Multisite spin hopping analysis of multilevel dissipative quantum tunneling and coherence at finite temperatures
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Erratum

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The theory presented in this article [1] has recently been generalized to describe dissipative rotational tunneling systems [2]. During this work the authors of Ref. [2] have noticed a number of annoying misprints in Section 3.4 (Vibrational relaxation: fluctuations) of Ref. [1]. I am indebted, in particular, to Daniel Braun for bringing these errors to my attention. The corrected formulae are listed below:

\[ \rho_{\pm n, \pm m}^{(2,1)} = - \frac{i}{2\hbar} \langle \pm n | \{ \xi, [F(t), \rho]_+ \} | \pm m \rangle, \]

\[ \rho_{\pm n, \pm m}^{(2,2)} = 0, \]

\[ \rho_{\pm n, \pm m}^{(2,1)} = - \frac{i}{2\hbar} \langle \pm n | \{ \xi, [F(t), \rho]_+ \} | \mp m \rangle. \]

The above formulae now correctly account for the symmetrization implied in the noise term in the quantum Liouville equation (2.19) of Ref. [1]. As a consequence, one further has

\[ \frac{1}{2} i\hbar \langle [\xi, [F(t), \rho]_+] \rangle = D_{\rho\tau}(t) [\xi, [\xi, [\rho]]] - 2D_{\rho\tau}(t) [\rho, [\xi, [\rho]]]. \]

Finally:

\[ \dot{\rho}_{+n,+n} = - \frac{i}{2} i\Delta_n (\rho_{+n,-n} - \rho_{-n,+n}) + \sum_m W_{nm} \rho_{m,+m}. \]

Apart from the fact that Eq. (3.27) is repeated in Part III [3] (as Eq. (2.3)) and in Part IV [4] (as Eq. (2.6)), the above corrections have no further consequences for the subsequent formulae in this series of four articles.

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References