

## Preface

The past year was marked by several important jubilee dates, such as the 400th anniversary of Tomsk, the 35th anniversary of the Institute of Atmospheric Optics SB RAS, and the 25th anniversary of the Tomsk Scientific Center SB RAS.

Taking into account the main subjects of the passed “Siberian Aerosols” Workshop, I think that it is appropriate to mention here some historic stages in formation and development of aerosol investigations at the Institute of Atmospheric Optics SB RAS and in Siberia.

The Institute of Atmospheric Optics SB RAS was founded by Academician Vladimir Evseevich Zuev in 1969 on the base of the Laboratory of Infrared Radiation of the Siberian Physical-Technical Institute at the Tomsk State University.

The appearance of such an institution was caused by the need to study various atmospheric phenomena of different scales and different nature with the use of a wide range of optical methods and facilities.

Owing to inexhaustible energy of V.E. Zuev, the Institute of Atmospheric Optics has been developed impetuously. The experimental and theoretical base grew quickly as well: first flights of the flying laboratory (1970s) with its following operation in the virtually monitoring mode; then, based on the obtained data, 3D mapping of the tropospheric aerosol distribution over the territory of Siberia and the USSR; creation of first optical-microphysical models, and, later, a series of empiric aerosol models for Western Siberia. Then combined experiments such as Vertikal, SATOR, ecological surveys of towns and large industrial centers, a series of airborne, ground-based, and shipborne experiments at Lake Baikal ensued, as well as participation in international programs EUROTRAC, ARM, Boreas Machine, and SIBERIA-2.

Nowadays the measurements of the aerosol optical depth and the radiative characteristics are carried out in the monitoring mode, a series of observations of the aerosol extinction coefficient in a wide spectral region along extended near-surface paths are being continued, the aerosol and TOR stations of the Institute of Atmospheric Optics SB RAS operate in the automatic mode. The unique Siberian Lidar Station functions.

The current stage of aerosol investigations is characterized by the implementation of the methods for inverse problem solving into the everyday practice of optical measurements. The operation of the flying laboratory is in progress. Here I would like to emphasize the role of the “Siberian Aerosols” Workshop, due to which there appeared a new object of investigations – bioaerosols. To be noted is also the recent large work in cooperation with NASA on the deployment of the AEROSIBNET network for observation of the aerosol optical depth (Ekaterinburg, Khanty-Mansiisk, Tomsk, Irkutsk, Mondy, Ussuriisk).

In a brief preface, there is no room even to simply list the geographic regions of works, carried out by the researchers of the Institute of Atmospheric Optics and their colleagues from other institutions, who have contributed and continue successfully contribute to the study of aerosol properties in Siberia.

I hope that this issue of *Atmospheric and Oceanic Optics*, based on the materials of the 11th “Siberian Aerosols” Workshop, will serve to strengthen the scientific relations and favor further investigations.

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