CORRIGENDUM

Effects of jet flow on jet noise via an extension to the Lighthill model

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A remark in the text requires amendment. The first two paragraphs of p. 15 refer to the 'compact eddy' simplifying assumption commonly made in jet noise theory: it is interpreted in terms of an approximation to a four-dimensional Fourier transform. This was a slip, the reference should have been to a three-dimensional part of a four-dimensional transform. Specifically, lines 8–10 should be amended to read: '…He did, however, avoid the four-dimensional Fourier transform in part…by invoking the 'small eddy' assumption'; and the second sentence in the second paragraph should be amended to read: 'As noted, the 'compact eddy' approximation reduces this to a simple volume integral multiplied by a one-dimensional Fourier transform (time delay to frequency)'. (And further on in the paragraph Ribner (1994) should read Ribner (1995).)

In practice, the one-dimensional Fourier transform is also usually sidestepped by a drastic simplification: its product with ω^4 (being the spectrum emitted by unit volume) is approximated as a δ-function. That is, this relatively narrowband spectrum is effectively compressed into a single frequency, a specified function of position y. An implicit assumption in all this, which is not supported by measurments (Chu 1966), is that the source correlation function R_{km} is separable in space and time.

Corrections for some important typographical errors are as follows:

p. 7, equation (19): $G^*(x, y - x/2|\omega)$ should be replaced $G^*(x, y - \xi/2|\omega)$.

p. 9, equation (40): $d^3 v$ should be replaced by $d^3 y$.

p. 11, equation (47): $R_{km}(x, \xi_m, \tau) e^{-i k \cdot \xi_m + i \bar{\omega} \tau} \xi_m d\tau$ should be replaced by

$$R_{km}(y, \xi_m, \tau) e^{-i k \cdot \xi_m + i \bar{\omega} \tau} d^3\xi_m d\tau \quad \text{(two errors)}.$$

p. 12, equation (52): y_0 should be replaced by y_{ref}.

p. 19, equation (A 3): $\dfrac{1}{c_0^2}\dfrac{\partial^2 \rho}{\partial t^2} - \dfrac{\partial^2 p}{\partial t^2}$ should be replaced by $\dfrac{1}{c_0^2}\dfrac{\partial^2 p}{\partial t^2} - \dfrac{\partial^2 \rho}{\partial t^2}$

REFERENCES

Chu, W. T. 1966 Turbulence measurements relevant to jet noise. University of Toronto, Institute for Aerospace Studies. *UTIAS Rep.* 119.