

CORRIGENDUM

The growth of duration-limited wind waves

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The part of the appendix that follows equation (A 4) should be replaced by:

After substitution of (A 3), (A 4) reduces to

$$\hat{T} = k_2^{-1/n} \left[\Gamma\left(\frac{m-3}{n}\right) / \Gamma\left(\frac{m-1}{n}\right) \right]^{-\frac{1}{2}}, \quad (\text{A } 5)$$

where Γ is the gamma function. On the other hand, the spectral peak frequency f_m of the spectrum (A 3) is given by

$$f_m = (nk_2/m)^{1/n}. \quad (\text{A } 6)$$

So from (A 5) and (A 6)

$$\hat{T} = \frac{1}{f_m} \left(\frac{n}{m}\right)^{1/n} \left[\Gamma\left(\frac{m-3}{n}\right) / \Gamma\left(\frac{m-1}{n}\right) \right]^{-\frac{1}{2}} \left(\equiv \frac{\gamma}{f_m} \right). \quad (\text{A } 7)$$

For the Pierson–Moskowitz spectrum ($m = 5$, $n = 4$), (A 7) reduces to

$$\hat{T} = 0.71 f_m^{-1}. \quad (\text{A } 8)$$

At this time, however, we tentatively use the following relation representing our previous results (Mitsuyasu 1968),

$$\hat{T} = f_m^{-1}, \quad (\text{A } 9)$$

because the spectral form of a laboratory wind wave is quite different from the Pierson–Moskowitz spectrum.

On substituting (A 2), (A 9) and the fetch relation (3) into (A 1) and carrying out the integration we get the space–time conversion relation

$$gF/U_*^2 = 7.41 \times 10^{-3} (gt/U_*)^{1.56}. \quad (\text{A } 10)$$

As a consequence of these corrections, equations (8), (9) and (10) of the paper become

$$gE^{\frac{1}{2}}/U_*^2 = 2.89 \times 10^{-4} (gt/U_*), \quad (8)$$

$$U_* f_m/g = 6.86 (gt/U_*)^{-0.557} \quad (9)$$

and

$$fF/U_*^2 = 7.41 \times 10^{-3} (gt/U_*)^{1.56}. \quad (10)$$

Figure 10 is revised accordingly. However, the main conclusion of § 5 is unaltered.

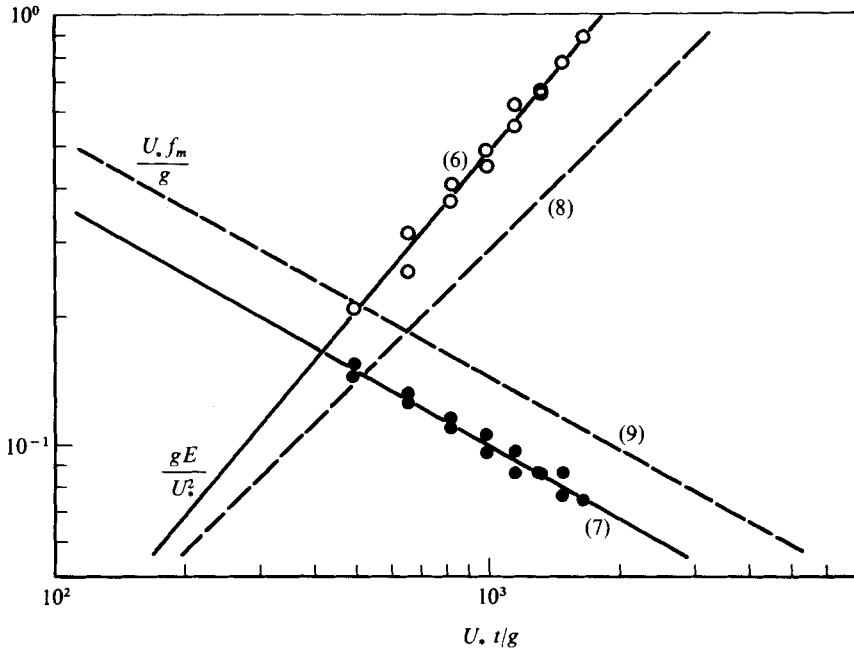


FIGURE 10. Duration relations for the spectral peak frequency f_m and for the spectral energy E . —, best-fit relations (6) and (7); ---, relations (8) and (9) inferred from the fetch relations.