

# High Pressure in Science and Technology

PART I

Collective Phenomena and Transport Properties

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# High Pressure in Science and Technology

Proceedings of the 9th AIRAPT International High Pressure  
Conference, Albany, New York, U.S.A., July 24-29, 1983

PART I

## Collective Phenomena and Transport Properties

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Further support for the publication of these proceedings was furnished by the U.S. Department of Energy, Contract #DE-FG02-83ER45000. However, any opinions, findings, conclusions or recommendations expressed herein are those of the author(s) and conference organizers and do not necessarily reflect the views of either DOE or the United States Government.

Support of the conference under the U.S. Army Research Office, Contract #DAAG-2983-MO 124; the U.S. National Science Foundation, Contract #DMR-8313613 and the United States Sea Systems Command, Contract #N00024-84M-A631, is gratefully acknowledged.

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Published by:  
Elsevier Science Publishing Co., Inc.  
52 Vanderbilt Avenue, New York, New York 10017

Sole distributors outside the United States and Canada:  
Elsevier Science Publishers B.V.  
P.O. Box 211, 1000 AE Amsterdam, The Netherlands

Library of Congress Cataloging in Publication Data

International AIRAPT Conference (9th: 1983: Albany, N.Y.)  
High pressure in science and technology.

(Materials Research Society symposia proceedings, ISSN 0272-9172; v. 22)

Includes indexes.

Contents: pt. 1. Collective phenomena and transport properties—pt. 2. Fluids, engineering, and safety—pt. 3. General topics. 1. High pressure (Science)—Congresses. 2. High pressure (Technology)—Congresses. I. Homan, C. II. MacCrone, R. K. III. Whalley, E. (Edward), 1925- IV. International Association for the Advancement of High Pressure Science and Technology. V. Title. VI. Series.

QC281.I57 1983 530.4 84-6072  
ISBN 0-444-00932-9 (set)

Manufactured in the United States of America

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## PREFACE

The 9th AIRAPT High Pressure Conference was held in Albany, N.Y., U.S.A. on 1983 July 24-29. The first conference was organized by Boris Vodar and was held in Le Creusot, France in 1965 August. It was followed by a second in Schloss Elmau, West Germany, in 1967, the third in Aviemore, U.K., in 1970, the fourth in Kyoto, Japan, in 1974, the fifth in Moscow, U.S.S.R., in 1975, and the sixth in Boulder, Colorado, U.S.A., in 1977. The seventh returned to the birthplace, Le Creusot, in 1979, and the eighth was held in Uppsala, Sweden, in 1981.

The ninth conference is, therefore, the second to be held in the U.S.A. Tentative plans had been made to have it in Canada, when a group from Albany independently proposed to have one there. Eventually the two groups met, and agreed to pool their resources and organize a joint U.S.A.-Canada conference. It departed from the preceding conferences by including four specialized symposia, on Collective Phenomena, Transport Properties, Fluids under Pressure, and High Pressure Engineering and Safety, as well as general sessions on all aspects of high pressure in science and technology. The two related symposia, Collective Phenomena and Transport Properties, were held in sequence, and they and the symposia on Fluids under Pressure each occupied a single sequence of sessions throughout the Conference. The symposium on High Pressure Engineering and Safety was also the Third International High Pressure Engineering Conference, which was the first held outside of the U.K. The first conference was held in London in 1967, and the second was in Brighton in 1975. Papers submitted to the general program were arranged in sessions according to subject. There were five plenary papers presented at the Conference, one for each of the four symposia and one for the general sessions. Invited and submitted papers were presented in both oral and poster sessions, except the papers in the symposium on Fluids under Pressure, which was presented orally.

Although there was an American and a Canadian Co-Chairman, and the organization of the sessions was done jointly by the American and Canadian organizers, the organization of the Conference itself was done largely by the American organizers in Albany, as it had to be because they were on the spot, and all the financial support came from the U.S.A. The staffs of the Department of Physics of the State University of New York at Albany and the Material Engineering Department of Rensselaer Polytechnic Institute contributed greatly to the organization and smooth running and deserve the wholehearted thanks of all of us.

During the Conference, the fourth award of the Bridgman Medal was made to Francis Birch for his major contributions to geophysics by measuring the equations of state of solids at high pressure, by analyses of the elastic properties of the earth's interior, and by his study of the heat flux in the deep earth. He has also received the Vetlesen Prize, the Arthur L. Day and Penrose Medals for the Geological Society of America, the William Bowie Medal of the American Geophysical Union, and the National Medal of Science. He was elected a member of the U.S. National Academy of Science in 1968 and was awarded its Legion of Merit Award.

C.G. Homan  
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## ACKNOWLEDGEMENTS

The Organizing Committee is very grateful for the generous support of the Conference by the following organizations:

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