

Editor preface

XII Joint International Symposium “**Atmospheric and Ocean Optics. Atmospheric Physics**” was held by Institute of Atmospheric Optics and Institute of Solar-Terrestrial Physics in June, 27–30, 2005 in Tomsk under the SB RAS Conference plan for 2005.

The Symposium was supported by the Siberian Branch of the Russian Academy of Sciences, Russian Foundation for Basic Research, International Society for Optical Engineering (SPIE), and Russian Chapter of SPIE (SPIE-RUS).

There were 325 papers in the Symposium program, including 12 plenary, 120 oral, and 193 posters. Professor **Gennadii G. Matvienko** (Tomsk) and Academician **Gelii A. Zherebtsov** (Irkutsk) chaired the symposium, Professor **Vladimir P. Lukin** headed the organizing committee, Doctor **Olga V. Kharchenko** was the scientific secretary of the Symposium.

More than 100 scientific organizations from Russia, Ukraine, Belarus, Turkey, Argentina, China, Georgia, Armenia, Azerbaijan, Kyrgyzstan, Uzbekistan, Great Britain, and Kazakhstan took part in the Symposium. There were scientists from France, USA, China, Germany, Iran, and Israel among coauthors of the presented papers.

Work of the symposium was organized in the following way.

Two plenary sessions were held, where 10 papers on acute problems of atmospheric optics were presented. Thirteen topical sessions were united in four conferences; two poster sessions took place each common for two conferences.

The Conference **A (Molecular Spectroscopy and Atmospheric Radiative Processes)** was devoted to problems of the most efficient application of results of classic molecular spectroscopy to modeling climate and elaboration of algorithms for geophysical applications of atmospheric optics. There were presented 20 oral reports and 44 posters. The session “Radiative Regime and Climate Problem” worked here.

The Conference **B (Optical Radiation Propagation in the Atmosphere and Ocean)** was devoted to comprehensive studies of optical field fluctuations in turbulent atmosphere, as well as related issues of adaptive optics. Urgency of the problem of correction of optical images and beams formed and observed through atmosphere (including space observations) was underlined. The Conference included 22 oral reports and 57 posters.

The Conference **C (Optical Investigation of Atmosphere and Ocean)** was the most numerous (34 oral reports and 79 posters). The reports were devoted to new measuring instruments, adaptation of sensing systems to different applications, intercalibration of measuring instruments. Papers on acoustic sensing of atmosphere emphasized the investigation of wind and turbulent conditions in the lower atmosphere.

The Conference **D (Atmospheric Physics)** included the sessions “Structure and Dynamics of the Middle Atmosphere,” “Composition of the Atmosphere,” “Dynamics of the Atmosphere and Climate of the Asian Region,” “Physical Processes and Phenomena in the Earth’s Thermosphere and Ionosphere.” Special attention was given to influence of atmospheric aerosol on UV radiation transfer. Eighteen oral papers and forty three posters were presented there.

In addition to the declared program, the scientific workshop **E** (special session of ISTC) has been held.

Thus, 277 scientists took part in the Symposium, 73 participants (almost each third) were younger than 33.

The following proposals were made in the closing meeting.

1. To continue the conducting of international symposia and conferences on the regular basis in order to maintain and strengthen scientific relations between scientists and scientific institutions in Russia and other countries.

2. To consider the experience of joining different topics of atmospheric and ocean optics in the Symposium successful. To promote the increase of the number of the Symposium participants.

3. To pay attention to further development of climatic and ecological programs for vast regions of Russia and world. To promote the integration of efforts of different research organizations for conducting cooperative experiments.

4. To recommend presented papers for publishing in two special SPIE issues.

5. To admit high scientific and organizing levels of the Symposium. To express gratitude to the Institute of Atmospheric Optics and the Organizing Committee of the Institute of Solar-Terrestrial Physics for organization and creating favorable conditions for effective work.

6. To thank the Siberian Branch of RAS, Russian Foundation for Basic Research, International Society for Optical Engineering (SPIE), and Doctor E. Akopov personally for financial support of the Symposium and publishing SPIE issues.

The present issue of *Atmospheric and Oceanic Optics* contains the most interesting papers recommended by the Organizing Committee. It was impossible to include all the recommended papers in one issue, therefore the journal will continue publishing materials of the Symposium in 2006.

We invite you to take part in the next Symposium in 2006.

Chairman of the organizing Committee
Professor **Vladimir P. Lukin**