

Corrigendum

Corrigendum to “Micro–macro analysis of shape memory alloy composites” [International Journal of Solids and Structures 42 (2005) 3677–3699]

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On page 3680, in line 31, “It is convenient to split the stress and the strain and the stress in the SMA as” should read “It is convenient to split the strain and the stress in the SMA as”.

On page 3681, replace formula (13) with the following formula:

$$\alpha = [\beta \langle T - M_f \rangle + h \|\mathbf{d}^t\| + \gamma] \frac{\partial \|\mathbf{d}^t\|}{\partial \mathbf{d}^t}. \quad (13)$$

On page 3687, replace formula (53) with the following formula:

$$\begin{aligned} \bar{\sigma}^\Omega &= \mathbf{E}^\Omega \bar{\eta}^\Omega = \mathbf{E}^\Omega [\bar{\mathbf{R}}^\Omega \bar{\mathbf{e}} + (\mathbf{I} - \bar{\mathbf{P}}^\Omega) \tau - (\mathbf{I} - \bar{\mathbf{P}}^\Omega) \pi] \\ &= \mathbf{E}^\Omega [\bar{\mathbf{R}}^\Omega (\bar{\mathbf{e}} - \bar{\mathbf{P}} \pi - (\mathbf{I} - \bar{\mathbf{P}}) \tau) + (\mathbf{I} - \bar{\mathbf{P}}^\Omega) \tau - (\mathbf{I} - \bar{\mathbf{P}}^\Omega) \pi] \\ &= \mathbf{E}^\Omega [\bar{\mathbf{R}}^\Omega \bar{\mathbf{e}} + (\mathbf{I} - \bar{\mathbf{P}}^\Omega - \bar{\mathbf{R}}^\Omega (\mathbf{I} - \bar{\mathbf{P}})) \tau - (\mathbf{I} - \bar{\mathbf{P}}^\Omega + \bar{\mathbf{R}}^\Omega \bar{\mathbf{P}}) (\alpha^\Omega (T - T^0) \mathbf{I} + \mathbf{d}^t)] \end{aligned} \quad (53)$$

On page 3687, replace formulas (54)₁ and (54)₂ with the following formulas:

$$\begin{aligned} \bar{\sigma}^\Omega &= \mathbf{E}^\Omega [\bar{\mathbf{R}}^\Omega \bar{\mathbf{e}} + (\mathbf{I} - \bar{\mathbf{P}}^\Omega - \bar{\mathbf{R}}^\Omega (\mathbf{I} - \bar{\mathbf{P}})) \tau - (\mathbf{I} - \bar{\mathbf{P}}^\Omega + \bar{\mathbf{R}}^\Omega \bar{\mathbf{P}}) (\alpha^\Omega (T - T^0) \mathbf{I} + \mathbf{d}^t)] \\ p &= \frac{1}{3} \bar{\sigma}^\Omega \cdot \mathbf{I} = k[\vartheta - 3\alpha^\Omega (T - T_0)] \end{aligned}$$

On page 3688, replace formulas (56)₂ and (56)₃ with the following formulas:

$$\begin{aligned} \bar{\sigma}^{\Omega,TR} &= \mathbf{E}^\Omega [\bar{\mathbf{R}}^\Omega \bar{\mathbf{e}} + (\mathbf{I} - \bar{\mathbf{P}}^\Omega - \bar{\mathbf{R}}^\Omega (\mathbf{I} - \bar{\mathbf{P}})) \tau - (\mathbf{I} - \bar{\mathbf{P}}^\Omega + \bar{\mathbf{R}}^\Omega \bar{\mathbf{P}}) (\alpha^\Omega (T - T^0) \mathbf{I} + \mathbf{d}^t)] \\ \mathbf{s}^{TR} &= \bar{\sigma}^{\Omega,TR} - \left(\frac{1}{3} \bar{\sigma}^{\Omega,TR} \cdot \mathbf{I} \right) \mathbf{I} = 2G(\mathbf{d} - \mathbf{d}^{t,TR}) \end{aligned}$$

On page 3688, in formula (60), “K” should read “k”.

On page 3690, in line 15, “the differences reported in brackets for $f^\Omega = 0.05$ are one order of magnitude lower than the ones evaluated for $f^\Omega = 0.1$ ” should read “the differences reported in brackets for $f^\Omega = 0.05$ are significantly lower than the ones evaluated for $f^\Omega = 0.1$ ”.

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On page 3691, in lines 21 and 22, “this nonlinear finite element analyses is performed considering the phase transformations governed by the local normal stress tensor σ in the SMA wires” should read “this nonlinear finite element analysis is performed considering the phase transformations governed by the local stress tensor σ in the SMA wires”.

On page 3692, in line 7, “Then, the transversal mechanical response of the SMA composite, i.e. in a direction orthogonal respect to the fiber axis, is studied . . .” should read “Then, the shear mechanical response of the SMA composite is studied . . .”.

On page 3692, in line 21, “As final comment, it can be noted that also the transversal mechanical response of the composite . . .” should read “As a final comment, it can be noted that also the shear mechanical response of the composite . . .”.

On page 3693, in the legend to Fig. 4, “Transversal” should read “Shear”.

On page 3694, in line 3, “In particular, the transversal mechanical response of the composite is studied” should read “In particular, the shear mechanical response of the composite is studied”.

On page 3694, in line 5, “In Fig. 5 the transversal mechanical responses of the SMA composite . . .” should read “In Fig. 5 the shear mechanical responses of the SMA composite . . .”.

On page 3694, in the legend to Fig. 5, “Transversal” should read “Shear”.

On page 3697, in line 19, “Some differences comes out in the determination of the composite overall behavior in a direction orthogonal to the fiber axis . . .” should read “Some differences come out in the determination of the composite overall shear behavior . . .”.