J. Fluid Mech. (1990), *vol.* 216, *pp.* 659–663
Printed in Great Britain

CORRIGENDUM

Nonlinear evolution of interacting oblique waves on two-dimensional shear layers

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Journal of Fluid Mechanics, vol. 207 (1989) pp. 97–120

There should be minus signs in front of the right-hand sides of (3.34), (3.39), (3.56), and (3.61), and minus signs preceding the 2 and the 4 in the square brackets on the right-hand side of (3.42) should be changed to pluses. There should be a factor of 2 multiplying the right side of (3.47), the second term on the right-hand side of (3.59) should be replaced by its complex conjugate, and the first minus sign on the right-hand side of (3.60) should be a plus. This changes the kernel function (3.67) to

$$K(\bar{x}\,|\,\tilde{x},\tilde{x}_1) \equiv -\frac{1-2\sin^2\theta}{2}(\bar{x}-\tilde{x})\{(\bar{x}-\tilde{x})\,[2(\bar{x}-\tilde{x})+(\tilde{x}-\tilde{x}_1)] + 2\sin^2\theta(\bar{x}-\tilde{x}_1)\,(\tilde{x}-\tilde{x}_1)\}$$
$$= -\tfrac{1}{2}\cos 2\theta(\bar{x}-\tilde{x})\,[(\bar{x}-\tilde{x})^2+(\bar{x}-\tilde{x}_1)^2-\cos 2\theta(\bar{x}-\tilde{x}_1)\,(\tilde{x}-\tilde{x}_1)].$$

The $\bar{X}$ in the equation preceding (3.32) should be lower case, and there should be an asterisk on the third A in the integrand of the right-hand side of (3.66). Then (4.3) becomes

$$D(\sigma) = -\tfrac{1}{2}\cos 2\theta \int_1^\infty \frac{1}{v^{3+\mathrm{i}\sigma}} \int_v^\infty \frac{\mathrm{d}u\,\mathrm{d}v}{u^{3+\mathrm{i}\sigma}(u+v-1)^{3-\mathrm{i}\sigma}}(v-1) \times\{(v-1)^2+(u-1)^2-\cos 2\theta(u-1)\,(u-v)\}$$
$$= -\tfrac{1}{2}\cos 2\theta \int_1^\infty \frac{1}{v^{3+\mathrm{i}\sigma}(v-1)^2}\left\{\sum_{m=-2}^{2}\frac{\hat{C}_m(v\,|\,\theta)}{m+\mathrm{i}\sigma}\left[\left(\frac{2v-1}{v}\right)^{m+\mathrm{i}\sigma}-1\right]\right\}\mathrm{d}v$$
$$= -\tfrac{1}{2}\cos 2\theta \int_0^1 \frac{(1-x)^{3+\mathrm{i}\sigma}}{x^4}\left\{\sum_{m=-2}^{2}\frac{\tilde{C}_m(x\,|\,\theta)}{m+\mathrm{i}\sigma}[(1+x)^{m+\mathrm{i}\sigma}-1]\right\}\mathrm{d}x,$$

and the formulae for the C are given in the revised Appendix. This changes the final results, which are plotted in the revised figures 1–5 (figures C1–C5). Introducing the rescaled variables $\bar{A} \equiv A\bar{\kappa}_r^6/|\gamma\bar{\kappa}|$ and $\bar{x}_1 \equiv \bar{\kappa}_r\bar{x}-x_0$ into (3.69), where $\bar{\kappa}_r \equiv \mathrm{Re}\,\bar{\kappa}$, and properly choosing x_0 and X_0 in (3.25) and (3.27) shows that $\bar{A}\,\mathrm{e}^{-\bar{\kappa}\bar{x}}$ is a function of $\bar{x}_1$ and the single parameter $\arg\bar{\kappa}\gamma$. We therefore plot the results in terms of these more universal variables, rather than those of the original paper. This reduces the number of figures, which are now drawn for $\theta = \frac{1}{8}\pi$, since the corrected kernel function vanishes at $\theta = \frac{1}{4}\pi$.

