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ABSTRACTS

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DETERMINATION METHOD OF HEAT PHYSICAL CHARACTERISTICS FOR THIN MATERIALS AND ITS STABILITY

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The majority of determination methods of heat physical characteristics are based on the fact that temperature measurements are made in a solid of a simple shape and the results of the measurements are compared with a mathematical model of heat transfer. If some materials are thin, for example, film, paper or window pane, temperature measurements inside such materials are impossible due to the measurements are comparable to the ones of a material. In such a case we offer to put the material in question between two plates of a different material whose heat physical characteristics are known. Measurements are made inside these plates [1], [2]. The inverse problem of determination of thermo physical characteristics of the studied material has been solved. Solution with different input data shows that the problem is unstable. Various solutions and ways to detect and to minimize effects of instability are discussed.

REFERENCES

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