

International Centre for Diffraction Data

Company Description

ICDD was established in 1941 as a non-profit scientific organization dedicated to collecting, editing, publishing, and distributing powder diffraction data for the identification of crystalline materials. As we celebrate our 70th anniversary, we reflect on our founder's visions to serve as an organization dedicated to diffraction technology and education. From handwritten entries to data cards, keypunch cards, magnetic tape, CDs and DVDs, and now access via the Web our dynamic organization continues to evolve along with the community that it serves. We will continue to be the world center for quality diffraction and related data. We will continue to promote the application of materials characterization methods in science and technology by providing forums for the exchange of ideas and information.

List of Products

PDF-4+ is an advanced database boasting over 316,000 material data sets edited and standardized from four crystallographic databases for phase identification. This database has comprehensive material coverage for inorganic materials and contains numerous features such as digitized patterns, molecular graphics and atomic parameters. The database uses a Java™ interface and relational database format to allow the user to identify materials based on comparisons of dozens of physical, chemical, and crystallographic parameters (55 searches, 91 display fields). Therefore, users can easily combine an elemental analysis with interatomic spacings or unit cell parameters.

PDF-4+ represents a fundamentally different approach to phase identification by electron diffraction. PDF-4+ includes a suite of electron diffraction simulation programs providing the user with several means of identifying materials by electron diffraction techniques. The suite includes an electron diffraction powder pattern simulation, a spot pattern simulation, and an electron diffraction backscatter pattern simulation module. The simulations are based on calculations using electron scattering from atomic parameters or scattering factors for >210,000 data sets or from X-ray intensities for ~31,000 data sets.

Applications and Markets Served

The Powder Diffraction File (PDF) can be found worldwide in academic, government, and industrial markets. From a general testing lab to semiconductors, the PDF has been the primary reference for powder diffraction data since 1941. The PDF is interfaced with leading manufacturers of X-ray equipment. To meet the needs of diffractionists worldwide, the PDF is continually revised and updated with new and improved information.



How to find us

ICDD headquarters is located in Newtown Square, Pennsylvania, approximately 15 miles outside of Philadelphia. Our headquarters provides for administration, business, education, science, editorial, and production operations. Our conference wing supports our meeting and educational activities, which includes our XRD and XRF clinics.

Our customers are supported worldwide by our global licensed distribution network.

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