

Erratum to “A note on linear processes with tapered innovations” by Vygantas Paulauskas, 60(1):64–79, January, 2020

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Investigating the same problems for linear random fields with tapered innovations, I realized that the Hurst index of the limit FBM process and conditions on tapering parameter γ in Theorem 1 were incorrectly calculated. The error occurred since the variance was calculated at point $t = 1$ instead of arbitrary $t > 0$. The correct formulation of Theorem 1 is as follows. All notations and numbers of formulae are used from the original paper.

Theorem 1. *Let the sum (1.9) be formed by a linear process with filter (1.14) and tapered innovations with parameter $0 < \alpha < 2$ and tapering parameter $b_n = n^\gamma$, $\gamma > 0$. Suppose that one of the following conditions holds:*

- (i) $1/2 < \beta < 1$ and $\gamma < 1/\alpha$;
- (ii) $\beta > 1$, $\sum_{i=0}^{\infty} a_i \neq 0$, and $\gamma < 1/\alpha$;
- (iii) $1 < \beta < 3/2$, $\sum_{i=0}^{\infty} a_i = 0$, and $\gamma < (3 - 2\beta)/\alpha$.

Then $A_n = Cn^H$, and, as $n \rightarrow \infty$,

$$\{Z_n(t)\} \xrightarrow{\text{f.d.d.}} \{B_H(t)\},$$

where B_H is an FBM with parameter $H = 3/2 - \beta$ in cases (i) and (iii), and $H = 1/2$ in case (ii).

This correction is quite important, since now corrected Theorem 1, together with Theorem 2, from the original paper allows us to assert that in cases (i) and (ii), we have a complete answer about the limit behavior of $\{Z_n(t)\}$ in both cases of soft and hard tapering, and only at the border between soft and hard tapering, that is, for $\gamma = 1/\alpha$, we have no answer.