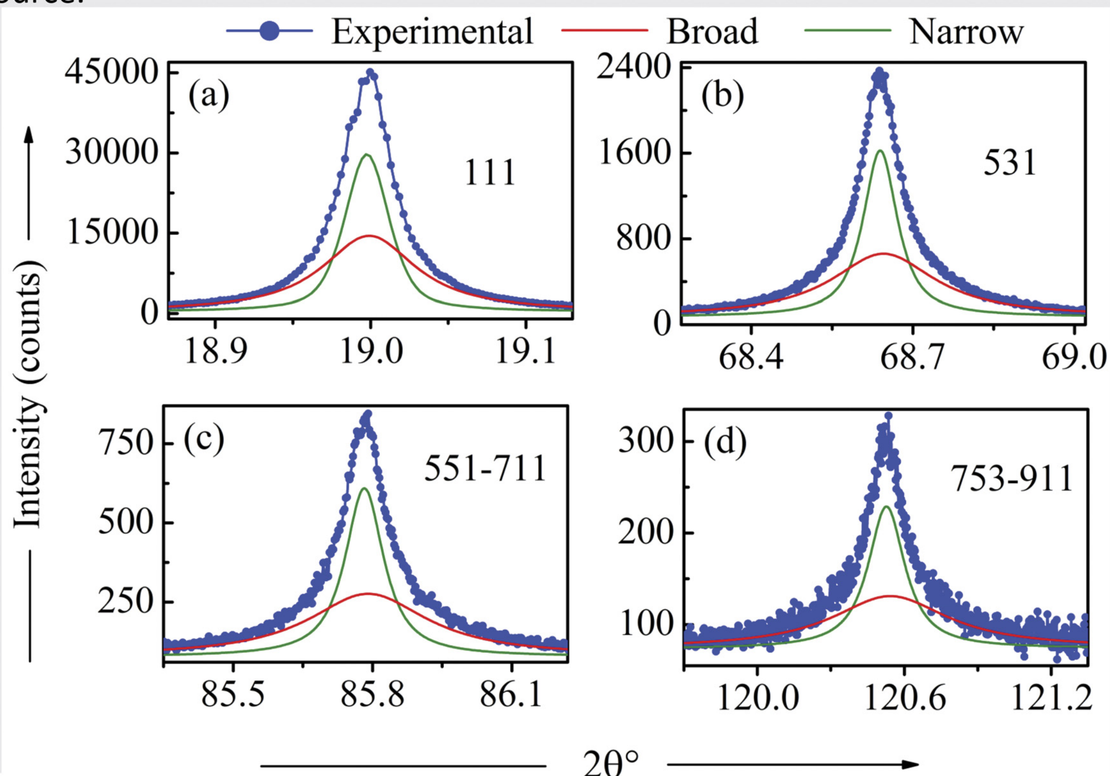
Powder Diffraction PDJ

Journal of Materials Characterization

The observed bimodal profile (blue) and the bimodal Rietveld refinement fits for a mixture of Si SRM 640d powder and a commercial high purity Si powder are shown. The room temperature synchrotron XRD measurements were collected at the Engineering Applications Beamline of the Indus-2 synchrotron source.



Volume 39 / Number 03 / September 2024

https://doi.org/10.1017/S0885715624000435 Published online by Cambridge University Press

Powder Diffraction
Journal of Materials Characterization

Journal of the International Centre for Diffraction Data
https://www.cambridge.org/core/journals/powder-diffraction
Volume 39, Issues 1-4

eISSN: 1945-7413; ISSN: 0885-7156

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Aims & Scope
ICDD's quarterly, and special topical issue, international journal, *Powder Diffraction*, focuses on materials characterization employing X-ray powder diffraction and related techniques. With feature articles covering a wide range of applications, from mineral analysis to epitactic growth of thin films to advances in application software and hardware, this journal offers a wide range of practical applications. ICDD, in collaboration with the Denver X-ray Conference Organizing Committee, has increased services for the subscribers of Powder Diffraction and authors of Advances in X-ray Analysis. Beginning in 2006, ICDD offered a copy of the previous year's edition of AXA to Powder Diffraction institutional subscribers who receive both print and on-line versions. This effectively doubles the number of articles annually available to Powder Diffraction subscribers and significantly increases the circulation for the authors in Advances in X-ray Analysis.

