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| 课程名（Coursename） Diffraction Methods in Chemistry  课程代码（Coursenumber） C4  课程对象（Audience） Undergraduate  开课教师（Teacher） Dr D. A. Jefferson  学期（Semester） L 4–8  课程描述（Description）） This course provides the background knowledge for the main use of diffraction methods in Chemistry, namely the solution of crystal structures by x-ray diffraction. It is not intended to be a course in formal crystallography, and no prior knowledge is assumed, but instead it illustrated the basic principles of diffraction, the relationship between diffracted x-ray amplitudes and the crystal structure, and both the problems arising from the measurement of x-ray intensities rather than amplitudes, together with the manner in which these may be circumvented. All the main methods of structure determination will be dealt with, ranging from the relatively simple methods used in structures containing heavy atoms, through the so-called “Direct Method” used for medium sized molecules in Organic and Inorganic Chemistry, to the advanced isomorphous replacement methods used in the determination of protein structures. In all these cases the aim is to provide, via selected worked examples, the underlying principles behind the techniques. The course concludes with an introduction to the methods of crystal structure refinement, and an outline of some of the additional information which may be gained from the use of neutron diffraction methods.  课时信息（Totalhours）  教参信息（Textbookinfo） 1 X-ray Diffraction at Elevated Temperatures: A Method for In Situ Process Analysis by D. D. L. Chung, Patrick W. DeHaven, H. Arnold, and Debastis Ghosh (Hardcover - Feb. 26, 1993) ISBN-13: 978-0471187264 2 Stereochemical Applications of Gas-Phase Electron Diffraction: Structural Information for Selected Classes of Compounds (Methods in Stereochemical Analysis) by Istvan Hargittai (Hardcover - Nov. 1988) ISBN-13: 978-0895732927 3 Part A, Stereochemical Applications of Gas-Phase Electron Diffraction by Istv&#225;n Hargittai and M. Hargittai (Hardcover - Oct. 1, 1988) ISBN-13: 978-0471186892 4 X-Ray Methods by Clive Whiston and Elizabeth Prichard (Paperback - June 10, 1987) ISBN-13: 978-0471913870 5 Proceedings of the Symposium on X-Ray Methods in Corrosion and Interfacial Electrochemistry (Proceedings / the Electrochemical Society) by A. Davenport and Judith G. Gordon (Paperback - Mar. 1992) ISBN-13: 978-1566770002 6 Chemistry of Superconductor Materials: Preparation, Chemistry, Characterization, and Theory (Materials Science and Process Technology Series) by Terrell A. Vanderah (Hardcover - Jan. 14, 1993) ISBN-13: 978-0815512790 7 Modern Crystallography 2: Structure of Crystals (Modern Crystallography, Volume 2) (Pt. 2) by Boris K. Vainshtein, Vladimir M. Fridkin, and Vladimir L. Indenbom (Hardcover - Aug. 17, 2000) ISBN-13: 978-3540674740 |