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Resonant absorption of the slow sausage wave in the slow continuum *(Corrigendum)*

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The derivation of the damping rate in the long wavelength limit by Yu et al. (2017) is incorrect. This was already noted independently by Sadeghi and Karami (2019) and by Roberts (2019, priv. comm.). What follows is the correct derivation. The sign of P_0 (A.7) in Appendix A was incorrect. Equation (41) should read

$$\begin{aligned} T_0 &= \omega_r^2(\omega_r^2-\omega_{Ae}^2)\times \\ &\left\{\frac{(\omega_r^2-2\omega_{ci}^2)k_i^2R^2[1-\frac{3}{16}k_i^2R^2]\ln(k_eR)}{(\omega_r^2-\omega_{si}^2)(\omega_r^2-\omega_{Ai}^2)(\omega_r^2-\omega_{Ci}^2)}\right. \\ &\left.+\frac{(\omega_r^2-2\omega_{Ce}^2)k_i^2R^2}{2(\omega_r^2-\omega_{se}^2)(\omega_r^2-\omega_{Ae}^2)(\omega_r^2-\omega_{Ce}^2)}\right\}\end{aligned}$$

and for Eq. (43)

$$T_0 = \frac{4\omega_{Ai}^6}{\chi^2\omega_{Ci}^2\omega_{si}^2(\omega_{Ci}^2-\omega_{Ae}^2)k_z^2R^2\ln(k_zR)},$$

where we have only retained the first term (see Eq. (C.1) below). Equations (44) and (45) should then read

$$\begin{aligned}\gamma_0 &= -\frac{\pi\chi^2(l/R)}{8|\omega_{Ce}-\omega_{Ci}|}\frac{\omega_{Ci}^6(\omega_{Ci}^2-\omega_{Ae}^2)^2}{\omega_{Ai}^8}(k_zR)^4\ln^2(k_zR), \\ \gamma_0 &= -\frac{\pi\chi^2}{8}\frac{l}{R}\frac{\omega_{Ci}^9}{\omega_{Ai}^8}(k_zR)^4\ln^2(k_zR).\end{aligned}$$

These expressions for γ_0 are the same as those obtained by Roberts (2019) by using a different approach.

Equations (C.1), (C.3), and (C.4) in Appendix C should read

$$\begin{aligned}T_0 &= \frac{4\omega_{Ai}^6}{\chi^2\omega_{Ci}^2\omega_{si}^2(\omega_{Ci}^2-\omega_{Ae}^2)k_z^2R^2\ln(k_zR)} \\ &+\frac{3\omega_{Ai}^8}{2\chi^3\omega_{si}^4(\omega_{Ci}^2-\omega_{Ae}^2)^2k_z^2R^2\ln^2(k_zR)} \\ &-\frac{\omega_{Ci}^4\omega_{Ai}^2(\omega_{Ci}^2-2\omega_{Ce}^2)}{\chi\omega_{si}^2(\omega_{Ci}^2-\omega_{Ae}^2)(\omega_{Ci}^2-\omega_{se}^2)(\omega_{Ci}^2-\omega_{Ce}^2)\ln(k_zR)}, \\ T_0 &= \frac{4\omega_{Ai}^6}{\chi^2\omega_{Ci}^4\omega_{si}^2k_z^2R^2\ln(k_zR)}+\frac{3\omega_{Ai}^8}{2\chi^3\omega_{si}^4\omega_{Ci}^4k_z^2R^2\ln^2(k_zR)} \\ &-\frac{\omega_{Ci}^2\omega_{Ai}^2}{\chi\omega_{si}^2(\omega_{Ci}^2-\omega_{se}^2)\ln(k_zR)},\end{aligned}$$

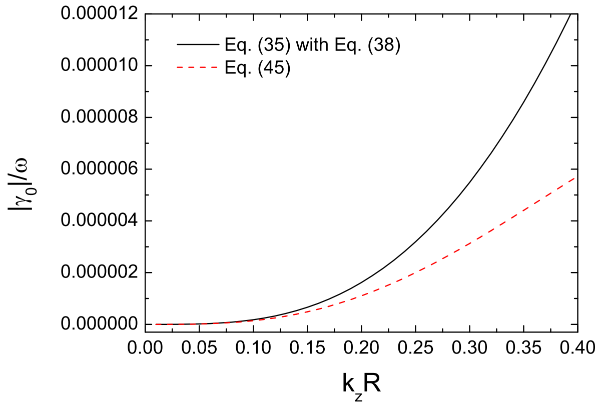

Fig. 5. Damping rate $|\gamma_0|/\omega$ versus k_zR for slow sausage surface mode (ss) where $l/R = 0.1$. The other parameters are the same as in the previous figures. For the linear cusp velocity, we compared the analytical formula, Eq. (35), with the simplified formula in the long wavelength limit, Eq. (45).

and

$$\frac{\gamma_0}{\omega_{Ci}} = \frac{\pi\chi(l/R)\left(\frac{\omega_{Ci}^4}{\omega_{si}^2\omega_{Ai}^2}\right)k_z^2R^2\ln(k_zR)}{\frac{4\omega_{Ai}^2}{\omega_{Ci}^2}-\frac{8\omega_{Ai}^6}{\chi\omega_{Ci}^4\omega_{si}^2k_z^2R^2\ln(k_zR)}-\frac{3\omega_{Ai}^8}{\chi^2\omega_{si}^4\omega_{Ci}^4k_z^2R^2\ln^2(k_zR)}+\frac{2\omega_{Ci}^2\omega_{Ai}^2}{\omega_{si}^2(\omega_{Ci}^2-\omega_{se}^2)\ln(k_zR)}}.$$

It should be noted that the values of the quantity $|\gamma_0|/\omega$ in Fig. 5 are small as can be understood from the equation for $|\gamma_0|/\omega$ for the values of $k_zR \leq 0.4$ used in Fig. 5.

We note also that eight in the second paragraph after Eq. (10) and 8 in the caption of Fig. 1 should read four.

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References

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Sadeghi, M. & Karami, K. 2019, ArXiv e-prints [arXiv:1903.04171]