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OPEN Publisher Correction: Mechanisms for log normal concentration distributions in the environment

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Correction to: Scientific Reports https://doi.org/10.1038/s41598-021-96010-6, published online 12 August 2021

The original version of this Article contained an error in the Theory section where Greek symbols did not display correctly.

As a result,

"We may re-write Eq. (1) in the form of a stochastic differential equation (SDE):

$$\frac{d[X]}{dt} = -(\mu_k + \sigma_k \eta(t))[X] \tag{2}$$

where μ_k is the mean reaction rate and μ_k is the magnitude of the stochastic fluctuation. The function $\mu(t)$ describes the time-dependency of the random fluctuations (with amplitude 1), which we here assume is independent and identically (i.i.d.) normal distributed.

Since $\mu(t)$ fluctuates randomly at each time point, the solutions to Eq. (2) will also fluctuate randomly, and we obtain a different solution (or path) when solving it at different instances."

now reads:

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⁽²⁾

where μ_k is the mean reaction rate and σ_k is the magnitude of the stochastic fluctuation. The function $\eta(t)$ describes the time-dependency of the random fluctuations (with amplitude 1), which we here assume is independent and identically (i.i.d.) normal distributed.

Since $\eta(t)$ fluctuates randomly at each time point, the solutions to Eq. (2) will also fluctuate randomly, and we obtain a different solution (or path) when solving it at different instances."

"It is instructive to examine the temporal evolution of the mean (m), which for a log-normal distribution is given by (here, $k = \mu_k$, since the mean of $\mu(t)$ is zero)".

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The original Article has been corrected.

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