Subject coverage includes:
- Techniques and procedures in X-ray powder diffractometry
- Advances in instrumentation
- Study of materials including organic materials, minerals, metals and thin film superconductors
- Publication of powder data on new materials

International Centre for Diffraction Data
The International Centre for Diffraction Data (ICDD®) is a non-profit scientific organization dedicated to collecting, editing, publishing, and distributing powder diffraction data for the identification of materials. The membership of the ICDD consists of worldwide representation from academe, government, and industry.

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Published by Cambridge University Press.

https://doi.org/10.1017/S0885715624000435 Published online by Cambridge University Press

Powder Diffraction
An International Journal of Materials Characterization

Volume 39 Number 3 September 2024

CODEN: PODIE2
ISSN: 0885-7156

TECHNICAL ARTICLES

Ashok Bhakar, Himanshu Srivastava, Pragya Tiwari and S. K. Rai	Bimodal microstructural characterization of Si powder using X-ray diffraction: the role of peak shape doi:10.1017/S0885715624000216	119
S.V. Gabielkov, I.V. Zhyganiuk, A.D. Skorbun, V.G. Kudlai, B.S. Savchenko, P.E. Parkhomchuk and S.O. Chikolovets	Possibilities of the X-ray diffraction data processing method for detecting reflections with intensity below the background noise component doi:10.1017/S0885715624000241	132

NEW DIFFRACTION DATA

James A. Kaduk, Anja Dosen and Thomas N. Blanton	Crystal structure of brimonidine hydrogen tartrate, $(C_{11}H_{11}BrN_5)(HC_4H_4O_6)$ doi:10.1017/S0885715624000174	144
Petr Buikin, Alexander Korlyukov, Elizaveta Kulikova, Roman Novikov, and Anna Vologzhanina	Crystal structure of rilpivirine hydrochloride, $N_6H_{19}C_{22}Cl$ doi:10.1017/S0885715624000228	151
Tawnee M. Ens, James A. Kaduk, Anja Dosen, and Thomas N. Blanton	Powder X-ray diffraction of nintedanib esylate hemihydrate, $(C_{31}H_{33}N_5O_4)(C_2H_5O_3S)(H_2O)_{0.5}$ doi:10.1017/S0885715624000186	159
Anthony M. T. Bell	Crystal structures and X-ray powder diffraction data for AAlGe$_2$O$_6$ synthetic leucite analogs (A = K, Rb, Cs) doi:10.1017/S088571562400023X	162
James A. Kaduk, Megan M. Rost, Anja Dosen and Thomas N. Blanton	Crystal structure of alectinib hydrochloride Type I, $C_{30}H_{35}N_4O_2Cl$ doi:10.1017/S0885715624000204	170
Tawnee M. Ens, James A. Kaduk, Megan M. Rost, Anja Dosen and Thomas N. Blanton	Crystal structure of valbenazine, $C_{24}H_{38}N_2O_4$ doi:10.1017/S0885715624000198	176

INTERNATIONAL REPORT

Denise Zulli	2024 ICDD® Annual Spring Meetings: a hybrid event 11–15 March 2024 doi:10.1017/S0885715624000253	182

CALENDARS OF MEETINGS, SHORT COURSES AND WORKSHOPS

Gang Wang	Calendar of Forthcoming Meetings (Occurring after 1 October 2024) doi:10.1017/S0885715624000332	188

https://doi.org/10.1017/S0885715624000435 Published online by Cambridge University Press

Gang Wang Calendar of Short Courses and Workshops (Occurring after 1 October 2024) 189
doi:10.1017/S0885715624000344

On the Cover: The cover figure for this issue of *Powder Diffraction* was prepared using figures from the manuscript "Bimodal microstructural characterization of Si powder using X–ray diffraction: the role of peak shape" by Ashok Bhakar and colleagues of the Raja Ramanna Centre for Advanced Technology, Homi Bhabha National Institute, Indore, India.

The cover figure shows the results of profile fitting for characterization of bi-modal Rietveld refinement for Si powder. The fitting of the x-ray powder diffraction data used pseudo-Voigt (pV) and Thompson-Cox-Hastings (TCH) peak profile functions. The manuscript clearly demonstrates that for high quality (e.g. synchrotron source) data it is possible to Rietveld refine the bimodal distribution of crystallite sizes.

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