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Correction: Neural network based active control of base isolated structure considering isolator nonlinearity

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KEYWORDS

hybrid control, artificial intelligence, active tuned mass damper, base isolator, artificial neural network, linear quadratic regulator, signal time delay, white noise

A Correction on
Neural network based active control of base isolated structure considering isolator nonlinearity

by Ghanemi NE, Abdeddaim M, Ounis A and Basili M (2025). Front. Built Environ. 11:1630131. doi: 10.3389/fbuil.2025.1630131

Equation (10) in Section 2 - Mathematical model, was erroneously given as:

$$d = \left\{ \begin{bmatrix} 0 \\ 0 \\ \vdots \\ 0 \\ 0 \\ 1 \end{bmatrix} \right\}, H = \left\{ \begin{bmatrix} 1 \\ 0 \\ \vdots \\ 0 \\ 0 \\ -1 \end{bmatrix} \right\}$$

The correct equation is:

$$d = \left\{ \begin{bmatrix} 0 \\ 0 \\ \vdots \\ 0 \\ 0 \\ 1 \end{bmatrix} \right\}, H = \left\{ \begin{bmatrix} 1 \\ 0 \\ \vdots \\ 0 \\ 0 \\ 0 \end{bmatrix} \right\}$$

Equation (13) in Section 2 - Mathematical model, was erroneously given as:

$$B = \begin{bmatrix} -M^{-1}d & -E \\ 0 & 0 \end{bmatrix}$$

The correct equation is:

$$B = \begin{bmatrix} -M^{-1}H & M^{-1}d & -r \\ 0 & 0 & 0 \end{bmatrix}$$

The published article stated:

$[u(t) = \left[f_u(t)\, \ddot{x}_g(t) \right]^T$ is the input vector collecting the ATMD force and the seismic acceleration.]

A correction has been made to the section Section 2 - Mathematical model:

"$[u(t) = \left[f_{NL}(t)\, f_u(t)\, \ddot{x}_g(t) \right]^T$ is the input vector collecting the nonlinear component of the restoring force, the force ATMD force and the seismic acceleration.]"

The original article has been updated.

Publisher's note