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in waveguides with linearly varying thickness [J. Acoust.
Soc. Am. 135(5), 2614–2624 (2014)]**

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► **To cite this version:**

Ludovic Moreau, Jean-Gabriel Minonzio, Maryline Talmant, Pascal Laugier. Erratum: Measuring the wavenumber of guided modes in waveguides with linearly varying thickness [J. Acoust. Soc. Am. 135(5), 2614–2624 (2014)]. Journal of the Acoustical Society of America, 2014, 136 (2), pp.945. 10.1121/1.4884766 . hal-01394320

HAL Id: hal-01394320

<https://hal.sorbonne-universite.fr/hal-01394320>

Submitted on 9 Nov 2016

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Erratum: Measuring the wavenumber of guided modes in waveguides with linearly varying thickness

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June 5th, 2014

There is an error in the phase term of Eq. (13). The correct phase is expressed as an integral.^{1,2}

Thus, the corrected expression of Eq.(13) is

$$e_m^{test}(k, \varepsilon) = \frac{1}{\sqrt{M}} e^{i \int_{x_1^R}^{x_m^R} k^{test}(x) dx}, \quad (13)$$

with $k^{test}(x)$ defined with coefficients k and ε of a first order Taylor expansion following Eq. (10) as

$$k^{test}(x) = k \left(1 + \frac{\varepsilon}{p} x \right). \quad (14)$$

Thus, in a first order Taylor expansion, it implies that Eq. (13) also expresses as

$$e_m^{test}(k, \varepsilon) = \frac{1}{\sqrt{M}} e^{i \left(k(x_m^R - x_1^R) + \frac{1}{2} k \frac{\varepsilon}{p} (x_m^R - x_1^R)^2 \right)}.$$

Then, the corrected expression of Eq. (15) is

$$\langle \mathbf{e}^{test}(k, \varepsilon) | \mathbf{U}_1 \rangle = \frac{1}{M} \sum_{m=1}^M \exp \left[i \left((k_0 - k)(x_m^R - x_1^R) + \frac{1}{2} \left(k_0 \frac{\varepsilon_0}{p} - k \frac{\varepsilon}{p} \right) (x_m^R - x_1^R)^2 \right) \right]. \quad (15)$$

This error does not affect the estimation of the wavenumbers (Fig. 5) and the conclusion of the paper. However, it affects the estimation of the deviation term $\varepsilon(x_0, f)$ by a factor $\frac{1}{2}$. It explains the discrepancy observed in Fig. 6 between theoretical and experimental values of the deviation term $\varepsilon(x_0, f)$. In the corrected figure, the discrepancy is reduced.

Acknowledgment

The authors would like to thank Dr. Vincent Pagneux (Laboratoire d'Acoustique de l'Université du Maine, Le Mans, France) about his fruitful comments on Eq. (13).

¹ V. Pagneux and A. Maurel, "Lamb wave propagation in elastic waveguides with variable thickness," Proceedings of the Royal Society A: Mathematical, Physical and Engineering Science **462**(2068), 1315–1339 (2006).

² L. De Marchi, A. Marzani, and M. Miniaci, "A dispersion compensation procedure to extend pulse-echo defects location to irregular waveguides," NDT & E International **54**, 115–122 (2013).

Figure 6. Theoretical (continuous and dashed lines) and experimental values of the deviation term $\varepsilon(x_0, f)$ for $\alpha = 1^\circ$ (a) and $\alpha = 2^\circ$ (b), for modes A1 (circles), S2 (stars) and A3 (dots) for direction “–”.