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Mathematical analysis

Corrigendum to "Super-multiplicativity and a lower bound for the decay of the signature of a path of finite length"☆ [C. R. Acad. Sci. Paris, Ser. I 356 (7) (2018) 720–724]

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ABSTRACT

The purpose of this Corrigendum is to correct an error in our above-mentioned article.

1. Corollary 1 is false. It should be corrected to say that: $I := \{k \in \mathbb{N} : S_k \neq 0\}$ is a submonoid of $\mathbb{N}$ [2].
2. All other results in the paper remain true when the limit is taken over the set I of indices of non-zero terms. The proof of Theorem 3 needs a little modification. Fekete's Lemma is extended to submonoids of $\mathbb{N}$ by observing that any submonoid of $\mathbb{N}$ is finitely generated [2, p. 8].
3. It is a standard property of submonoids of $\mathbb{N}$ that if $i_1, \ldots, i_k$ are the generators of I and i_0 is the highest common factor, then $I \subset i_0\mathbb{N}$, and $i_0\mathbb{N} \setminus I$ is finite. In fact, Boedihardjo and Geng [1] have proved that, for bounded-variation paths, $i_0 = 1$. Hence our original claim in the paper remains true.

Acknowledgements

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References

[1] H. Boedihardjo, X. Geng, A non-vanishing property for the signature of a path, arXiv:1808.05903, 2018.
[2] J.C. Rosales, P.A. García-Sánchez, Numerical Semigroups, vol. 20, Springer Science & Business Media, 2009.

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☆ Supermultiplicativité et une borne inférieure pour la décroissance de la signature d'un chemin de longueur finie
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