Erratum

Selfconsistent Diabatic Approach to Dissipative Collective Nuclear Motion

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Received September 10, 1987

Z. Phys. A - Atomic Nuclei 326, 69-77 (1987)

In the Eqs. (4.5) to (4.7) the necessary references to the statistical equilibrium with energy $\langle H \rangle_{\rm equ}^0$ (excluding the collective kinetic energy) and occupation probabilities $n_{\alpha}^{\rm equ}({\bf q},t)$ for fixed collective variables is missing. In order to obtain the correct form of (4.5) and (4.6) one has to replace the term $\sum \varepsilon_{\alpha}^{(s)} \rho_{\alpha\alpha}$ by

$$\langle H \rangle_{\rm equ}^{0} + \sum_{\alpha} \varepsilon_{\alpha}^{(s)}(\mathbf{q}) \big\{ \rho_{\alpha\alpha}(t) - n_{\alpha}^{\rm equ}(\mathbf{q},t) \big\}$$

where terms quadratic in $\rho_{\alpha\alpha} - n_{\alpha}^{\text{equ}}$ are neglected. Thus the variation with respect to q_n (at constant entropy S) yields instead of (4.7)

$$\begin{split} &\frac{\mathrm{d}}{\mathrm{d}\,t} \sum_{m} B_{nm}\,\dot{q}_{m} - \frac{1}{2} \sum_{mm'} \frac{\partial\,B_{mm'}}{\partial\,q_{n}}\,\dot{q}_{m}\,\dot{q}_{m'} \\ &= F_{n}^{\mathrm{equ}} - \sum_{\alpha} \frac{\partial\,\varepsilon_{\alpha}^{(\mathrm{s})}}{\partial\,q_{n}} \left\{ n_{\alpha}(t) - n_{\alpha}^{\mathrm{equ}}(\mathbf{q},t) \right\} \end{split}$$

where the equilibrium force

$$F_{n}^{\rm equ} = -\left(\frac{\partial}{\partial q_{n}} \langle H \rangle_{\rm equ}^{0}\right)_{S}$$

at temperatures larger than 2 MeV may be approximated by the liquid-drop energy. Note that any **q**-dependence of the two-body matrix elements has been ignored.