

THE NINTH INTERNATIONAL CONFERENCE ON ATMOSPHERIC ELECTRICITY

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Received June 29, 1992

The Ninth International Conference on Atmospheric Electricity was held in St. Petersburg, June 15–19, 1992. At first, the place of the conference was decided Tbilisi. However, the change of the conference place from Tbilisi to St. Petersburg was caused by the political instability in the Caucasus being typical of recent time. The A.I. Voeikov Main Geophysical Observatory was the immediate organizer of the conference. Invitations to the conference were sent out based on the International Database comprising information about the scientists dealing with this field. The reports were submitted by Prof. J. Latham (Manchester University, Great Britain).

More than 300 scientists from various countries of the Earth globe (Europe, America, Japan, China, and Australia) took part in the conference. The delegation from the USA was most numerous. More than 280 oral reports, among them 94 plenary and 188 poster reports were heard and discussed. Of them only 74 reports were presented by the Russian scientists and four reports — by representatives from the former Soviet Socialist Republics.

16 sections worked at the conference. Let us list only the main sections. These are, first of all, Global Problems of Atmospheric Electricity, Electrical Processes in Clouds, Lightning: General Aspects, Lightning Recording Systems, Thunderstorm Field Experiments, Lidar Processes, Return Stroke, Firing Discharge, Lightning Processes, Laboratory Charging Experiments, and so on.

In the reports main attention was paid to the problems of lightning recording and statistical processing of the obtained experimental data. The works of the foreign scientists stood out because they use a very modern measuring equipment. The virtually complete lack of information about the physical processes occurred during air ionization can be related to disadvantages of such investigations. In these reports much attention was also given to various models developed for the study of the reasons of cloud charging. However, the plasma–chemical processes occurred in the linear lightning channel were completely excluded from consideration. The reports of the Russian scientists to a certain extent made up this deficiency. However, in their reports numerical calculations were dominated over the experiment.

The conference participants welcomed warmly the reports of the oldest scientists in the field of atmospheric electricity: B.Vonnegut (Honorary President of the International Committee on Atmospheric Electricity, USA), N. Kitagawa (Japan), and M.V. Kostenko (Russia) who reviewed the results of recent works.

The specialists on monitoring of the ambient air pollution (in particular, E. Fisher, Switzerland) were among the conference participants, though they did not present special reports on this subject. The state and composition of the atmosphere is generally monitored by laser sounding.

A distinguishing feature of the Ninth International Conference compared to the previous conferences was the section Ball Lightning: Biological Effects at which only posters were presented, in particular on the maser–soliton ball lightning model proposed by P. Handle (USA), electrostatic and bubble model of ball lightning proposed by A.I. Mesenyashin (Russia), and ball lightning model based on covalence electrons in a system of highly excited atoms proposed by E.A. Manykin et al. (Russia). Among the experimental works on this subject, laboratory imitation of ball lightning using an electric arc should be noted, which was performed in water by R. Golck (USA), and his videofilm demonstration. My experiments devoted to the study of cold nonequilibrium plasma in wet air and long–existing local plasmic formations initiated by this plasma can also be related to such experimental works. A. Puhlinger (Austria) devoted his report to the elucidation of physical nature of beaded lightning.

The next Tenth International Conference on Atmospheric Electricity is decided to be held in Osaka (Japan) in 1994.