

SYMPOSIUM ON MAJOR EFFECTS OF MINOR CONSTITUENTS ON THE PROPERTIES OF MATERIALS

INTRODUCTION

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The purpose of the Division of Materials Sciences as stated in its scope includes "the promotion of knowledge of the nature of materials . . . the Division will be concerned broadly with the relation of properties [of materials] to their structure and will give special attention to matters common to more than one material or class of materials."

While the present broad interest in purity of materials has been emphasized by the notable developments in solid state electronics, the Symposium Committee felt that purity and effects of impurities in low concentrations are of growing importance in other fields. In keeping with the scope of the Division

and with the technological importance of impurity effects, this symposium was organized to treat the subject broadly, bringing together a physicist, a chemist, a ceramist, and a metallurgist, and weaving the thread of impurity effects through crystalline solids, liquids, and ionized gases. It was apparent in organizing this symposium that purity means something different in each branch of science. Some measure impurities in terms of parts per billion or more, others measure in per cent. Bringing out this divergence of viewpoint in different materials areas was one of the accomplishments of the symposium. The papers show clearly that there are both similarities and differences of impurity effects in different substances.

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