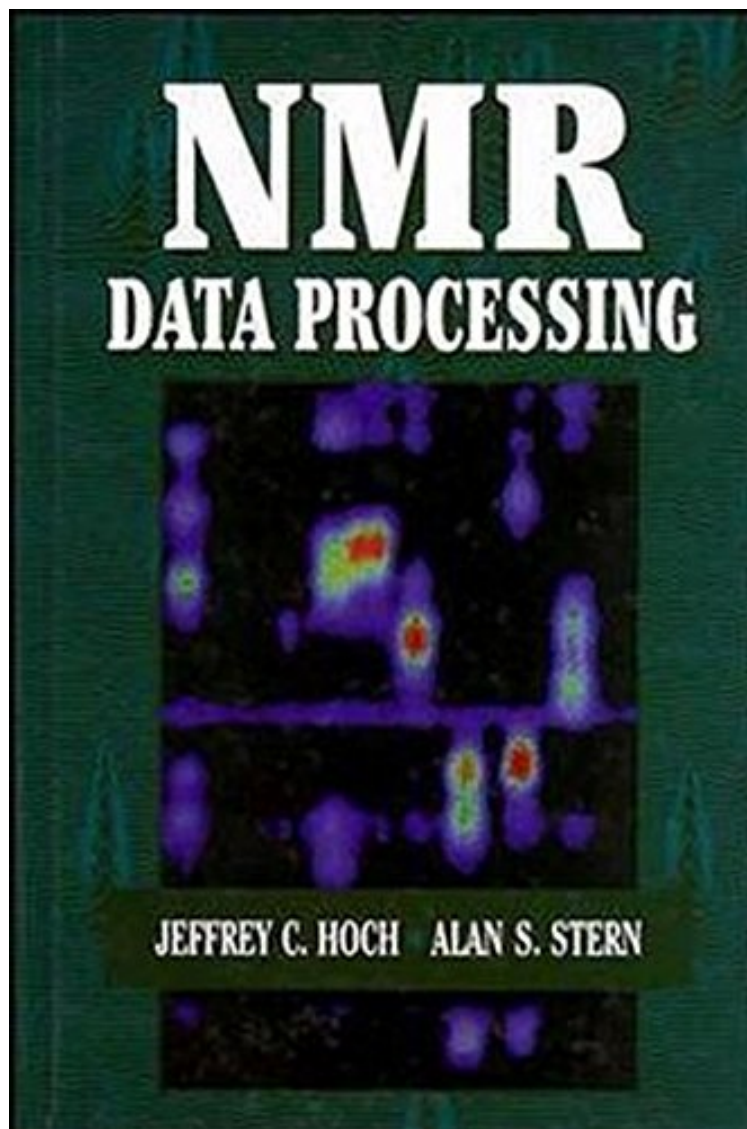


[Free] NMR Data Processing

NMR Data Processing

Jeffrey C. Hoch, Alan Stern

**Download PDF / ePub / DOC / audiobook / ebooks*



DOWNLOAD



+

READ ONLINE

#3241943 in Books Jeffrey C Hoch 1996-10-05Original language:EnglishPDF # 1 9.43 x .72 x 6.40l, 1.08
#File Name: 0471039004230 pagesNMR Data Processing | File size: 75.Mb

Jeffrey C. Hoch, Alan Stern : NMR Data Processing before purchasing it in order to gage whether or not it would be worth my time, and all praised NMR Data Processing:

0 of 0 people found the following review helpful. Great introductionBy Felix C. WeiseStarting with the essentials of Fourier Transform theory, this great book takes you through an enjoyable tour of modern methods of spectral analysis in NMR, highlighting the most relevant techniques with clarity in what could otherwise become a confusing array of acronyms. The book does not hesitate to invoke mathematical formulas where necessary to explain the function of the

methods, but does so in the gentle style that makes the classic Numerical Recipes books so pleasant to read. Hoch and Stern have had ample experience in the field of modern spectrum analysis. Although the authors try to assist the newbie in the selection of appropriate techniques, a lot of questions still remain as to which is the optimal method for a particular problem, and a conclusion to be drawn from this book, as from the literature in general, is that some experimentation with numerical techniques is often required before the "best" method is hit upon. Unfortunately the book has aged and is ready for a second edition as new concepts such as GFT make their way into the mainstream.

