# Geometrical approach to scattering in one dimension



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# Corrigendum

**Geometrical approach to scattering in one dimension**
D W L Sprung, G V Morozov and J Martorell 2004 *J. Phys. A: Math. Gen.* **37** 1861–1880

Equation (4) as printed is correct for the case of a reflection symmetric cell. For a general cell it should say only

$$\omega = \frac{r/t + z/t^*}{1/t + zr^*/t^*} \, . \tag{4}$$

The third line below should end saying "... with $-rt^*/t$ becoming the origin, ...".

The authors regret that equations (7) and (12) were printed incorrectly. They should read

$$\begin{aligned} MU &= U\ e^{-i\phi\sigma_z}\,, \qquad \text{where} \\ U &= \begin{pmatrix} e^{-i\chi/2}\cosh\mu/2 & e^{-i\chi/2}\sinh\mu/2 \\ e^{i\chi/2}\sinh\mu/2 & e^{i\chi/2}\cosh\mu/2 \end{pmatrix} \end{aligned} \tag{7}$$

$$\cos\phi = \frac{\sin(kd+\beta)}{\sin\beta}\,;$$

$$r = -\frac{1}{1-i/\alpha}e^{ikd} = -\frac{1+i\tan\beta}{1+\tan^2\beta}e^{ikd} = -\frac{\alpha}{\sqrt{1+\alpha^2}}\ e^{i(kd+\beta)} = -\cos\beta\ e^{i(kd+\beta)}\,. \tag{12}$$