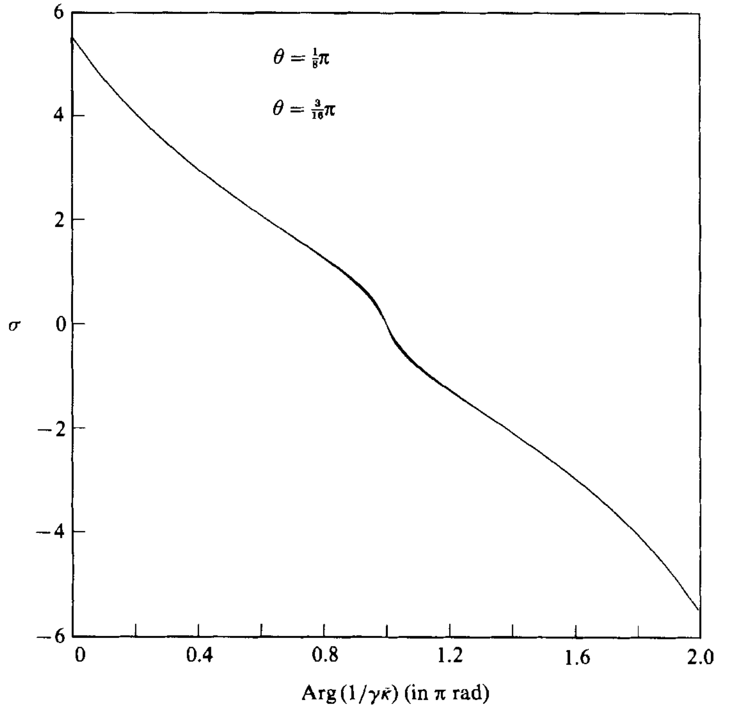

FIGURE C1. Asymptotic exponent σ *vs*. $\text{Arg}\,(1/\gamma\bar{\kappa})$ in π radians.

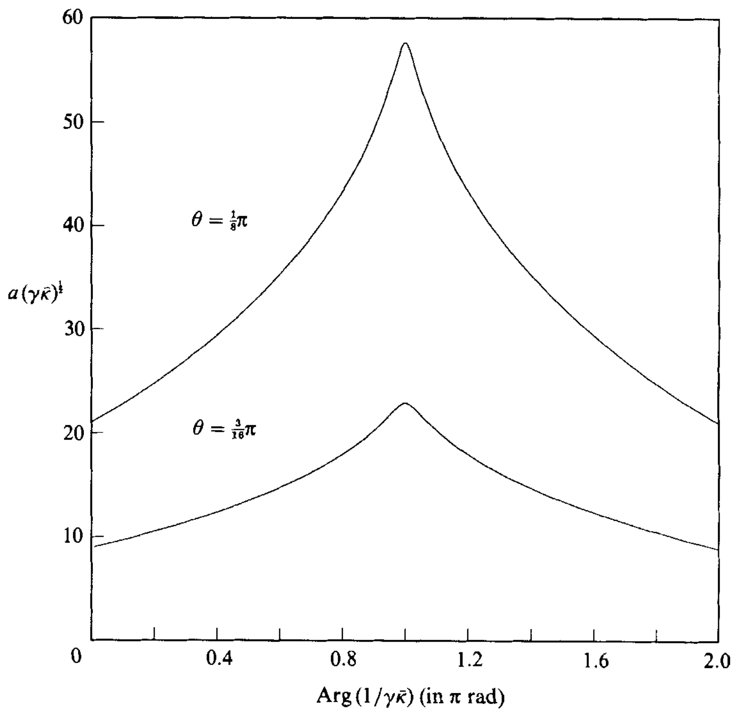

FIGURE C2. Normalized asymptotic amplitude $a(\gamma\bar{\kappa})^{\frac{1}{2}}$ *vs*. $\text{Arg}\,(1/\gamma\bar{\kappa})$ in π radians.

