Math. Proc. Camb. Phil. Soc. (1984), 95, 187
Printed in Great Britain

Corrigenda

Volume 90 (1981), 335–341

'Multi-valued solutions of the wave equation'

BY F. G. FRIEDLANDER
Department of Applied Mathematics and Theoretical Physics,
University of Cambridge

(*Received* 30 *August* 1983)

In this paper [1], two corrections must be made.

(1) In the second member of (27), m is to be replaced by $m+1$; this agrees with (18), and gives the correct result.

(2) Theorem 2 is mis-stated. It should run as follows:

THEOREM 2. *Assume that n is even, and put $k = \frac{1}{2}(n-2)$. Then the distribution*

$$K = \left(\frac{1}{2\pi t}\frac{\partial}{\partial t}\right)^k \Psi \tag{29}$$

satisfies (5) *if*

$$\Psi = \frac{1}{2\pi} H(t)\,\chi(\theta)\,(t^2-R^2)_+^{-\frac{1}{2}} \quad (t < S) \tag{30'}$$

and

$$\Psi = \frac{1}{2\pi^2}\int_0^\infty P(\eta,\theta)\,(2rr'\cosh\eta + r^2 + r'^2 + |x|^2 - t^2)_+^{-\frac{1}{2}}\,d\eta \quad (t > S), \tag{31'}$$

where
$$P(\eta,\theta) = \frac{\eta}{\eta^2+(\pi+\theta)^2} + \frac{\eta}{\eta^2+(\pi-\theta)^2}. \tag{32'}$$

In fact, Hadamard's method of descent, applied to Theorem 1 with $n = 2k+3$, first gives Ψ in the form

$$\Psi = \Psi_1 + (2\pi)^{-1} H(t)\,\chi(\theta)\,(t^2-R^2)_+^{-\frac{1}{2}},$$

where Ψ_1 is the second member of (31) in [1]. One can then derive (30′)–(32′) above by an argument similar to that on pp. 115–118 of [2].

REFERENCES

[1] F. G. FRIEDLANDER. Multi-valued solutions of the wave equation. *Math. Proc. Cambridge Philos. Soc.* **90** (1981), 335–341.

[2] F. G. FRIEDLANDER. *Sound Pulses* (Cambridge University Press, 1958).