Quantitative studies of the wakes of freely flying birds in a low-turbulence wind tunnel

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In Spedding et al. (2003), the drag calculated from the x -momentum equation in Eq. (10) is given in an incorrect intermediate form between two correct alternatives. The incorrect expression for the drag per unit span, D' , was written

$$D' = \rho U_0^2 \int_{-h/2}^{h/2} (u(z) - u^2(z)) dz \quad (1)$$

for integrating through a wake profile, $u(z)$ over height h . The correct versions are

$$D' = \rho U_0^2 \int_{-h/2}^{h/2} \left(\frac{u(z)}{U_0} - \left(\frac{u(z)}{U_0} \right)^2 \right) dz \quad (2)$$

or

$$D' = \rho \int_{-h/2}^{h/2} (U_0 u(z) - u^2(z)) dz \quad (3)$$

The calculations in the paper are correct, and do not reflect the typographical error.

Reference

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