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Atmospheric and Ocean Optics/ Atmospheric Physics

Gennadii G. Matvienko
Vladimir I. Kurkin
Oleg A. Romanovskii
Editors

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Introduction

In accordance with the schedule of meeting and conferences approved by the Presidium of the Siberian Branch of the Russian Academy of Sciences (SB RAS) for 2012, the Institute of Atmospheric Optics SB RAS and the Institute of Solar-Terrestrial Physics SB RAS organized the Eighteenth International Symposium titled Atmospheric and Ocean Optics/Atmospheric Physics in Irkutsk, Russia, 2–6 July 2012.

We wish to thank our sponsors for their contribution to the success of the symposium: Siberian Branch of the Russian Academy of Sciences, Russian Foundation for Basic Research, and the Ministry of Education and Science of Russian Federation.

English and Russian were the working languages of the symposium. All poster presentations were in English and oral presentations were made in English and Russian (using synchronous translation via personal audio-equipment).

We conducted four conferences titled:

A. Molecular Spectroscopy and Atmospheric Radiative Processes
B. Optical Radiation Propagation in the Atmosphere and Ocean
C. Optical Investigation of Atmosphere and Ocean
D. Atmospheric Physics

The main topics of the Eighteenth International Symposium on Atmospheric and Ocean Optics/Atmospheric Physics included:

- Molecular spectroscopy of atmospheric gases
- Absorption of radiation in atmosphere and ocean
- Radiative regime and climate problems
- Models and data bases for atmospheric optics and physics
- Wave propagation in random inhomogeneous media
- Adaptive optics
- Nonlinear effects at radiation propagation in atmosphere
- Multiple scattering in optical remote sensing
- Image transfer and processing
- Optical and microphysical properties of atmospheric aerosol and suspension in water media
- Transport and transformation of aerosol and gas components in the atmosphere
- Laser and acoustic sounding of atmosphere and ocean
- Diagnostics of state and functioning of plants bio systems

- Structure and dynamics of the lower and middle atmosphere
- Dynamics of the atmosphere and climate of the Asian region
- Physical processes and phenomena in the atmosphere
- Optic techniques for probing the atmosphere

History: a symposium on Atmospheric and Ocean Optics has been held annually 1994 by the Institute of Atmospheric Optics SB RAS. From 1971 to 2012 the IAO SB RAS organized more than 50 conferences on different scientific topics. Current symposium is the only one in Russia where fundamental problems of propagation in inhomogeneous media and the scattering and absorption radiation are considered. Very few conferences in the world have such a spectrum of interest. It is very attractive for participants from former 15 countries that the official languages of symposium are Russian and English.

In the field listed here, the Siberian scientific schools are leaders in our country and well known in the world. This fact can be attributed to the interest in symposium from the scientists of Russia and other countries of the former.
Present: the Eighteenth International Symposium Atmospheric and Ocean Optics/ Atmospheric Physics" was successfully held in Irkutsk, Russia, 2–6 July 2012.

The program of the symposium included 22 invited and plenary papers, 172 oral presentations, and more than 120 poster presentations during four poster sessions.

Gennadii G. Matvienko
Vladimir I. Kurkin
Oleg A. Romanovskii