# Mines Branch Information Circular IC 200

# BIBLIOGRAPHY OF HIGH-TEMPERATURE CONDENSED STATES RESEARCH PUBLISHED IN CANADA, OCTOBER-DECEMBER, 1967

by

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#### SYNOPSIS

This report contains bibliographic information concerning research work on high-temperature condensed states published in Canadian journals from October 1 to December 31, 1967.

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Circulaire d'information IC 200

BIBLIOGRAPHIE DES RECHERCHES EFFECTUÉES DANS LE DOMAINE DES ÉTATS CONDENSÉS AUX TEMPÉRATURES ÉLEVÉES, AU CANADA, D'OCTOBRE À DÉCEMBRE, 1967

par

Norman F. H. Bright\*

# 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 d'octobre 1 à décembre 31, 1967.

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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 Commission on High Temperatures and Refractories of the International Union of Pure and Applied Chemistry. The present document covers the three-month period from October 1 to December 31, 1967, and gives details of work published in Canadian scientific and technical journals during that period.

Anyone not now receiving these reports who wishes to do so, anyone who would like to receive the analogous documents relating to research on the gaseous state and on plasma phenomena, or anyone who currently receives either of these bibliographies but to whom they are no longer of interest, is requested to advise the compiler accordingly so that the appropriate changes may be made in the relevant mailing lists.

The compiler 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 this series of Information Circulars.

Any further information concerning these bibliographies or any of the other relevant IUPAC activities can be obtained from the compiler of this report at the following address:

Dr. Norman F. H. Bright,
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Anyone interested to receive the High-Temperature Gaseous State Bibliographies that are prepared on a quarterly basis by Professor Leo Brewer of the University of California should notify the compiler of the present document and arrangements will be made to have these Gaseous State Bibliographies sent gratis to such people. The dates for the next biennial Congress (or technical sessions) of the International Union of Pure and Applied Chemistry have now been fixed and will be August 20 to 27, 1969; the location will be Sydney, Australia.

The Conference (or business sessions) will be held during the first ten days of July, 1969, and the location will be Cortina d'Ampezzo in the Italian Dolomites, rather than in Rome as originally suggested. These business meetings will be combined with a Symposium on a topic of very general interest, possibly air pollution. Further information on this matter will be supplied in subsequent Circulars as it becomes available.

# BIBLIOGRAPHY OF WORK ON HIGH-TEMPERATURE

# CONDENSED STATES PUBLISHED IN CANADA,.

OCTOBER-DECEMBER, 1967

# International Union of Pure and Applied Chemistry Commission on High Temperatures and Refractories.

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A. Devices for achieving temperatures above 1500°C

#### Nil

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

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

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   Richard H. Lake (Mines Branch, Department of Energy, Mines and Resources, Ottawa, Ontario).
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# D. Properties, at temperatures below 1000°C, of materials that melt above 1500°C

a. Metallic materials

Nil

- b. Non-metallic materials
- The Crystal Structure of Cd<sub>2</sub>V<sub>2</sub>O<sub>7</sub>.
   P. K. L. Au and C. Calvo (McMaster University, Hamilton, Ontario).
   Canad. Journ. Chem., <u>45</u> [20], 2297-2302 (1967).
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- Density Fraction X-Ray Analysis: A New Technique of Modal Analysis of Rocks. George Erdosh (Department of Geological Sciences, McGill University, Montreal, Quebec). Canad. Journ. Earth Sciences, <u>4</u>[6], 1093-1117 (1967).
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  P. G. Manning (Mines Branch, Department of Energy, Mines and Resources, Ottawa, Ontario).
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J. D. Perry (Canadian Refractories Limited, Grenville, Quebec).
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Bhim S. Sharma and Klaus E. Rieckhoff (Department of Physics, Simon Fraser University, Burnaby, British Columbia).
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9. ESR Spectrum of Fe<sup>3+</sup> in Topaz: I. Fine Structure.
J. R. Thyer, S. M. Quick and F. Holuj (Department of Physics, University of Windsor, Windsor, Ontario).
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The Effect of Compositional Variables upon the Properties of

#### c. Mixed materials

7.

- The Energy Loss, the Deterioration Depth, and the Light Output for Heavy Ions in ZnO:Zn.
   L. Hastings and A. van Wijngaarden (Department of Physics, University of Windsor, Windsor, Ontario).
   Canad. Journ. Phys., 45 12, 4039-4051 (1967).
- Radiation Damage in ZnO:Zn by Heavy Ions.
   A. van Wijngaarden and L. Hastings (Department of Physics, University of Windsor, Windsor, Ontario).
   Canad. Journ. Phys. 45 [12], 3803-3814 (1967).

# E. <u>Properties, at temperatures above 1000°C</u>, 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

Transport Properties of Pure Metals at High Temperatures:
 I. Copper.

M. J. Laubitz (Division of Applied Physics, National Research Council of Canada, Ottawa Ontario). Canad. Journ. Phys., <u>45</u> 11, 3677-3696 (1967).

## b. Non-metallic materials

 Decomposition Pressures and Enthalpies of Formation of Some Transition Metal Diarsenides and Diselenides.
 J. J. Murray and R. D. Heyding (Department of Chemistry, Queen's University, Kingston, Ontario).
 Canad. Journ. Chem., <u>45</u> [22], 2675-2687 (1967).

c. Mixed materials

Nil

# G. Phase equilibria

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F. G. Smith (Department of Geology, University of Toronto, Toronto, Ontario).
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   Canad. Journ. Chem. Engg., 45 6, 361-366 (1967).
- Reactions in Basic Glass Tank Checker Brick.
   L. J. Davies (Canadian Refractories Limited, Grenville, Quebec).
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- 4. The Removal of Impurities from Pyrite Cinders by a Chloride Volatilization Process.
  Akira Yazawa and Mitsuo Kameda (Department of Metallurgy, Faculty of Engineering, Tohoku University, Sendai, Japan).
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