

Mines Branch Information Circular IC 172

BIBLIOGRAPHY OF HIGH-TEMPERATURE CONDENSED  
STATES RESEARCH PUBLISHED IN CANADA,  
JANUARY - MARCH, 1965

by

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SYNOPSIS

This report contains bibliographic information concerning research work on high-temperature condensed states published in Canadian journals from January 1 to March 31, 1965.

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Direction des mines

Circulaire d'information IC 172

BIBLIOGRAPHIE DES RECHERCHES EFFECTUÉES DANS  
LE DOMAINE DES ÉTATS CONDENSÉS AUX TEMPÉRATURES  
ÉLEVÉES, AU CANADA, DE JANVIER À MARS 1965

par

Norman F.H. Bright\*

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RÉSUMÉ

Le présent rapport contient des renseignements bibliographiques sur les recherches effectuées sur les états condensés aux températures élevées, publiées dans les revues scientifiques canadiennes au cours de la période de janvier 1 à mars 31, 1965.

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## INTRODUCTION

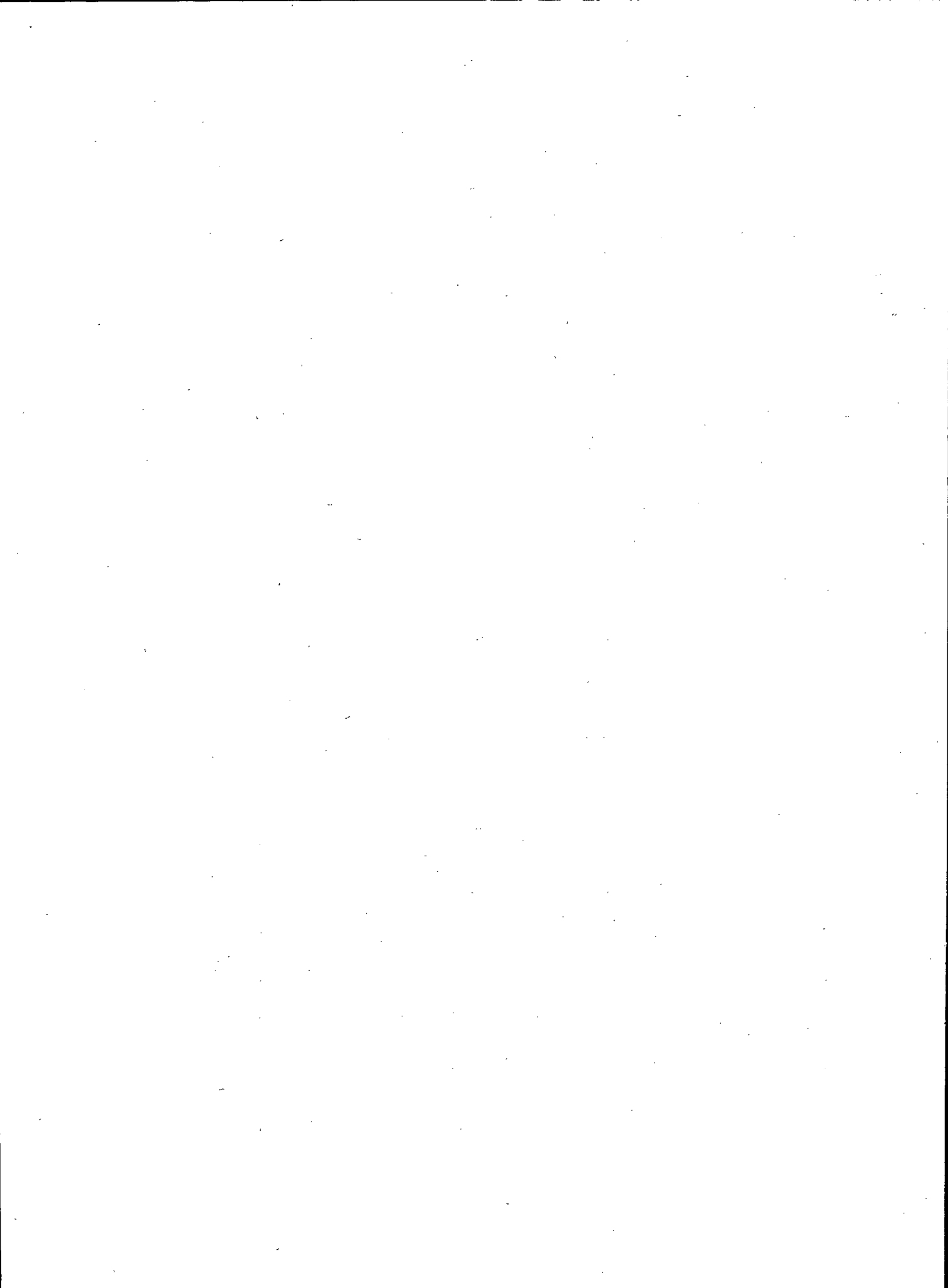
This report is a further contribution to the series of bibliographic bulletins of information on high-temperature condensed-states research that have been published as Mines Branch Information Circulars since March 1960, on behalf of the Sub-Commission on Condensed States of the Commission on High Temperatures and Refractories of the International Union of Pure and Applied Chemistry. The present document covers work published in Canadian scientific and technical journals from January 1 to March 31, 1965.

