A'_i)| (|A_i| + |A'_i|) \} \right. \\ & + \mathbb{E} \{ |Y_i(A_i - A'_i)| (H(T_i^+ - i) + H(i - T_i^-)) \} \\ & \left. + \mathbb{E} \{ |Y_i(A_i - A'_i)| \} \{ \mathbb{E} |A_i| + \mathbb{E} (H(T_i^+ - i) + H(i - T_i^-)) \} \right\} \\ & + \gamma_i, \end{aligned}$$

where, for $1 \leq i \leq n/2$,

$$\gamma_i = 2 \mathbb{E} \{ |Y_i(A_i - A'_i)| (I[T_i^+ - i > n/4] + \mathbb{P}[T_i^+ - i > n/4]) \}, \quad 1 \leq i \leq n/2;$$

$$\gamma_i = 2 \mathbb{E} \{ |Y_i(A_i - A'_i)| (I[i - T_i^- > n/4] + \mathbb{P}[i - T_i^- > n/4]) \}, \quad n/2 < i \leq n.$$

The online version of the original article can be found under doi:[10.1007/s10959-006-0047-9](https://doi.org/10.1007/s10959-006-0047-9).

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The quantity $\tilde{\varphi}(n)$ is smaller than the quantity $\varphi(n)$ appearing in the original statement of the lemma, and hence is still of the desired order $O(n^{-1/2})$ under assumption (3.7). The term γ_i is typically very much smaller.

Changing Lemma 4.1 leads to a minor change in the specification of the bound in Theorem 4.2, again without altering the main contribution. The remainder of the paper is unchanged. A corrected version, giving the proof of the new version of Lemma 4.1, is to be found at

[arXiv:0810.0599v1](https://arxiv.org/abs/0810.0599v1) [math.PR]