

# INFORMATION

## ALL-UNION CONFERENCE ON POLAROGRAPHY WITH STORAGE AND ITS APPLICATION IN SCIENTIFIC INVESTIGATIONS

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The conference was held at Tomsk in May of this year. It was organized by the Tomsk Polytechnic Institute together with the Scientific Council on Analytical Chemistry of the Academy of Sciences of the USSR, the Ministries of Higher and Intermediate Special Education of the USSR and the RSFSR, and the Analytical Section of the Mendeleev All-Union Chemical Society. Taking part in the work of the conference were 188 delegates from 28 cities and 75 organizations (36 scientific-research institutes, 23 vuzovs, and 16 enterprises). In all 208 papers were presented; the synopses of these have been published [1].

The papers were heard in three plenary and six section sessions. The following sections functioned:

1) investigation of electrode processes on amalgams; 2) on solid electrodes; 3) analytical use of methods of polarography with storage. These same sections also considered problems of investigating electrode processes having participation of surface-active substances, the polarography of solid solutions and melted media, and apparatus.

The conference was distinguished by the high scientific level of the papers, the deep considerations, and the active discussions in the sections. To a great degree this is due to the untraditional system of organization of the conference. In addition to investigators working experimentally specifically in this field of knowledge, invitations were given to scientists-electrochemists concerned with theoretical investigations in similar fields having the problems considered. They gave papers in the plenary sessions and, in addition, they headed some sessions of the sections. In particular, we mention the papers of K. M. Gorbunova, on the structural-kinetic peculiarities of microprecipitates occurring during electrocrystallization; of B. N. Kabanov, on the electrochemical introduction of alkali elements; of V. V. Losev, on the kinetics of electrode processes on amalgams and stage discharge; and of V. I. Kravtsov, on the kinetics of an anode solution of metals with participation of complex ions.

With respect to the overall basic trends discussed at the conference, generalized survey papers were given — with respect to problems in the analysis of high-purity materials, with respect to amalgam polarography with storage, with respect to inversion voltamperometry of solid phases, and with respect to analytical application of the method (Yu. S. Lyalikov, A. G. Stromberg, A. Z. Brainina, and A. A. Kaplin).

In addition, a number of papers of general value were also given at the plenary sessions. Here there were discussions of the peculiarities of the kinetics of electrode reactions, investigation of intermetallide compounds in mercury (L. F. Kozin and A. I. Zebrev), modern polarographic apparatus (R. F. M. Salikhdzhanova). The classification of polarographic methods proposed by A. G. Stromberg was discussed. The results of scientific measurement studies on the use in the domestic and world press of the ideas and methods proposed by our scientists in the field of polarography with storage were given by I. M. Orient and R. G. Pats.

The sections heard reportorial generalized papers on the series of works being carried out in leading laboratories, and also the results of specific experimental investigations. Great interest and active discussion was prompted by an investigation of the theoretical bases of amalgam polarography with storage (APS) and the mathematical description of the processes (B. F. Nazarov and Yu. A. Karbainov), a series of works on the study of electrode processes on amalgams (V. A. Igolinskii) with respect to investigation of the anode solution of intermetallic phases

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on a rotating disk electrode (J. K. Marshakov), works on the use of glass graphite electrodes in the IVM method (O. L. Kabanova), the investigation of the initial stages of electrocrystallization (N. F. Zakharchuk), the application of mathematical methods of experiment planning to polarography with storage (A. I. Kamenov), the investigation of the nonstoichiometry, phase composition, and structural peculiarities of compounds (É. Ya. Sapozhnikova), etc.

In the resolution adopted by the conference a recommendation was made for use of the method of polarography with storage in semiconductor materials science, in the analysis of the contamination of the atmosphere, in materials, metals, and reactants of special purity, and in products of ferrous and nonferrous metallurgy.

For the main problems subject to further study the following were noted: explanation of the mechanism of electrode processes and their mathematical evaluation of the sensitivity, accuracy, and resolving power of different variations of the method of polarography with storage, and the design of new apparatus having improved parameters and special attachment for polarography.

A resolution was introduced for the publication of a systematized index of articles on polarography with storage and on a speedup of the publication of a monograph on APS. It was resolved to create a commission on problems of terminology. For the purposes of comparability with respect to parameters, and the storage and systematization of information it was deemed desirable to develop a unified form for presentation of analytical methods on specially developed punched cards (as an appendix to articles). This would make it possible to store analytical methods in a computer memory. It was deemed desirable to continue scientific measurement investigations in polarography with storage.

It was resolved to have the next conference in Tomsk in 1976.