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ERRATUM

Quantitative recurrence and large deviations for Teichmüller geodesic flow

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Abstract Concerning a small correction to our paper "Quantitative recurrence and large deviations for Teichmüller geodesic flow".

This erratum redresses a small mistake in the proof of Theorem 2.3 in [1]. On page 139, it was wrongly assumed that the times $t_k(\theta)$ are locally constant in $\theta \in \mathbb{S}^1$ in order to construct "intervals" $I_k(\theta) = \bigcap_{i=1}^{k} (t_i')^{-1}(t_i'(\theta))$, where the t_i''s are an auxiliary set of times (for the precise definition, see [1]). To fix the argument, we replace the $I_k(\theta)$'s (which are not really intervals) with $I_k'(\theta)$, defined as follows. Fix $\epsilon > 0$, let

$$I_k'(\theta) = \bigcap_{i=1}^{k} (t_i')^{-1}(t_i(\theta) - \epsilon/2^i, t_i(\theta) + \epsilon/2^i).$$

The rest of the proof in [1] then goes through with minor modifications.

This argument can also be found in the paper [2], where results from [1] are used to prove results on deviation of ergodic averages for billiards in rational polygons. We would like to thank an anonymous referee of that paper for pointing out this mistake to us.

References

1. Athreya, J.S.: Quantitative recurrence and large deviations for Teichmüller geodesic flow. Geom Dedicata **119**, 121–140 (2006)
2. Athreya, J.S., Forni, G.: Deviation of ergodic averages for rational polygonal billiards. Duke Math. J. (to appear)

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