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

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

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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:

\[ \rho_{zn,zn}^{(2,1)} = -\frac{i}{2\hbar} \langle \pm n \mid [\xi, [F(t), \rho]] \pm m \rangle, \]  \hspace{1cm} (3.19)

\[ \rho_{zn,zn}^{(2,2)} = 0, \]  \hspace{1cm} (3.20)

\[ \rho_{zn,zn}^{(2,1)} = -\frac{i}{2\hbar} \langle \pm n \mid [\xi, [F(t), \rho]] \pm m \rangle. \]  \hspace{1cm} (3.21)

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

\[ \frac{1}{2}i\hbar \langle [\xi, [F(t), \rho]] \rangle = D_{\rho \rho}(t) [\xi, [\xi, \rho]] - 2D_{\rho \rho}(t) [p, [\xi, \rho]]. \]  \hspace{1cm} (3.24)

Finally:

\[ \dot{\rho}_{nn,nn} - \frac{i}{2} \Delta_n (\rho_{nn,nn} - \rho_{nn,nn}) + \sum_m W_{nm} \rho_{mm,mm}. \]  \hspace{1cm} (3.27)

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.
References