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Correction to Adaptive AI-based surrogate modelling via transfer learning for DEM simulation of multi-component segregation (Scientific Reports, (2024), 14, 1, (27003), 10.1038/s41598-024-78455-7)

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Publisher Correction: Adaptive AI-based surrogate modelling via transfer learning for DEM simulation of multi-component segregation

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Correction to: *Scientific Reports* https://doi.org/10.1038/s41598-024-78455-7, published online 06 November 2024

The original version of this Article contained typographical errors in Equations. In Equation 8, where

$$f\left(x\right) = \sum_{i=1}^{n} \left(\alpha_i - \alpha_i^*\right) exp\left(-\gamma ? x_i - x'?^2\right) + b \tag{8}$$

now reads:

$$f\left(x\right) = \sum_{i=1}^{n} \left(\alpha_i - \alpha_i^*\right) exp\left(-\gamma \|x_i - x'\|^2\right) + b \tag{8}$$

In Equation 17, where

$$\begin{bmatrix} f(x_1) \\ ? \\ f(x_n) \end{bmatrix} \sim \mathcal{N}\left(\begin{bmatrix} \mu(x_1) \\ ? \\ \mu(x_n) \end{bmatrix}, \begin{bmatrix} k\left(x_1, x_1\right) & \cdots & k\left(x_1, x_n\right) \\ ? & \ddots & ? \\ k\left(x_n, x_1\right) & \cdots & k\left(x_n, x_n\right) \end{bmatrix}\right) \tag{17}$$

now reads:

$$\begin{bmatrix} f(x_1) \\ \vdots \\ f(x_n) \end{bmatrix} \sim \mathcal{N}\left(\begin{bmatrix} \mu(x_1) \\ \vdots \\ \mu(x_n) \end{bmatrix}, \begin{bmatrix} k\left(x_1, x_1\right) & \cdots & k\left(x_1, x_n\right) \\ \vdots & \ddots & \vdots \\ k\left(x_n, x_1\right) & \cdots & k\left(x_n, x_n\right) \end{bmatrix}\right) \tag{17}$$

In Equation 18, where

$$\boldsymbol{\mu} \triangleq \begin{bmatrix} \mu(x_1) \\ ? \\ \mu(x_n) \end{bmatrix}; \mathcal{K} \triangleq \begin{bmatrix} k\left(x_1, x_1\right) & \cdots & k\left(x_1, x_n\right) \\ ? & \ddots & ? \\ k\left(x_n, x_1\right) & \cdots & k\left(x_n, x_n\right) \end{bmatrix}; \|(x) \triangleq \begin{bmatrix} k\left(x_1, x\right) \\ ? \\ k\left(x_n, x\right) \end{bmatrix} \tag{18}$$

now reads:

$$\boldsymbol{\mu} \triangleq \begin{bmatrix} \mu(x_1) \\ \vdots \\ \mu(x_n) \end{bmatrix} ; \mathcal{K} \triangleq \begin{bmatrix} k(x_1, x_1) & \cdots & k(x_1, x_n) \\ \vdots & \ddots & \vdots \\ k(x_n, x_1) & \cdots & k(x_n, x_n) \end{bmatrix} ; \mathscr{A}(x) \triangleq \begin{bmatrix} k(x_1, x) \\ \vdots \\ k(x_n, x) \end{bmatrix} \tag{18}$$

In Equation 24, where

$$\begin{bmatrix} \alpha_1 \\ ? \\ \alpha_n \end{bmatrix} \triangleq \left(\mathcal{K} + \sigma^2 \mathbf{I}_n \right)^{-1} (\mathcal{Y} - \boldsymbol{\mu}) \tag{24}$$

now reads:

$$\begin{bmatrix} \alpha_1 \\ \vdots \\ \alpha_n \end{bmatrix} \triangleq \left(\mathcal{K} + \sigma^2 \mathbf{I}_n \right)^{-1} (\mathcal{Y} - \boldsymbol{\mu}) \tag{24}$$

The original Article has been corrected.