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Erratum: Vertices of the least concave majorant of Brownian motion with parabolic drift

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Abstract

This corrects the scaling of (2.9) in [1].

Keywords: Brownian motion, parabolic drift; number of vertices; concave majorant; Airy functions; jump processes; Grenander estimate.
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It has been brought to my attention by Svante Janson ([2]) that formula (2.9) of part (iii) of Lemma 2.1 in [1] is scaled incorrectly. The correct formulation is:

(iii) The random variable $V(0)$ has characteristic function

$$Ee^{itV(0)} = \frac{1}{2\pi}\int_{u=-\infty}^{\infty} \frac{du}{\mathrm{Ai}\,(iu)\,\mathrm{Ai}\left(i(2^{-1/3}t+u)\right)},\ t \in \mathbb{R}.$$

Part (iv), which is deduced from (iii), is still correct, as is the derivation of (iv) on the same page, since the factor $2^{-2/3}$ arises from differentiating the characteristic function of $V(0)$ in (iii) twice with respect to t at $t = 0$.

References

[1] Piet Groeneboom, *Vertices of the least concave majorant of Brownian motion with parabolic drift*, Electron. J. Probab. **16** (2011), no. 84, 2234–2258. MR-2861676

[2] Svante Janson, *Moments of the location of the maximum of brownian motion with parabolic drift*, Electron. Commun. Probab. **18** (2013), no. 15, 1–8.

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