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## FOREWORD to the English Language Edition

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I am honored to write a foreword for this book for a number of reasons. One is that I have been privileged to meet personally each of the authors many times and to have lengthy technical discussions with them. We have conversed in Russia, in the United States and in France. There have been joint technical meetings in Moscow and St. Petersburg in Russia and in East Lansing, Michigan (some of which have had US and Russian government support) as well as other places where we met and discussed inverse problems in heat transfer. Such meetings are very important for the advancing of this research area.

Another reason is that the research and methods *complement* the work done in the United States and elsewhere in the West. With the exception of a book written by Dean Alifanov, there is no other comparable book in English that has the same mathematical depth for solving inverse heat transfer problems using the iterative regularization method. This book has the potential of greatly affecting research in the English-speaking world in a large range of inverse heat transfer problems. The iterative regularization method has many advantages including generality and substantial mathematical underpinning.

Yet another reason is the importance of the general topic. Inverse problems in heat transfer involve combining of analysis and experimentation in a more powerful way than is frequently done in heat transfer and in other fields. The name "new research paradigm" has been suggested. By using the techniques in this book, it is possible to estimate parameters and functions that cannot be found by using techniques now commonly used by experimenters. Furthermore the book discusses how experiments can lead to substantial advances in many facets of engineering, medicine, geology and other fields.

The final reason is that this book is tangible proof of *international cooperation* in engineering and mathematics. We in the United States and other English-speaking countries are indeed fortunate to have this book.

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