NBS Crystal Data

The NBS Crystal Data Center builds and maintains a large scientific database of evaluated chemical and crystallographic data. Scientists have long used the published Crystal Data Determinative Tables to help solve problems in materials science. Now the Crystal Data information is available as a computer-readable tape. The NBS Crystal Data Distribution Package includes information on over 60,000 materials as well as accompanying search software.

Further information on the NBS Crystal Data Distribution Package is available from:

JCPDS-International Centre for Diffraction Data
1601 Park Lane
Swarthmore, PA 19081
(215) 328-9400

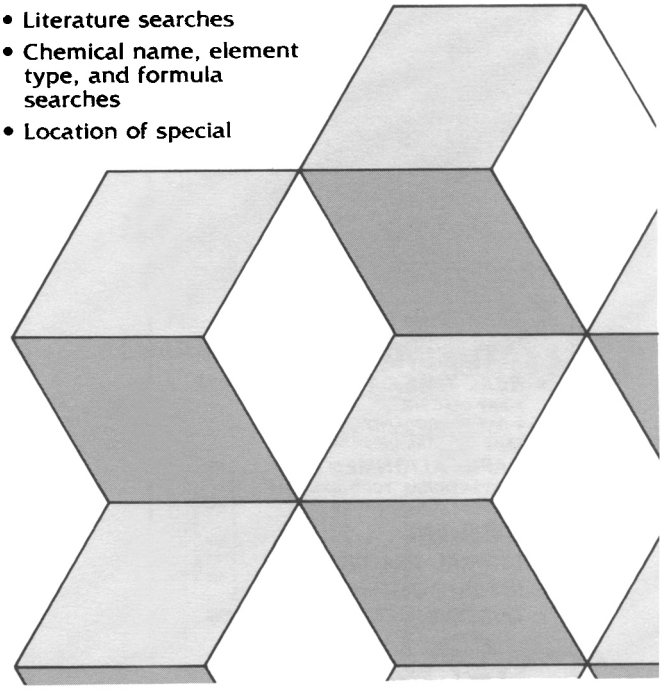
Research and Routine Applications

The database is of interest to scientists of many disciplines.

- **Analytical Chemistry:** Identify chemical compounds using one tiny crystal, non-destructive
- **Materials Science:** Find materials having desired physical and structural properties and design new materials
- **Crystallography:** Save time and money. prevent redeterminations of crystal structures by checking to see if done previously
- **Mineralogy:** Study symmetry and pseudosymmetry of minerals with any given composition range
- **Ceramics and Metallurgy:** Identify phases even with incomplete diffraction data
- **Inorganic and Organic Chemistry:** Characterize reaction products and intermediates uniquely and quickly

The NBS Crystal Data Distribution Package is also of special interest to powder diffractionists, electron diffractionists, solid-state and structural chemists, and technical information specialists. Other typical uses include:

- Compound identification and characterization
- Literature searches
- Chemical name, element type, and formula searches
- Location of special chemical classes or types of materials
- Identification of compounds having specified properties
- Source of data for scientific and statistical research studies
- Searches on space groups, density ranges, crystal systems, and many other parameters



PD21

https://doi.org/10.1017/S0885715600012136 Published online by Cambridge University Press

https://doi.org/10.1017/S0885715600012136 Published online by Cambridge University Press

https://doi.org/10.1017/S0885715600012136 Published online by Cambridge University Press

Mineral
Powder Diffraction File
Data Book & Search Manual

850 *new* patterns

3400 patterns total
2700 species

Data Book
- Enlarged and revised for Sets 1–35
- Ordered alphabetically on mineral name

Search Manual contains sections on
- Chemical Name
- Hanawalt Numerical
- Fink Numerical
- Mineral Name

Since its inception almost 50 years ago, the Powder Diffraction File has always been well served in the area of mineral species. In 1974 the first special mineral based publication was produced, this being in the form of a book of minerals containing about 2,600 selected patterns in numerical sequence. A supplement to this edition was produced in 1981. In 1980 an alphabetically ordered data book was produced followed by a group data book in 1983. Each of these products has proven very popular both with the community of mineralogists as well as others involved in general qualitative phase identification.

The International Centre for Diffraction Data is now pleased to announce a new Mineral Powder Diffraction File containing about 2,700 species represented by 3,400 patterns. This selection includes about 850 new patterns added since 1980. This revision of the mineral file has been produced by the Editors of the International Centre for Diffraction Data in cooperation with the Minerals Subcommittee, and has been further guided by nomenclature recommendations of the International Mineralogical Association.

The Mineral Powder Diffraction File Data Book is ordered alphabetically on mineral name, thus grouping together patterns of the same mineral including hydrates, polytypes, order-disorder and chemical varieties, and obviating the need for an index. All data have been reedited with special reference to nomenclature, chemical formula, indexing and other crystallographic data. Physical data is also recorded including opaque optical data where available.

