

Coordinate-free Characterization of the Symmetry Classes of Elasticity Tensors

Andrej Bóna · Ioan Bucataru · Michael A. Slawinski

Published online: 10 July 2007
© Springer Science + Business Media B.V. 2007

1 Journal of Elasticity Volume 87(2-3) 109-132, doi: [10.1007/s10659-007-9099-z](https://doi.org/10.1007/s10659-007-9099-z)

1. Equation (5): there should be a factor of 2 in front of c_{45} .

The correct text should be as follows:

$$C(e) = \begin{bmatrix} c_{11} & c_{12} & c_{13} & \sqrt{2}c_{14} & \sqrt{2}c_{15} & \sqrt{2}c_{16} \\ c_{12} & c_{22} & c_{23} & \sqrt{2}c_{24} & \sqrt{2}c_{25} & \sqrt{2}c_{26} \\ c_{13} & c_{23} & c_{33} & \sqrt{2}c_{34} & \sqrt{2}c_{35} & \sqrt{2}c_{36} \\ \sqrt{2}c_{14} & \sqrt{2}c_{24} & \sqrt{2}c_{34} & 2c_{44} & 2c_{45} & 2c_{46} \\ \sqrt{2}c_{15} & \sqrt{2}c_{25} & \sqrt{2}c_{35} & 2c_{45} & 2c_{55} & 2c_{56} \\ \sqrt{2}c_{16} & \sqrt{2}c_{26} & \sqrt{2}c_{36} & 2c_{46} & 2c_{56} & 2c_{66} \end{bmatrix} \quad (5)$$

2. Within the paragraph before equation (34) “rotation by angle $\theta - \eta$ ” should be as follows:

“rotation by angle $(\theta - \eta)/3$ ”

The online version of the original article can be found at <http://dx.doi.org/10.1007/s10659-007-9099-z>.

A. Bóna · M. A. Slawinski
Department of Earth Sciences, Memorial University, St. John's NL A1B 3X5, Canada

A. Bóna
e-mail: abona@mun.ca

M. A. Slawinski
e-mail: mslawins@mun.ca

I. Bucataru (✉)
Faculty of Mathematics, “Al. I. Cuza” University, Iasi 700506, Romania
e-mail: bucataru@uaic.ro

3. Equation (34): there should be a factor of 3 in the denominator of the argument of the trigonometric functions $(2\theta + \eta)$.

The correct text should be as follows:

$$\sigma = \|b\| \begin{bmatrix} \gamma_2 \cos((2\theta + \eta)/3) & \gamma_2 \sin((2\theta + \eta)/3) & \sin((2\theta + \eta)/3) \\ \gamma_2 \sin((2\theta + \eta)/3) & -\gamma_2 \cos((2\theta + \eta)/3) & \cos((2\theta + \eta)/3) \\ \sin((2\theta + \eta)/3) & \cos((2\theta + \eta)/3) & 0 \end{bmatrix}. \quad (34)$$

4. Equation (35): the denominator of the expression for c_{44} should be multiplied by 2.

The correct text should be as follows:

$$\begin{aligned} c_{11} &= \frac{(\gamma_1 + \gamma_3)\gamma_2^2\gamma_1^2 + (\gamma_1 + \gamma_4)\gamma_1^2 + 2(\gamma_2 + \gamma_3)\gamma_2^2 + 2(\gamma_2 + \gamma_4)}{2(2 + \gamma_1^2)(1 + \gamma_2^2)}, \\ c_{12} &= \frac{(\gamma_1 - \gamma_3)\gamma_2^2\gamma_1^2 + (\gamma_1 - \gamma_4)\gamma_1^2 + 2(\gamma_2 - \gamma_3)\gamma_2^2 + 2(\gamma_2 - \gamma_4)}{2(2 + \gamma_1^2)(1 + \gamma_2^2)}, \\ c_{13} &= \frac{(\gamma_2 - \gamma_1)\gamma_1}{2 + \gamma_1^2}, c_{33} = \frac{2\gamma_1 + \gamma_2\gamma_1^2}{2 + \gamma_1^2}, \\ c_{14} &= \frac{(\gamma_3 - \gamma_4)\gamma_2}{2(1 + \gamma_2^2)}, c_{44} = \frac{\gamma_3 + \gamma_4\gamma_2^2}{2(1 + \gamma_2^2)}, \end{aligned} \quad (35)$$