

Erratum:

The Geometric Phase in Quantum Systems

Updated February 2006

- **Page 46, Eq. (3.91):** ω must change to Ω . The corrected Eq. (3.91) reads:

$$\text{CALSS B: } \tau = \frac{2\pi}{\Omega}.$$

- **Page 47, Eq. (3.97):** $\frac{\omega}{\Omega}$ must change to $\frac{\Omega}{\omega}$. The corrected Eq. (3.97) reads:

$$\psi(T) = U^\dagger(T)\psi(0) = e^{-i\alpha_k}\psi(0) = e^{-i2\pi k}e^{-i2\pi\frac{\Omega}{\omega}k}\psi(0).$$

- **Page 49, Eq. (3.107):** $\frac{\omega}{\Omega}$ must change to $\frac{\Omega}{\omega}$. The corrected Eq. (3.107) reads:

$$\alpha_k^{\text{dyn}} = k2\pi \left(\frac{\Omega}{\omega} + \cos \tilde{\theta} \right).$$

- **Page 49, first displayed equation below Eq. (3.108):** ω must change to Ω .

This equation should read:

$$\frac{\Omega}{b} \approx 1 - \nu \cos \theta,$$

- **Page 50, first displayed equation below Eq. (3.112):** The ω in the denominator must change to Ω . This equation should read:

$$F^{\phi_K} = dA = -k \frac{(1 - \frac{\omega}{b} \cos \theta)}{(\frac{\Omega}{b})^3} \sin \theta \, d\theta \wedge d\varphi.$$

- **Page 50, Eq. (3.113):** The ω in the denominator must change to Ω . This equation should read:

$$\mathbf{F}^{\phi_K} = -\frac{k}{r^2} \frac{(1 - \frac{\omega}{b} \cos \theta)}{(\frac{\Omega}{b})^3} \hat{\mathbf{R}}(\theta, \varphi).$$

- **Page 51, first displayed equation below Eq. (3.116):** $\frac{\omega}{\Omega}$ must change to $\frac{\Omega}{\omega}$.

This equation should read:

$$\alpha_k^{\text{dyn}}(t) := \int_0^t \langle \psi(t') | h(t') | \psi(t') \rangle dt' = \omega t k \left(\frac{\Omega}{\omega} + \cos \tilde{\theta} \right)$$

- **Page 51, 4th Paragraph starting in this page, Line 4:** ω must change to Ω .

This line should read:

“period $\tau = \frac{2\pi}{\Omega}$ with Ω given by (3.73). A Special case of Class B cyclic evo-”

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Bohm, A.; Mostafazadeh, A.; Koizumi, H.; Niu, Q.;
Zwanziger, J.

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