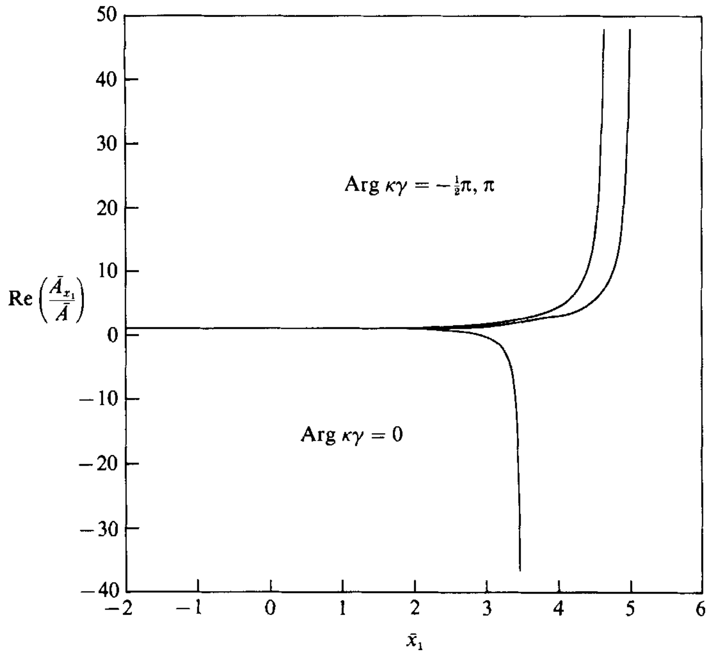

FIGURE C3. Scaled growth rate $\mathrm{Re}(\bar{A}_{\bar{x}_1}/\bar{A})$ *vs.* scaled streamwise coordinate $\bar{x}_1$ for $\theta = \frac{1}{8}\pi$.

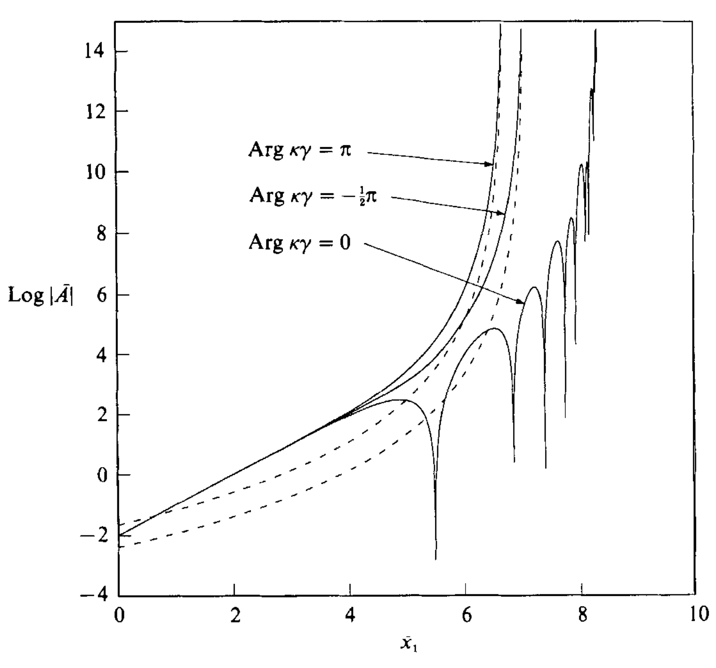

FIGURE C4. Scaled amplitude $\log|\bar{A}|$ *vs.* scaled streamwise coordinate $\bar{x}_1$ for $\theta = \frac{1}{8}\pi$.

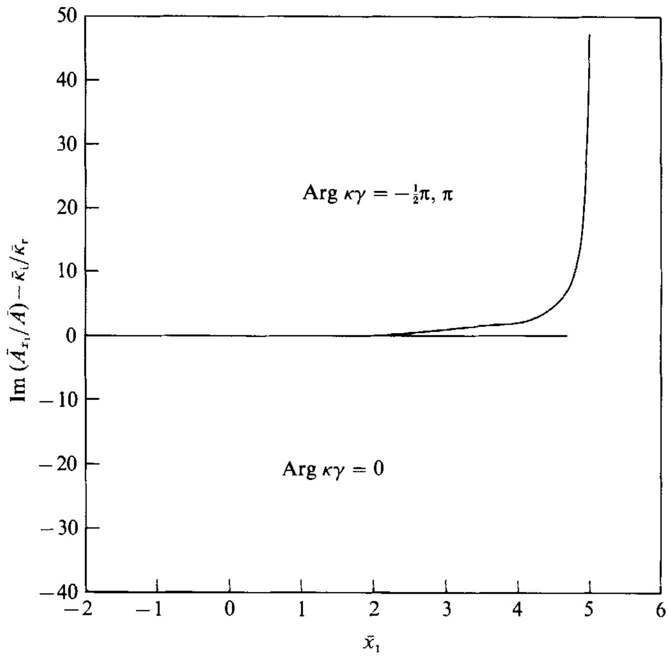

FIGURE C5. Phase $\mathrm{Im}\,(\bar{A}_{\bar{x}_1}/\bar{A})$ *vs.* scaled streamwise coordinate $\bar{x}_1$ for $\theta = \frac{1}{8}\pi$.

