



# Corrigendum: Frequency-Specific Fractal Analysis of Postural Control Accounts for Control Strategies

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## A Corrigendum on

### Frequency-Specific Fractal Analysis of Postural Control Accounts for Control Strategies

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In the original article, there was an error. In the Discussion, we analyze how the scaling exponents computed on the differentiated signal and the original signal can be used to describe the frequency content of the signal in a global model. When differentiating the signal, we supposed that the value of  $\beta$  increased by 2, however, as  $\beta$  is the opposite of the slope in the power spectral density, the value of  $\beta$  decreased by 2 when the signal is differentiated. Thus, the equations  $\beta_1 = 2 \times \alpha_1 + 1$  and  $\beta_1 = (2 \times \alpha_1 - 1) + 2$  are incorrect and should be replaced by:  $\beta_1 = 2 \times \alpha_1 - 3$  and  $\beta_1 = (2 \times \alpha_1 - 1) - 2$ .

A correction has been made to Discussion, Interpretations and confrontation with other theories, paragraph two:

Indeed, Figure 7 shows that the whole frequency content of the CoP velocity signal could then be described by four parameters:

- $P_{f_0}$  (or AAMV)
- $\beta_1$ , the opposite of the slope of the low-frequency antipersistent range, with

$$\beta_1 = 2 \times \alpha_1 - 3$$

- $\alpha_1$  being here the frequency-specific fractal exponent associated with visuo-vestibular loops (low-frequencies) in CoP position. This result is obtained by the fact that  $\beta_1$  is computed from the CoP velocity while  $\alpha_1$  is computed from CoP position, its integral, so more precisely:  $\beta_1 = (2 \times \alpha_1 - 1) - 2$ .
- $\beta_2$ , the opposite of the slope of the high-frequency persistent range, with

$$\beta_2 = 2 \times \alpha_2 - 1$$

- $\alpha_2$  being here the frequency-specific fractal exponent associated with proprioceptive loops (high-frequencies) in CoP velocity.
- $f_0$ , the crossover frequency, which might be variable from one individual to another but is likely between 0.5 and 2 Hz according to the literature.

## OPEN ACCESS

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The authors apologize for this error and state that this does not change the scientific conclusions of the article in any way. The original article has been updated.

**Conflict of Interest Statement:** The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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