

## Wigner functions for time-dependent coupled linear oscillators via linear and quadratic invariant processes

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## Corrigendum

### Wigner functions for time-dependent coupled linear oscillators via linear and quadratic invariant processes

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The authors have discovered errors in equations (4.9), (5.1), (5.4) and (5.7). The correct versions are given below.

Equation (4.9) should be replaced with

$$W_n(\mathbf{q}, \mathbf{p}, t) = \frac{(-)^{n_1+n_2}}{\pi^2} \exp\left[-\frac{1}{\hbar} (|z_1(t)|^2 + |z_2(t)|^2)\right] L_{n_1}\left(\frac{2}{\hbar}|z_1(t)|^2\right) L_{n_2}\left(\frac{2}{\hbar}|z_2(t)|^2\right) \quad (4.9)$$

Equation (5.1) should be replaced with

$$\mathcal{R}_{\theta_+, \theta_-}(\mathbf{q}, \mathbf{p}, t) = \int_0^\infty \int_0^\infty W_\alpha(\mathbf{q}, \mathbf{p}, t) |\alpha_1| |\alpha_2| (d|\alpha_1|)(d|\alpha_2|) \quad (5.1)$$

Equation (5.4) should be replaced with

$$\operatorname{erf} \beta_\pm = \sum_{k=0}^{\infty} (-)^k \frac{(\beta_\pm)^{2k+1}}{k!(2k+1)}, \quad \beta_\pm = -\frac{2}{\sqrt{\hbar}} (e^{i\theta_\pm} z_\pm^* + e^{-i\theta_\pm} z_\pm) \quad (5.4)$$

Equation (5.7) should be replaced with

$$\mathcal{R}_{\operatorname{Re}(\alpha)}(\mathbf{q}, \mathbf{p}, t) = \frac{1}{2\pi} \exp\left[-2\left(\left[u_1 - \frac{1}{4}F_+(\mathbf{q}, \mathbf{p}, t)\right]^2 + \left[u_2 - \frac{1}{4}F_-(\mathbf{q}, \mathbf{p}, t)\right]^2\right)\right] \quad (5.7)$$

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