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CORRIGENDA

1. 'Boundary dissipation of oscillatory waves', by W. G. van Dorn, *J. Fluid Mech.* vol. **24**, 1966, p. 769.

Several errors in the mathematical formulation of the surface damping coefficient in water of finite depth have been kindly brought to my attention by F. L. Curzon† and R. L. Pike.‡ These errors do not significantly affect the agreement between the theory and the experimental results cited, because the water depths were in most cases too large for the bottom to affect sensibly the wave motion. Nevertheless, it is appropriate to give the correct formulation, essentially as presented by Curzon and Pike, to whom I am correspondingly indebted. The following appendices, therefore, replace those previously given.

Appendix 1. *Surface damping coefficient in water of finite depth*

Assuming the surface to be horizontally immobilized, but with the wave particle velocity u_0 beneath the boundary layer to be the same as if the contaminating film were absent, the modulus of decay for wave *amplitude* τ is given by one-half the ratio of the average dissipation to the mean total energy of the motion

$$\frac{2}{\tau} = \frac{\frac{1}{2}\rho\,|u_0|^2(\frac{1}{2}\omega\nu)^{\frac{1}{2}}}{\frac{1}{2}\rho\,|u_0|^2\tanh kh/k}. \tag{A 1}$$

This result is identical with that previously given, except for the factor 2 that distinguishes amplitude from energy-decay, and the inclusion of the factor $\tanh kh/k$ in the denominator that corrects the mean total energy to finite depth h from that for infinite depth. Recalling that the decay modulus for progressive waves is related to the damping coefficient by $\Delta_s = 1/\tau U$ and that for linear waves in water of finite depth $\omega^2 = gk\tanh kh$ and $U = (\omega/2k)(1+2kh/\sinh 2kh)$, we obtain the corrected surface damping coefficient directly:

$$\Delta_s = \frac{2k}{b}\left(\frac{\nu}{2\omega}\right)^{\frac{1}{2}}\frac{kb\cosh^2 kh}{2kh+\sinh 2kh}. \tag{A 2}$$

Formula (A 2) should replace (4) of §2 in the original paper, in which $\sinh^2 kh$ appeared in place of $\cosh^2 kh$ and also (by typographical error) $\sinh 2kh$.

Appendix 2. *Amplitude change over a sloping bottom*

The corrected integral form for the total damping coefficient (bottom, sides, and free surface) in travelling a distance $x_0 - x$ over a uniform slope given by $h = h_0 - s(x-x_0)$ is now

$$\Delta_b + \Delta_s = \int_{x_0}^{x}\frac{2}{b}\left(\frac{\nu}{2\omega}\right)^{\frac{1}{2}}\left(\frac{kb(1+\cosh^2 kh)+\sinh 2kh}{2kh+\sinh 2kh}\right)k\,dx. \tag{A 3}$$

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The integration of (A 3) is straightforward, although not as simple as before. The resulting change of wave in wave amplitude over the slope is

$$\frac{\eta}{\eta_0} = A[h(x)]\exp\left\{\frac{1}{s}\left(\frac{\nu}{2\omega}\right)^{\frac{1}{2}}\left[\left(\frac{\omega^2}{s}+\frac{2}{b}\right)(kh-k_0h_0)-2(k-k_0)\right]\right\}, \qquad \text{(A 4)}$$

which is identical with the previous result except for the factor 2 before the last term on the right.

Discussion

To appraise the change accorded to these corrections, the machine computation of (A 4) was rerun for the cases where the largest differences would occur; i.e. for the smallest experimental values of kh ($h = 1$ cm and $0{\cdot}1 < k < 0{\cdot}5$) with the result that the maximum difference encountered was about 10 %. At the 5 cm depth the maximum error was 3 %. The percentage error in the previous formulation, of course, becomes larger the lower the frequency, but the entire dissipation becomes negligible at low frequency. Therefore the principal results of the experiment are still valid.

2. 'A uniformly valid solution for the hypersonic flow past blunted bodies', by W. SCHNEIDER, *J. Fluid Mech.* vol. **31**, 1968, p. 397.

(i) Equation (53*b*): The characters immediately before and immediately behind the colons should be exchanged.

(ii) Figure 5: The words (shock) and (body) should be exchanged.

(iii) Page 406, line 24: (32) should read (39).