

Corrigendum: Thermal invisibility based on scattering cancellation and mantle cloaking

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This Article contains errors.

In the Results section under subheading ‘Scattering cancellation technique for heat diffusion waves: static regime’

“For $r \rightarrow \infty, T(r > a_2) = -(Q/\kappa_0)r \cos \theta$, therefore $E_1 = -Q/\kappa_0$ and all the other coefficients $E_{l \neq 1}$ are zero.”

should read:

“For $r \rightarrow \infty, T(r > a_2) = -(\tilde{Q}/\kappa_0)r \cos \theta$ with $\tilde{Q} = -\kappa_0(T_2 - T_1)/L$ the heat generated by unit surface and unit time, in contrast to Q , of Eqs (1)–(2) that represents the heat generated by unit volume and unit time. Therefore $E_1 = -\tilde{Q}/\kappa_0$ and all the other coefficients $E_{l \neq 1}$ are zero.”

In Equation (6),

$$\begin{pmatrix} 1 & 1 & 1/a_1^3 & 0 \\ \kappa_1 & \kappa_2 & -2\kappa_2/a_1^3 & 0 \\ 0 & 1 & 1/a_2^3 & 1/a_2^3 \\ 0 & \kappa_2 & -2\kappa_2/a_2^3 & 2\kappa_0/a_2^3 \end{pmatrix} \begin{pmatrix} A_1 \\ B_1 \\ C_1 \\ D_1 \end{pmatrix} = \begin{pmatrix} 0 \\ 0 \\ \tilde{Q}/\kappa_0 \\ \tilde{Q} \end{pmatrix}$$

should read:

$$\begin{pmatrix} -1 & 1 & 1/a_1^3 & 0 \\ -\kappa_1 & \kappa_2 & -2\kappa_2/a_1^3 & 0 \\ 0 & 1 & 1/a_2^3 & -1/a_2^3 \\ 0 & \kappa_2 & -2\kappa_2/a_2^3 & 2\kappa_0/a_2^3 \end{pmatrix} \begin{pmatrix} A_1 \\ B_1 \\ C_1 \\ D_1 \end{pmatrix} = \begin{pmatrix} 0 \\ 0 \\ -\tilde{Q}/\kappa_0 \\ -\tilde{Q} \end{pmatrix}$$

And lastly, in Equation (7)

$$D_1 = \frac{Q (\kappa_0 - \kappa_2)(\kappa_1 + 2\kappa_2 - \gamma^3(\kappa_1 - \kappa_2)(\kappa_0 + 2\kappa_2))}{2\kappa_0 \gamma^3(\kappa_0 - \kappa_2)(\kappa_1 - \kappa_2) - (2\kappa_0 + \kappa_2)(\kappa_1 + 2\kappa_2)} = 0$$

should read:

$$D_1 = \frac{\tilde{Q} (\kappa_0 - \kappa_2)(\kappa_1 + 2\kappa_2 - \gamma^3(\kappa_1 - \kappa_2)(\kappa_0 + 2\kappa_2))}{2\kappa_0 \gamma^3(\kappa_0 - \kappa_2)(\kappa_1 - \kappa_2) - (2\kappa_0 + \kappa_2)(\kappa_1 + 2\kappa_2)} = 0$$



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