The Search Manual supplied with the new Data Book is based on the latest Hanawalt search/matching techniques including special provisions for finding patterns recorded using the Debye-Scherrer technique and data from highly oriented materials.

We feel that with the large number of new patterns, along with the improved quality of many of the older data, this new product should prove invaluable to both existing users of the Mineral Data products as well as to those new to the field.

Price: $550.00 Terms: Domestic – 30 days net
Foreign – Prepayment in U.S. currency

Please address all inquires and orders to:

JCPDS–International Centre for Diffraction Data
1601 Park Lane
Swarthmore, Pennsylvania 19081
U.S.A.
Telephone: (215) 328-9400

JCPDS

PD28

https://doi.org/10.1017/S0885715600012136 Published online by Cambridge University Press

Notice:
Back issues of Powder Diffraction, Volume 1 1986 are available.
$15.00 (U.S.) each; complete set, $45.00 (U.S.)
Prices include postage by air.

PD32

The X-ray Company

Rigaku's Thin Film Diffractometer Attachment

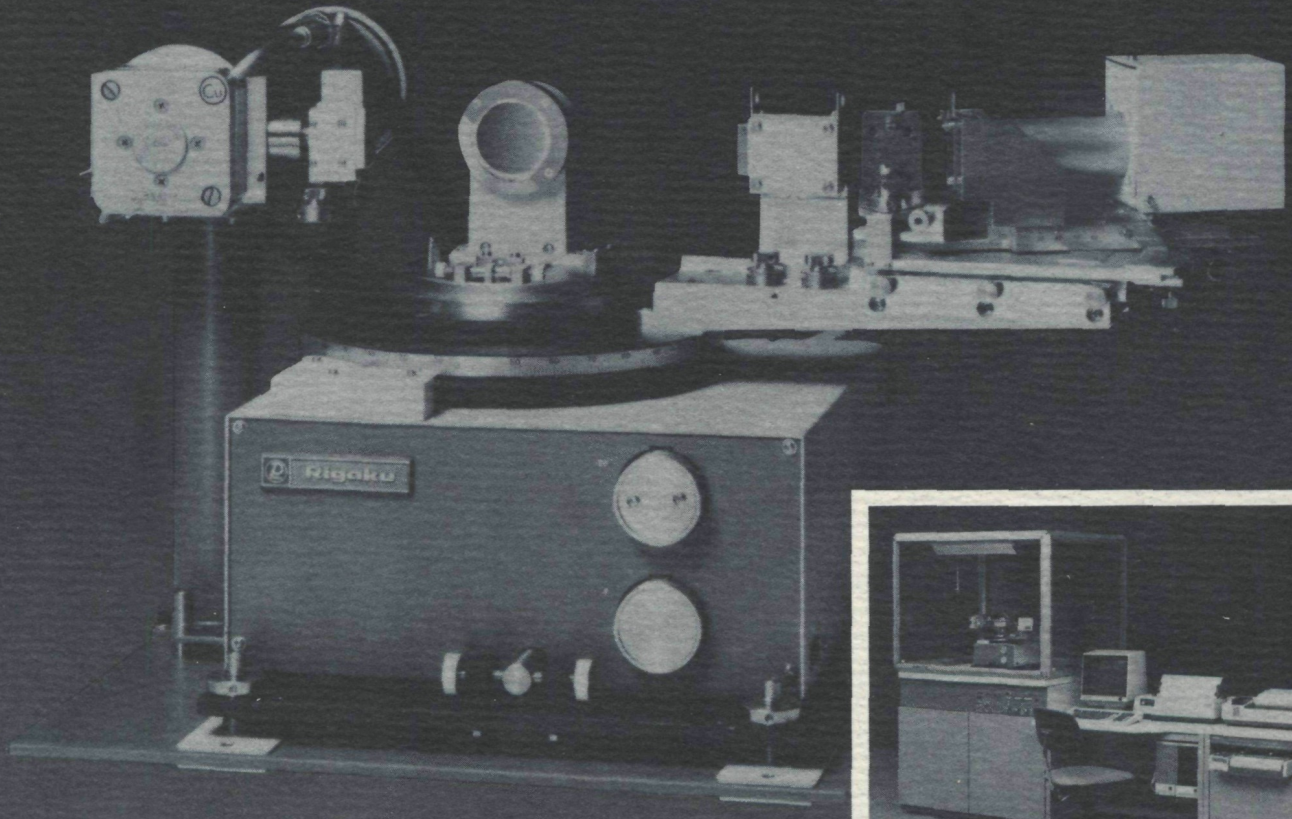
...Throwing light on 100Å film.

X-ray diffractometry of thin films, which has so far been exceedingly difficult, is now possible with Rigaku's Thin Film Attachment.

