STUDY OF ELECTROCHEMICAL PROCESSES BY THE ROTATING DOUBLE RING ELECTRODE

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ABSTRACT

During the last decade it has been proven that the rotating disc electrode is a very useful tool for stationary investigations of electrode processes and preceding or following chemical reactions. The occurance of intermediate products has been successfully studied by a disc electrode with an additional concentric ring.

For the investigation of particles with a very short lifetime the double ring electrode, suggested by Heusler and Schurig, should be of special advantage. We have solved the hydrodynamic problem for the double ring electrode by a numerical calculation.

The experimental device is suited for measurements up to 400 rps.

Experimentel results will be presented for the following systems:

a) iron (III) - iron (II) - sulfate/H_2SO_4 (to check the calculation),
b) carbonmonoxide/formate in alkaline solution,
c) methanol/formaldehyde in KOH-electrolyte.