

Erratum to: The shielding effect of the crack-tip plastic zone

P. Zhu · L. Yang · Z. Li · J. Sun

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The authors regret that the paper contains some mistakes:

In Eq. (7), $C_{1212} = C_{1313} = C_{2323} = \frac{E}{2(1+\nu)}$ should read $C_{1212} = C_{1313} = C_{2323} = \frac{E}{1+\nu}$; in Eq. (9), $D_{1212} = \frac{8(\nu^2-1)}{E}$, $D_{1313} = D_{2323} = -\frac{4(1+\nu)}{E}$ should read $D_{1212} = \frac{4(\nu^2-1)}{E}$, $D_{1313} = D_{2323} = -\frac{2(1+\nu)}{E}$; and in Eq. (11) $e_{12}^T = -\frac{8(1-\nu^2)}{E}(\sigma_{12} - \sigma_{12}^A)$ should read $e_{12}^T = -\frac{4(1-\nu^2)}{E}(\sigma_{12} - \sigma_{12}^A)$.

Consequently, the correct Eq. (15) is

$$\Delta K_{I,plane strain}^{tip} = \frac{1}{2\sqrt{2\pi}} \int_A r^{-3/2} \left\{ \frac{K_I}{\sqrt{2\pi r}} \left(2 \cos \frac{\theta}{2} \cos \frac{3\theta}{2} \right. \right.$$

$$\left. \left. + 3 \sin^2 \theta \cos \theta \right) + 3(\sigma_{11} - \sigma_{22}) \sin \theta \sin \frac{5\theta}{2} - 6\sigma_{12} \sin \theta \cos \frac{5\theta}{2} - (\sigma_{11} + \sigma_{22}) \cos \frac{3\theta}{2} \right\} dA, \quad (15)$$

which should be regarded by the reader as the final version. Fortunately, this mistake has negligible effect on the numerical results shown in Figs. 2, 3 and 4, so that Eqs. (19) and (20) are applicable.

In addition, the non-zero components of the Eshelby tensor given in Eq. (8) for the plane stress condition are not exactly valid, so that the demonstration related to plane stress condition in the original article is not rigorous.

We wish to apologize for any inconvenience caused due to the mistakes mentioned above.

The online version of the original article can be found under doi:[10.1007/s10704-009-9435-3](https://doi.org/10.1007/s10704-009-9435-3).

P. Zhu · L. Yang · Z. Li (✉)
Department of Engineering Mechanics, Shanghai Jiaotong University, 200240 Shanghai, People's Republic of China
e-mail: lizhdv28@yahoo.com.cn

J. Sun
State Key Laboratory for Mechanical Behavior of Materials, Xi'an Jiaotong University, 710049 Xi'an, People's Republic of China