

About this Book

Goal

To provide instruction in the use of NMR as a tool for quantitative analysis

Learning Objectives

- Develop sufficient background in basic NMR theory to understand how it is used for quantitative measurements
- Understand the role of key acquisition parameters and how they affect quantitative NMR measurements
- Apply NMR to real problems requiring quantitative analysis

Description

To make correct use of NMR for quantitative analysis, it is necessary to begin with the Basic Theory that underlies the NMR experiment. The Practical Aspects section discusses the experimental requirements for performing quantitative measurements. These concepts are reinforced in a Virtual Experiment that uses an NMR simulation tool developed by Dr. Harold Bell. A Q-NMR Laboratory experiment is provided for those who have access to an NMR spectrometer. Alternatively, students can download and analyze FIDs acquired for the quantitative analysis of malic acid in apple juice. The Q-NMR Applications section presents a summary of the types of applications where NMR works well for quantitative measurements.