Erratum: Convective stability of multicomponent fluids in the thermogravitational column

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An error has been discovered in the numerical calculation of vertical solutal Rayleigh numbers $R = (R_1, R_2)$ according to formula (17). Instead of the matrix $S^2$, the matrix $S$ was incorrectly used. This error affected the values of $R_1$ and $R_2$ only for small Grashof numbers $Gr$. The corrected Figs. 3, 6(a), and 10 are presented below. The new Fig. 10(b) was added to provide the full information about oscillatory neutral curves (i.e., critical Grashof number and critical frequency). The curves in Fig. 10 are plotted for $\psi_1 = -0.1, -0.2, -0.3$. The corrected results are qualitatively similar to the previously published ones.

FIG. 3. The dependence of solutal Rayleigh numbers on the Grashof number for ternary fluid with $\psi_1 = -0.1, \psi_2 = 0.4, Sc_{11} = 100, Sc_{22} = 500$.

FIG. 6. The dependence of critical Grashof number (a) on the separation ratio $\psi_1$ for ternary fluid with $\Psi = 0.3, s = Sc_{11}/Sc_{22}, Sc_{22} = 500$. Solid and dashed lines correspond to longitudinal and transversal perturbations, respectively.

FIG. 10. The dependence of Grashof number (a) and frequency (b) on the transversal wave number $l$ for ternary fluid with $\Psi = 0.3, s = 0.2, Sc_{22} = 500$. 

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