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CORRIGENDA

Instability of a viscous liquid jet surrounded by a viscous gas in a vertical pipe

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There is an error in figure 7 on p. 651 of this paper caused by the use of different non-dimensionalization factors in the authors' theory and in the cited experimental results of Goedde & Yuen (1970) and Donnelly & Glaberson (1966). The dimensionless growth rate Ω reported in the experiments is given by $\Omega = \omega/(S/\rho_1 R_1^3)^{\frac{1}{2}}$, where the symbols have the same meaning as in the paper. On the other hand, the dimensionless theoretical growth rate is $\omega_r = \omega(R_1/W_0)$. Hence,

$$\Omega = \omega_r/We^{\frac{1}{2}},$$

where We denotes the Weber number $S/\rho_1 W_0^2 R_1$. The growth rate in the above-mentioned figure should thus have been divided by $We^{\frac{1}{2}}$ before comparison with experiments. The figure reproduced here gives the corrected amplification curves with the same parameters as in the previous figure 7. The amplification curve obtained by Rayleigh for an inviscid jet in a vacuum is also given in the figure for comparison. In a vacuum, $N = Q = 0$. For this case the amplification curves obtained from the theory presented in the paper are found to be not very sensitive to the values of Re and We. An amplification curve for the case of $We = 0.0025$, $Re = 3000$,

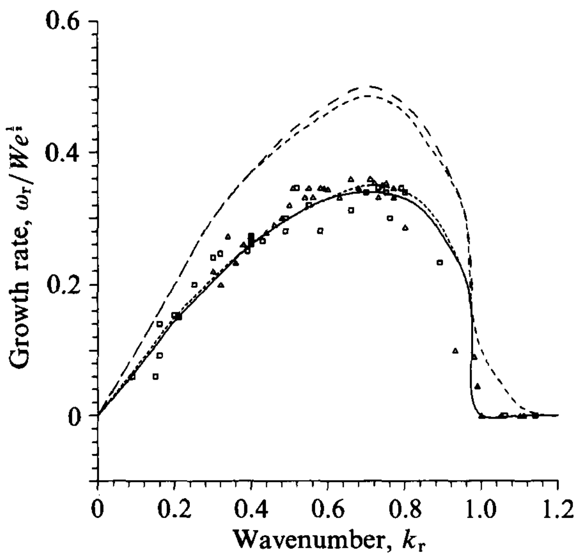

FIGURE 7 (Corrected). Comparisons of theories with experiments. Present results: $Re = 3000$, $Re/Fr = 0$, $l = 10$; ------, $We = 0.0025$, $Q = 0$, $N = 0$; – – –, $We = 0.0013$, $Q = 0.0013$, $N = 0.018$; ———, $We = 0.0025$, $Q = 0.0013$, $N = 0.018$. ——, Rayleigh; △, Goedde & Yuen; □, Donnelly & Glaberson.

$Q = 0$, and $N = 0$ is shown in this figure. Note that this curve compares very well with the theoretical results of Rayleigh, and the experimental results of Goedde & Yuen (1970) and Donnelly & Glaberson (1966). However, the experiments were carried out in the atmosphere, not in a vacuum. For a water jet in air at room temperature, $Q = 0.0013$, $N = 0.018$. Two amplification curves corresponding to two different values of We are given in this figure for the case of $Q = 0.0013$, $N = 0.018$, $Re = 3000$, $Re/Fr = 0$, and $l = 10$. These parameters are close to the experimental values. Note that the theory which is closer to the experimental conditions predicts a considerably higher amplification rate than the observed rate, while highly idealized theories enjoy better agreement with experiments. The good agreement between the experiments and the theory of Rayleigh and the theory presented in our paper for sufficiently large values of Re and We may be fortuitous.

The authors are grateful to Mr Igor Carron for pointing out the error.

Natural-convection boundary-layer flow over a heated plate with arbitrary inclination

By A. Umemura and C. K. Law

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The authors named above would like to amend the authorship of the paper to A. Umemura, S. Nam and C. K. Law.

Observations of the dynamics and acoustics of travelling bubble cavitation

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The minimum cavitatable nucleus of 20 μm radius (see bottom line of p. 656) used in the calculation of the cavitation event rates of table 1 is incorrect. The actual minimum cavitatable nucleus is approximately 10 μm in radius. With this change, the calculated event rates increase by a factor of approximately 20, due to the logarithmic nature of the nuclei number distribution. Consequently, rather than agreement between the observed and anticipated event rates there is a significant discrepancy which we cannot, at present, explain.