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ROST KRISTALLOV

GROWTH OF CRYSTALS

VOLUME 9

Growth of Crystals

Volume 9

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FOREWORD

For 50 years the Fedorov Institute of Crystallography, Mineralogy, and Petrography at Leningrad Mining Institute has held annual memorial meetings for E. S. Fedorov. Immediately after the jubilee meeting (May 21-24, 1969), the Fedorov All-Union Symposium on Crystal Growth was held, and the proceedings of that symposium constitute Volume 9 of Growth of Crystals.

The symposium surveyed the advances made in the USSR in those aspects of growth concerned mainly with morphology and structure in natural crystals or closely related artificial ones, work which confirmed their relation to E. S. Fedorov and to mineralogical crystallography.

Crystallography is one of the older branches of natural science but has recently undergone a striking rejuvenation on account of new methods and new concepts. Photogoniometric methods have been developed in goniometry, while crystal optics has found new lines of advance in electrooptics and techniques in the ultraviolet and far infrared regions. Morphologic studies now use a vast range of techniques, from the hand lens to the electron microscope or cinemicrography. X-ray analysis is steadily becoming more automatic, and fast computers are used with accelerated methods of structure interpretation.

Crystal growth is one of the younger divisions of crystallography; previously, it had been of interest only in experimental mineralogy, but now it is an important branch of science and technology with close relations to industry.

In Fedorov's time, crystal growth was a very small part of crystallography, but it attracted his attention, and he produced some major valuable results in this area.

It appears that Soviet crystallographers were among the first to appreciate the value of work on crystal growth and led research into this topic here, as well as providing the basis for progress in the subject generally.

The present symposium provides a further opportunity to demonstrate the strong connection between mineralogy and crystallography, a connection that we value greatly and consider to be largely responsible for our success.

We hope that publication of these papers from the symposium will prove of value to many specialists on crystal growth: crystallographers, mineralogists, physicists, and chemists, as well as students envisaging research in this area.

Academician N. V. Belov

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