Erratum: Enskog kinetic theory for a model of a confined quasi-two-dimensional granular fluid [Phys. Rev. E 98, 052904 (2018)]

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Whereas working on the extension of the Δ model to granular mixtures, we have realized that the term $\frac{1}{2}\zeta^{(0)}\Delta^*(\partial \ln \zeta_0^*/\partial\Delta^*)$ must be also considered in the expression of the (reduced) kinetic thermal conductivity coefficient $\kappa_{\rm k}^*$ in the relevant state with stationary temperature (where $\zeta^{(0)}=0$). The inclusion of this term changes the expression of $\kappa_{\rm k}^*$ displayed in Table I of our paper. For a two-dimensional granular gas ($d=2$), $\kappa_{\rm k}^*$ is

$$\kappa_{\rm k}^*=\frac{1+\frac{3}{8}\phi\chi(1+\alpha)^2(2\alpha-1)-\frac{\Delta_s^*}{\sqrt{2\pi}}\phi\chi\left[\frac{7}{4}+2(1+\alpha)\left(1-\frac{3}{4}\sqrt{2\pi}\Delta_{\rm s}^*\right)-3(1+\alpha)^2-\Delta_{\rm s}^{*2}\right]}{2\nu_\kappa^*+\Delta_s^*\left(\frac{\partial\zeta_0^*}{\partial\Delta^*}\right)_s}, \tag{1}$$

where

$$\left(\frac{\partial\zeta_0^*}{\partial\Delta^*}\right)_s=-\frac{1}{2}\chi(\sqrt{2\pi}\alpha+4\Delta_s^*). \tag{2}$$

Upon obtaining Eq. (2), we recall that the zeroth-order contribution to the (reduced) cooling rate ζ_0^* has been evaluated by neglecting non-Gaussian corrections to the zeroth-order distribution function ($a_{2,\rm s}=0$). Moreover, the (reduced) hydrostatic pressure $p^*=1+\phi\chi(1+\alpha)+2\sqrt{2/\pi}\phi\chi\Delta_s^*$. Due to the inclusion of the term $\Delta_s^*\partial_{\Delta^*}\zeta_0^*$ in Eq. (1), Fig. 4 of the paper should be replaced by the figure below. We observe first that the (scaled) thermal conductivity $\kappa^*(\alpha)/\kappa^*(1)$ exhibits a nonmonotonic dependency on the coefficient of restitution in contrast to what observed in Fig. 4 of our paper where the ratio $\kappa^*(\alpha)/\kappa^*(1)$ decreases with increasing inelasticity. In addition, it is also apparent that the influence of density on the (scaled) thermal conductivity of the revised Fig. 4 is slightly larger than the one found in Fig. 4 of our paper.

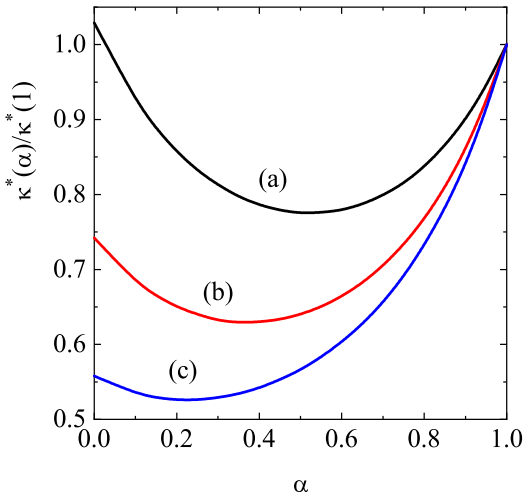

FIG. 4. Plot of the (scaled) thermal conductivity coefficient $\kappa^*(\alpha)/\kappa^*(1)$ as a function of the coefficient of restitution for three values of the solid volume fraction ϕ: (a) $\phi=0$, (b) $\phi=0.2$, and (c) $\phi=0.4$.

