EDITORIAL

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Acoustical Physics, 2011, no. 1 published Ronald F. Pannatoni's paper "Coupled Mode Theory for Irregular Acoustic Waveguides with Loss." The editorial board would like to inform readers that the decision was made to publish this paper as a discussion together with excerpts of commentary from three independent reviewers.

However, in preparing the manuscript for publishing, the materials constituting the basis of the discussion were lost.

The editorial board apologizes to the readers and is publishing the misplaced information in the present issue of *Acoustical Physics*.

DISCUSSION MATERIALS

Ronald F. Pannatoni's paper "Coupled Mode Theory for Irregular Acoustic Waveguides with Loss" is devoted to developing a model of related Shevchenko modes for a waveguide with loss. It is noteworthy that the problem of mode interaction in a waveguide has been actively discussed in the scientific literature, including *Acoustical Physics*. In the review process, specialists gave the manuscript contradictory evaluations. The discussion was a lengthy one; as well, remarks about insufficiencies either concern details or are argumentative. Taking these circumstances into account, as well as the fact that the paper may be interesting to many of our readers, the editorial board decided to publish this paper as an exception along with excerpts of commentary from independent reviewers.

Reviewer 1: The author believes that his formulation, unlike earlier formulations, is applicable where losses can no longer be treated as perturbations. How-

ever, the losses are formally accounted for in the manuscript by attributing an imaginary part to the acoustic wave number squared. The author is apparently unaware that such modeling of losses is acceptable only when absorption can be treated as a perturbation.

The paper is very mathematical. It is disconnected from topical problems of the acoustic coupled mode theory and does not contain any new physical results. The manuscript fails to demonstrate that the new formulation of the coupled mode theory has any practical advantages over existing formulations.

Reviewer 2: The author generalizes Shevchenko's method (the cross section method) to the case when there is absorption in the medium. It is fundamentally important that absorption is not assumed to be small. It is noteworthy that allowance for absorption in the normal modes method represents a complex problem that is frequently solved using perturbation theory based on the weakness of absorption.

The proposed method of allowing for absorption is new and, as the author maintains, it is possible to create numerical algorithms based on it to calculate normal modes, which in a number of cases can be more effective than existing ones.

Reviewer 3: The author studies the problem of allowing for losses during mode interaction, a problem to which dozens of works are devoted (L.M. Brekhovskii and O.A. Godin's monograph *Acoustics of Inhomogeneous Media*, Moscow, Nauka, 2009, contains many references). A place must be established among these studies. The main remark is that the author pays insufficient attention to the physical content of the results he presents.