Any further information concerning these bibliographies can be obtained from the writer of this report at this address:

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Anyone not now receiving these reports who wishes to do so, or anyone who no longer finds them of interest is requested to advise the writer accordingly so the appropriate changes may be made in the mailing list.

The writer would very much appreciate being advised of any work published in Canadian journals, and lying within the scope of these bibliographies, that has escaped his notice, in order that such work may be mentioned in a subsequent issue of the Information Circulars.



BIBLIOGRAPHY OF WORK ON HIGH-TEMPERATURE  
CONDENSED STATES PUBLISHED IN CANADA,  
JANUARY - MARCH 1965

International Union of Pure and Applied Chemistry  
Commission on High Temperatures and Refractories  
Sub-Commission on Condensed States

Bibliography (January 1 to March 31, 1965)  
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A. Devices for achieving temperatures above 1500°C

High-intensity infra-red furnace.

Anon. (review paper).

Canad. Metalworking, 28 [3], 46-47 (1965).

B. Devices for measuring and controlling temperatures above 1500°C

1. Two-colour pyrometers.

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Canad. Controls and Instrumentation, 4 [1], 44-45 (1965).

2. Pyrometer designed for gas-solid systems.

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Canad. Controls and Instrumentation, 4 [1], 49-50 (1965).

C. Devices for physical measurements at temperatures above 1000°C

The un-matched guard method of measuring thermal conductivity:

II. The guardless method.

M.J. Laubitz (Division of Applied Physics, National Research Council  
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D. Properties, at temperatures below 1000°C, of materials that melt above 1500°C

a. Metallic materials

1. The coefficients of thermal expansion of various cubic metals below 1000°K.

D.B. Fraser and A.C. Hollis Hallett (Department of Physics,  
University of Toronto, Toronto, Ontario).

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2. Recent advances in powder metallurgy.  
Nicholas J. Grant (Massachusetts Institute of Technology,  
Cambridge, Mass., U.S.A.).  
Canad. Min. Met. Bull., 58 [635], 323-331 (1965).

b. Non-metallic materials

1. Adsorption and flotation studies with quartz: Part I.  
Adsorption of calcium, hydrogen and hydroxyl ions on quartz.  
S.M. Ahmed and A.B. van Cleave (Division of Natural Sciences,  
University of Saskatchewan, Regina, Saskatchewan).  
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The adsorption of lavrate and myristate on quartz.  
S.M. Ahmed and A.B. van Cleave (Division of Natural Sciences,  
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N. Nemeth and T. Salman (McGill University, Montreal, Québec).  
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E. Properties at temperatures above 1000°C, of materials that melt above 1500°C

Nil

F. Properties, at temperatures above 1000°C, of materials that melt below 1500°C

a. Metallic materials

Nil

b. Non-metallic materials

The crystal structure of  $Zn_3(PO_4)_2$ .  
Crispin Calvo (McMaster University, Hamilton, Ontario).  
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c. Mixed materials

Nil

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1. A brief study of Ni-rich alloys of the Ni-Hf-C and Ni-Zr-C systems.  
D.C. Briggs (Physical Metallurgy Division, Mines Branch, Department of Mines and Technical Surveys, Ottawa, Ontario).  
Mines Branch Research Report R 142, Department of Mines and Technical Surveys, Ottawa, Ontario. (November 1964).
2. Determination of activity coefficients in solid solutions.  
M. Rigaud and R. Tougas (École Polytechnique, Montréal, Québec).  
Canad. Met. Quart., 3 [4], 269-277 (1964).
3. Computation of liquidus relationships in multicomponent binary salt systems.  
F.G. Smith (Department of Geology, University of Toronto, Toronto, Ontario).  
Canad. Mineralogist, 8 [2], 141-148 (1965).
4. Experiments in the Au-Bi-Te system.  
Ernst W. Winkler and Norman F.H. Bright (Mineral Sciences Division, Mines Branch, Department of Mines and Technical Surveys, Ottawa, Ontario).  
Mines Branch Research Report R 145, Department of Mines and Technical Surveys, Ottawa, Ontario. (February 1965).  
Reprinted from "Solid State Communications", 2, 293-295 (1964).

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A. Galibois and A. Dubé (Laval University, Québec City, Québec).  
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J.E. Gillott (Division of Building Research, National Research Council of Canada, Ottawa, Ontario).  
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3. Kinetics of the reduction of ferrous chloride with hydrogen.  
Tyson Rigg (Research Council of Alberta, Edmonton, Alberta).  
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P.K. Strangway and H.U. Ross (Department of Metallurgy and Materials Science, University of Toronto, Toronto, Ontario).  
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5. Carbothermic reduction of alumina: a thermodynamic analysis.  
Wayne L. Worrell (Lawrence Radiation Laboratory, University of  
California, Berkeley, California, U.S.A.).  
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