406

CORRIGENDUM

Effects of interaction between Marangoni and double-diffusive instabilities

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The results of the linear stability analysis as listed in table 2 on page 15 and plotted in figure 6 on page 16 of the paper have been shown to be in error by Dr Bruce Murray. The correct values as computed by Murray are listed in the accompanying table and are presented in the figure together with the wrong values that appeared in the paper. In general, the critical thermal Rayleigh number, wavenumber, and frequency are all reduced for both the R–R and R–F conditions. As can be seen from the figure, experimental and corrected analytical results for the R–R condition are still in agreement. For the R–F case, the differences between the two values become a little larger. The reduction in the critical wavenumber is approximately 25%. As a result, the convection cells shown in figure 8 on page 18 should be approximately 33% wider. The general conclusions reached in the paper are not affected by these errors. We thank Dr Bruce Murray for his help.
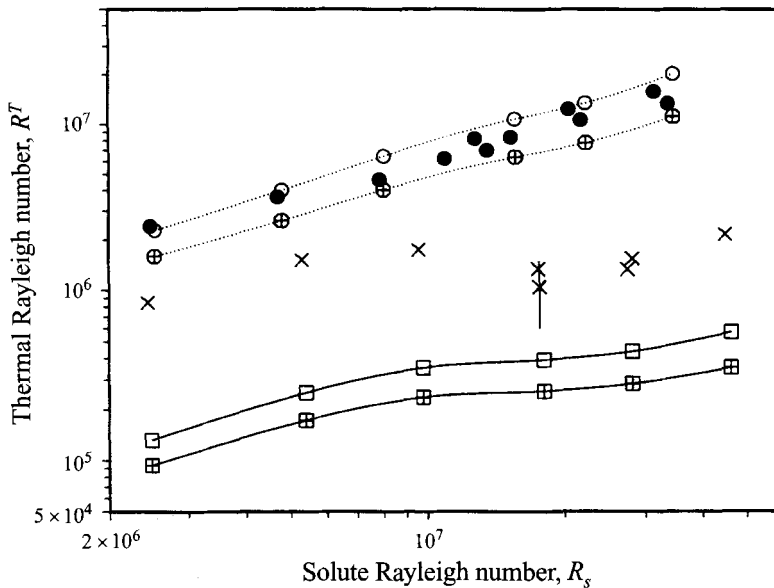

FIGURE 6 (corrected). Critical thermal Rayleigh numbers as predicted by linear stability theory compared with experimental results. Theoretical results for the R–R condition: correct values ($\cdots\oplus\cdots$), wrong values ($\cdots\bigcirc\cdots$); for the R–F condition with tabulated γ_t and γ_s: correct values (—⊞—), wrong values (—□—); experimental results for the R–R condition (●) and R–F conditions (Marangoni instability) (×). The vertical line is an error bar. The values for the R–F condition with reduced values of γ_t and γ_s are not shown in the figure.

Case	F	R_s	R^T	a	σ_i	R^T/M_t	R_s/M_s
R–R	0.74	2.54×10^6	1.594×10^6	12.0	579	—	—
	0.72	4.80×10^6	2.615×10^6	13.8	740	—	—
	0.73	8.03×10^6	4.011×10^6	15.3	911	—	—
	0.66	1.57×10^7	6.355×10^6	17.3	1150	—	—
	0.59	2.24×10^7	7.733×10^6	18.0	1260	—	—
	0.60	3.47×10^7	1.115×10^7	19.5	1500	—	—
R–F	0.77	2.490×10^6	9.381×10^4	12.6	171	18.5	-304.6
	0.76	5.400×10^6	1.727×10^5	14.6	237	25.6	-304.8
	0.80	9.802×10^6	2.359×10^5	16.7	314	27.3	-304.9
	0.79	1.808×10^7	2.564×10^5	19.0	410	23.6	-305.3
	0.74	2.815×10^7	2.835×10^5	20.6	487	22.7	-305.8
	0.79	4.630×10^7	3.515×10^5	23.2	631	23.0	-306.5

TABLE 2 (corrected). Critical conditions as predicted by the linear stability theory