SECOND ALL-UNION CONFERENCE ON POLAROGRAPHY

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The second All-Union Conference on polarography was held between September 25 and September 29, 1962 in Kazan; the conference was organized by the D. I. Mendeleev All-Union Chemical Society, the Chemical Institute of the Academy of Sciences of the USSR, the Kazan State University, the Kazan Chemical Engineering Institute and the Kazan Aviation Institute.

The conference was attended by 400 delegates from 36 cities.

The delegates heard and discussed the work of Soviet polarographers since October, 1959.

After the introductory speech by V. F. Toropova review reports were presented on advances in the polarography of organic compounds (Yu. P. Kitaev), on the theory of transfer processes in a circuit with a polarographic cell (R. Sh. Nigmatullin), on the theory of electrode processes complicated by rapid volume reactions (V. G. Levich), on methods for calculating depolarization schemes (E. S. Levin).

The conference was divided into the following sections: polarography, organic compounds, melts and solid electrodes, apparatus and kinetics of electrode processes, and adsorption.

The delegates heard 183 reports. During the reports and discussions the conference dealt with basic problems in the development of the theory of electrochemical processes, the application of polarography to the investigation of the structure and analysis of organic compounds, the study of the mechanism and kinetics of electrode processes on a mercury drop electrode, solid electrodes, in melts and nonaqueous solutions.

The conference paid particular attention to the trace determination of substances (E. N. Vinogradova, L. N. Vasil'eva, G. V. Prokhorova, etc).

Special interest was shown in the reports of A. G. Stromberg and his students (Tomsk) on the determination of elements by amalgam polarography and accumulation on a stationary mercury drop and in the reports of Kh. Z. Brainina and co-workers (Donetsk) on the use of solid electrodes for the continuous polarographic and coulometric trace determination of substances.

N. M. Dyatlova (Moscow) reported on the use of new complexones in polarography.

A number of reports dealt with apparatus for polarographic determinations and the automation of instruments. Especially interesting were the reports of R. Sh. Nigmatullin and co-workers on the theory of transfer processes in a circuit with a polarographic cell (the effect of capacity of the double electrical layer and the volume resistance on the accuracy of the measurements in the oscillographic polarography was determined with a special analog computer), on the use of fractional differentiation in oscillographic polarography.

V. G. Levich pointed out that this computer is better than a computer which requires preliminary programing.

There were interesting reports by V. G. Novak and V. F. Mal'tsev (Dnepropetrovsk): "An Improved Apparatus for Amperometric Titration;" A. B. Elizarov (Kazan) "The Design of Oscillographic Polarographs Using Semiconductors."

The conference delegates remarked that the main fault of work in polarographic analysis is the shortage of apparatus in industrial and scientific research laboratories. The production of PE-312 electronic polarographs by the Central Laboratory for Automation should be expanded; the accuracy of the instruments and their resolving capacity should be improved.

The delegates unanimously agreed on the value of specialized conferences for the development of polarography and the training of young specialists.

The next conference will be held in Kiev in 1965.