

PREFACE

This issue of the journal has been planned as the second topical issue devoted to the problems of the theory of image transfer through scattering media, including image processing algorithms aimed at eliminating (reduction) of the distorting effects of the media. Therefore the scope of the problems presented in this issue is almost identical with that in the previous one. The only extension is presented by the paper which deals with some aspects of the theory of image recognition in application to interpretation of data of aerospace observations of the underlying surface. In November 1993 the Scientific Board of Siberian Branch of the Russian Academy of Sciences on the problems of image processing approved this field of studies as an important scientific task.

All papers in this issue are grouped around three topics.

The first group includes the papers dealing with the methodological aspects of vision theory and with the methods of solving the radiation transfer equation in application to description of image formation in scattering and turbulent media.

The papers of the second group present particular studies of the influence of scattering and absorbing media on certain parameters of radiation that forms images of objects under study.

Papers dealing with the techniques of processing the images taken from space and airborne platforms make up the third group.

The final publication in this issue is an article from Moscow Energy Institute which presents another one version of an automated work station for a research in the vision theory. This new work station differs from SV-1 one (Atm. Oceanic Opt. 5, No. 8, 1992) by much wider software to facilitate applied studies.

It is worth noting that a stable interest of researchers is demonstrated in this issue to the problems on image transfer through an interface between two media, like atmosphere and rough sea surface, as well as to the use of IR radiation.

Omitting detailed discussion of the problems presented in the papers I should like to note that in this issue a reader will not find, unfortunately, new experimental results of neither laboratory or field studies concerning the vision theory.

I hope that in the future topical issue on these problems there will be presented results of comprehensive theoretical and experimental studies as well.

Prof. V.V. Belov, editor