Première Conférence Internationale sur les Mathématiques Appliquées et Industrielles
First International Conference on Industrial and Applied Mathematics
Erste internationale Konferenz über die Anwendungen der Mathematik insbesondere in der Industrie

ICIAM 87

PARIS – LA VILLETTE
Cité des Sciences et de l'Industrie

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ABSTRACT FORM

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Inversion of Lossy Transmission Media by Discrete Methods

The present work deals with some problems arising when estimating the parameters of a system by the inversion of its propagation equations when losses can not be neglected. This is the case of the vocal tract, the auditory system and many others, for which a lack of efficient computational methods can be detected to estimate the effect of losses [1]. The herein proposed method is based in the Calculus of Variations on the modified discrete counterparts of the propagation equations in terms of separate travelling waves, thus reducing the problem to the solution of a Toeplitz system, for which the losseless problem may be seen as á particular case. The method have been implemented and checked by computer, and several results may be shown.

[1] "A Digital Lattice for Cochlear Parameter Identification", P. Gómez et al., Proc. of the MECOMBE'86, Sevilla, Spain, September 9-12 1986, pp. 637-640.

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