Up to now, obtaining a sharp X-ray diffraction profile of a thin film has been a problem; the extremely thin sample weakens the intensity of the diffracted rays, resulting in relatively low signals and high backgrounds. Moreover, since the conventional diffractometer is designed for a θ-2θ coupled scan, intense diffracted rays from the substrate material overwelm the diffracted rays from the thin film sample, making it difficult to obtain reliable data.

The dilemma has now been solved by newly developed optics from Rigaku (pat. pend.). Used in conjunction with our wide angle diffractometer, the Thin Film Attachment employs a low-angle incidence method with parallel beam optics that increase the diffraction intensities of thin film samples. A scan system for 2θ alone and an intraplane sample rotation mechanism enhance efficiency. Rigaku has thus made thin film measurement feasible with only the X-ray flux available from a conventional sealed-off X-ray tube.

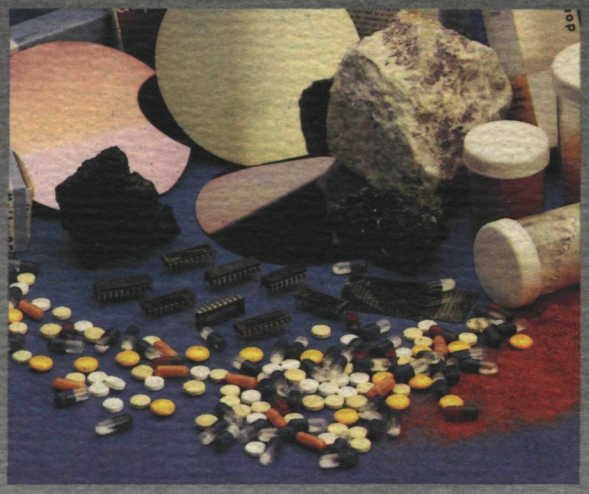
Throwing light on 100Å . . . only Rigaku has the technology to make it happen!

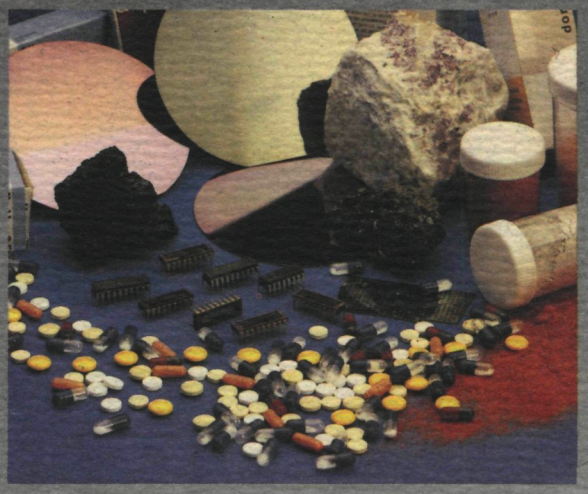


D/Max-B Wide Angle Diffraction System

Rigaku

For information write or call: Rigaku/U.S.A., Inc.,
3 Electronics Ave., Danvers, Mass., 01923, U.S.A.
Telephone: (617) 777-2446





Spot the difference, win a prize

The truth is, these groups of industrial raw materials and finished products are visually identical. And even the differences that do exist may be too subtle for easy detection by many analytical procedures.

But now there's a new answer. The PW1800 automated powder diffractometer from Philips, designed specifically for high volume sample monitoring in the research and plant laboratory.

A host of innovative features make the PW1800 a brilliant performer – one that will quickly bring real rewards through increased efficiency and more competitive production.

There's a new high precision goniometer, totally enclosed for optimum contamination protection and radiation safety. Its two-collimator, four-slit optics allow outstanding analytical accuracy and resolution for all kinds of powder and fused bead samples.

The compact, high efficiency generator cuts power consumption by up to 40 %, while electronic control ensures stable excitation.

For the first time, built-in robotics give smooth, trouble-free handling of even delicate materials, singly or in batches.

Five-microprocessors provide distributed intelligence for automated operation, supervision and diagnostics.

Permanent alignment means fast start-up and reliable long-term operation.

And the addition of a DEC computer gives you access to the world's most sophisticated diffraction software, opening the door to a huge range of data processing and reporting possibilities for qualitative, quantitative and crystallographic analysis.

For more information contact your local Philips office or:
Philips Scientific and Analytical Equipment, Lelyweg 1, 7602 EA Almelo, The Netherlands Tel.: (05490) 39911, Telex: 36591

In the USA

Philips Electronic Instruments Inc., 85 McKee Drive, Mahwah, New Jersey 07430, U.S.A. Tel.: (201) 529-3800, Telex: 642351

PHILIPS

Scientific & Analytical Equipment

PHILIPS

PD34

https://doi.org/10.1017/S0885715600012136 Published online by Cambridge University Press