ERRATUM

OPTIMAL DATABASE SEARCH: WAVES AND CATALYSIS

[INT. J. QUANT. INFORM., Vol. 4, No. 5 (2006) 815–825]

APOORVA PATEL

*Centre for High Energy Physics,
Indian Institute of Science, Bangalore-560012, India
adpatel@cts.iisc.ernet.in*

In this paper, the eigenvalues of the potential energy term in the effective Lagrangian for the coupled harmonic oscillators were incorrectly written as $\omega_{\pm}$ instead of $\omega_{\pm}^2$. The correct versions of Eqs. (10) and (11) are:

$$\omega_{\pm}^2 = \frac{1}{2} \left(1 + \frac{K+N}{M} \right) \pm \sqrt{\frac{1}{4} \left(1 + \frac{K+N}{M} \right)^2 - \frac{K}{M}},$$

$$\omega_+^2 + \omega_-^2 = 1 + \frac{K+N}{M}, \quad \omega_+^2 \omega_-^2 = \frac{K}{M}, \quad \omega_t = 1. \quad (10)$$

$$e_{\pm} = (1 - \omega_{\pm}^2)Y + \sqrt{\frac{N}{M}}\bar{y} = (1 - \omega_{\pm}^2)\sqrt{M}X + \frac{N}{\sqrt{M}}\bar{x},$$

$$e_t = y_t = x_t - \bar{x}. \quad (11)$$

These changes subsequently correct Eqs. (13) and (14) to:

$$\omega_+ = \frac{2p+1}{2}, \quad \omega_- = \frac{1}{2}$$

$$\Rightarrow M = \frac{16Nm}{3(2p+3)(2p-1)}, \quad K = \frac{(2p+1)^2 Nk}{3(2p+3)(2p-1)}. \quad (13)$$

$$\omega_+ = 2p, \quad \omega_- = 0 \quad \Rightarrow \quad M = \frac{Nm}{(2p+1)(2p-1)}, \quad K = 0. \quad (14)$$

All the considerations, analysis and applications that follow later in the paper remain unaffected by the above corrections.