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Erratum

Erratum to "Approximate analytical solutions for primary chatter in the non-linear metal cutting model" [Journal of Sound and Vibration 259 (4) (2003) 917–933]☆

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On page 924, the definitions for K_1 and K_2 should be:

$$K_1 = \frac{Q_1}{\omega_y^2 - \omega_x^2}, \quad K_2 = \frac{Q_2}{\omega_x^2} - \frac{K_1\lambda_{11}}{\omega_x^2}.$$

These have repercussions in Eqs. (31) and (32) on page 927, as shown:

$$-\frac{C_1h_0q_0^2(-1+v_0)\alpha + \sqrt{\alpha}(-1+q_0+\alpha)\big(C_2h_0q_0R_0(-1+v_0)\sqrt{\alpha} + (q_0+\alpha)\xi_y\big)}{\varepsilon(-1+q_0+\alpha)(q_0+\alpha)} < 0, \tag{31}$$

$$\frac{C_1h_0q_0(-1+v_0+\alpha-av_0)\alpha + (q_0-q_0^2+\alpha-2q_0\alpha-\alpha^2)\xi_x}{\varepsilon\big(-1+\sqrt{q_0+\alpha}\big)\big(1+\sqrt{q_0+\alpha}\big)(q_0+\alpha)} < 0. \tag{32}$$

There are also consequential changes to be made to Eqs. (33) and (34):

$$v_{01} > \frac{C_1h_0q_0^2\alpha + \sqrt{\alpha}(-1+q_0+\alpha)\big(C_2h_0q_0R_0\sqrt{\alpha} - (q_0+\alpha)\xi_y\big)}{C_1h_0q_0^2\alpha + C_2h_0q_0R_0\alpha(-1+q_0+\alpha)}, \tag{33}$$

$$v_{02} > \frac{C_1h_0q_0(-1+\alpha)\alpha + (q_0+\alpha)(1-q_0-\alpha)\xi_x}{C_1h_0q_0(-1+\alpha)\alpha}. \tag{34}$$

Minor typographical corrections are required for the following equations.

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On page 925, Eqs. (21) and (22) should read

$$\frac{\mathrm{i}A_1\omega_x(\gamma_1\omega_x^2 - K_3\gamma_5\omega_x^2 + 2\nu_1\omega_x^2 - \gamma_1\omega_y^2 + K_3\gamma_5\omega_y^2 - 2\nu_1\omega_y^2 + K_3Q_1\lambda_4 - Q_1\lambda_9)}{(\omega_x - \omega_y)(\omega_x + \omega_y)} + 2\mathrm{i}\omega_x A_1' = 0, \quad (21)$$

$$\bar{A}_2(K_1^2\lambda_3\omega_y^2 + \lambda_7\omega_y^2 + 3\lambda_5)A_2^2 + (3\lambda_5K_3^2 - 2\lambda_{10}K_3 + \mathrm{i}K_1\lambda_4\omega_yK_3 + \mathrm{i}\lambda_6\omega_yK_3 + 2\bar{A}_1A_1\lambda_3\omega_x^2 + P_1 - \mathrm{i}\lambda_1\omega_y - \mathrm{i}K_1\lambda_9\omega_y + 2\mathrm{i}\nu_2\omega_y)A_2 + 2\mathrm{i}\omega_yA_2' = 0. \quad (22)$$

On page 926, a sign in the denominator of the first term of Eq. (23) is corrected

$$a_1 = c[3]\exp\left(-\frac{K_3Q_1\lambda_4}{2(\omega_x - \omega_y)(\omega_x + \omega_y)} + \cdots\right)t. \quad (23)$$

Fig. 4's caption should end with '… to initial conditions $x(0) = 1.44$, $\dot{x}(0) = 0.77$, $y(0) = 0.25$, $\dot{y}(0) = 3.39$.

Fig. 5's caption should end with '… to initial conditions $x(0) = 1.26$, $\dot{x}(0) = 0.49$, $y(0) = -0.66$, $\dot{y}(0) = 2.13$.

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