Appendix

The detailed expressions for coefficients used in the revised equation (4.3) and (4.4) are

$$\hat{C}_2 = \frac{2-v}{v-1} - \frac{2v}{(v-1)^2}\sin^2\theta, \tag{A 1}$$

$$\hat{C}_1 = \frac{3v-7}{v-1} + \frac{2(v^2+4v-1)}{(v-1)^2}\sin^2\theta, \tag{A 2}$$

$$\hat{C}_0 = \frac{9-3v}{v-1} - \frac{2(4v^2+4v-2)}{(v-1)^2}\sin^2\theta, \tag{A 3}$$

$$\hat{C}_{-1} = \frac{v-5}{v-1} + \frac{2(5v^2-1)}{(v-1)^2}\sin^2\theta, \tag{A 4}$$

$$\hat{C}_{-2} = \frac{1}{v-1} - \frac{2(2v^2-v)}{(v-1)^2}\sin^2\theta, \tag{A 5}$$

$$\tilde{C}_2 = -(2x^2-2x+1)-(x-1)\cos 2\theta, \tag{A 6}$$

$$\tilde{C}_1 = 2(3x^2-3x+2)+(x^2+2x-4)\cos 2\theta, \tag{A 7}$$

$$\tilde{C}_0 = -(7x^2-6x+6)-2(x^2-3)\cos 2\theta, \tag{A 8}$$

$$\tilde{C}_{-1} = 2(2x^2-x+2)+(x^2-2x-4)\cos 2\theta, \tag{A 9}$$

$$\tilde{C}_{-2} = (x^2+1)+(x+1)\cos 2\theta, \tag{A 10}$$

$$C_{1,2} = (-1-\mathrm{i}\sigma)_{n+2} - 4(-\mathrm{i}\sigma)_{n+2} + 6(1-\mathrm{i}\sigma)_{n+2} - 4(2-\mathrm{i}\sigma)_{n+2} + (3-\mathrm{i}\sigma)_{n+2}, \tag{A 11}$$

$$C_{2,2} = -2(-1-\mathrm{i}\sigma)_{n+2} + 6(-\mathrm{i}\sigma)_{n+2} - 6(1-\mathrm{i}\sigma)_{n+2} + 2(2-\mathrm{i}\sigma)_{n+2}, \tag{A 12}$$

$$C_{3,2} = 2(-1-\mathrm{i}\sigma)_{n+2} - 6(-\mathrm{i}\sigma)_{n+2} + 7(1-\mathrm{i}\sigma)_{n+2} - 4(2-\mathrm{i}\sigma)_{n+2} + (3-\mathrm{i}\sigma)_{n+2}, \tag{A 13}$$

$$2C_{1,0} = 2C_{1,4} = -(-1-\mathrm{i}\sigma)_{n+2} + 4(-\mathrm{i}\sigma)_{n+2} - 6(1-\mathrm{i}\sigma)_{n+2} + 4(2-\mathrm{i}\sigma)_{n+2} - (3-\mathrm{i}\sigma)_{n+2}, \tag{A 14}$$

$$2C_{2,0} = 2C_{2,4} = (-1-\mathrm{i}\sigma)_{n+2} - 2(-\mathrm{i}\sigma)_{n+2} + 2(2-\mathrm{i}\sigma)_{n+2} - (3-\mathrm{i}\sigma)_{n+2}, \tag{A 15}$$

$$2C_{3,0} = 2C_{3,4} = -(-\mathrm{i}\sigma)_{n+2} + 2(1-\mathrm{i}\sigma)_{n+2} - (2-\mathrm{i}\sigma)_{n+2}, \tag{A 16}$$