NMR DATA PROCESSING Jeffrey C. Hoch and Alan S. Stern Nuclear Magnetic Resonance (NMR) spectroscopy is a powerful nondestructive technique for exploring the structure of matter. In recent years, NMR instrumentation has become increasingly sophisticated, and the software used to acquire and process NMR data continues to expand in scope and complexity. This software has always been difficult to understand, and, until now, it seemed likely to remain that way. NMR Data Processing examines and explains the techniques used to process, present, and analyze NMR data. It provides a complete account of the fundamentals of spectrum analysis and establishes a framework for applying those fundamentals to real NMR data. It also details, in clear and concise language, the basic principles underlying the complex software needed to analyze the data. Two chapters are devoted to the fundamentals and applications of discrete Fourier transform (DFT) in NMR, which was crucial to the development of modern NMR spectroscopy. A large part of the book focuses on increasingly important non-DFT methods, which obtain higher sensitivity and resolution. Other topics covered include: * Data formats * Processing for multidimensional experiments * Parametric modeling of NMR signals * Standard techniques-apodization, zero-filling, the Hilbert transform * Artifacts-aliasing, leakage, solvent signals * Advanced processing techniques-LP, MaxEnt, Bayesian analysis Jeffrey C. Hoch and Alan S. Stern conclude their in-depth look at this rapidly growing field by exploring methods for analyzing processed data, including visualization, quantification, and error analysis. Readers are provided with a solid foundation for developing new methods of their own. NMR Data Processing is an important tool for students learning basic principles for the first time, technicians troubleshooting data processing problems, and professional researchers developing new techniques. It will help all NMR users acquire a true grasp of the methods behind the process, avoid the pitfalls of misapplication and misinterpretation, and exploit the full power of NMR software.

From the PublisherThe authors present an exposition of fundamental principles of spectrum analysis and a set of tools which can be used to apply those fundamentals to provide a framework for application to actual NMR data and a basis for the development of new methods. Removes some of the mystery behind the techniques embodied in modern NMR data processing software so that users are better equipped to exploit its full power and to avoid the pitfalls of misapplication or misinterpretation.From the Back Cover**NMR DATA PROCESSING** Jeffrey C. Hoch and Alan S. Stern Nuclear Magnetic Resonance (NMR) spectroscopy is a powerful nondestructive technique for exploring the structure of matter. In recent years, NMR instrumentation has become increasingly sophisticated, and the software used to acquire and process NMR data continues to expand in scope and complexity. This software has always been difficult to understand, and, until now, it seemed likely to remain that way. NMR Data Processing examines and explains the techniques used to process, present, and analyze NMR data. It provides a complete account of the fundamentals of spectrum analysis and establishes a framework for applying those fundamentals to real NMR data. It also details, in clear and concise language, the basic principles underlying the complex software needed to analyze the data. Two chapters are devoted to the fundamentals and applications of discrete Fourier transform (DFT) in NMR, which was crucial to the development of modern NMR spectroscopy. A large part of the book focuses on increasingly important non-DFT methods, which obtain higher sensitivity and resolution. Other topics covered include: * Data formats * Processing for multidimensional experiments * Parametric modeling of NMR signals * Standard techniques-apodization, zero-filling, the Hilbert transform * Artifacts-aliasing, leakage, solvent signals * Advanced processing techniques-LP, MaxEnt, Bayesian analysis Jeffrey C. Hoch and Alan S. Stern conclude their in-depth look at this rapidly growing field by exploring methods for analyzing processed data, including visualization, quantification, and error analysis. Readers are provided with a solid foundation for developing new methods of their own. NMR Data Processing is an important tool for students learning basic principles for the first time, technicians troubleshooting data processing problems, and professional researchers developing new techniques. It will help all NMR users acquire a true grasp of the methods behind the process, avoid the pitfalls of misapplication and misinterpretation, and exploit the full power of NMR software.