

## Structural studies of glass by nuclear magnetic resonance

### Synopsis:

Glasses are characterized by the absence of long range order in their structure and consequently, the determination of a glass structure is not an easy task. The lack of long range order affects, to a large extent, the physical properties of these materials. Unlike crystalline materials, determination of the position of an atom is not of primary interest because the whole structure cannot be expressed as a multiple unit of cell. The glass structure can be described in terms of the local three dimensional configurations around a species termed the network former. The main effort has been directed towards a compilation of some experimental information about the structure by using nuclear magnetic resonance (NMR) spectroscopy. Glasses discussed in this book are based on germania, sodium germanate, and cadmium aluminophosphate, and also their crystalline phases produced from those glasses. In order to arrive at a comprehensive picture of the structure of glasses, this book also describes the general idea about glasses and to show how the NMR spectroscopy can be used to probe their structures.

This book is therefore intended to be a useful reference work for postgraduate students and research workers alike on glass or materials science.

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## Table Of Content:

Preface

Abbreviations

Symbols

## 1 FUNDAMENTALS OF GLASS

Introduction

Definition of Glass

The Glass Formation

Glass-Forming Oxides

Glass Classification

Oxide Glasses

Halide Glasses

Elemental Glasses

Hydrogen Bonded Glasses

Chalcogenide Glasses

The Structural Model of Glassy Materials

Structural Elements in Glass

## 2 PRINCIPLE OF NUCLEAR MAGNETIC RESONANCE

Introduction

Magnetic Properties of Nuclei

Interaction of Nuclear Spins with Magnetic Field

Zeeman Interaction

Nuclear Precession

The Quantized of Angular Momentum and Magnetic Moments of Nuclei

Nuclear Energy Level

Population of Nuclear Spin States

The Magnetization Vectors

Relaxation

The Rotating Frame of Reference

The Bloch Equations

The Pulsed NMR

Radiofrequency Pulse

Type of Pulse

Free Induction Decay

Fourier Transform

Summary

### 3 SOLID-STATE NUCLEAR MAGNETIC RESONANCE

Introduction

The Chemical Shift Interaction

Magnetic Dipole Interaction

Nuclear Quadrupole Interaction

High Resolution NMR Spectra of Solids

MAS Technique

DOR and DAS Technique

Variable Angle Spinning Technique

NMR Structure Parameters

Chemical Shifts Parameters

The Nuclear Quadrupole Parameters

Summary

## 4 NUCLEAR MAGNETIC RESONANCE SPECTROSCOPY

Introduction

The Spectrometer

Superconducting Magnet

NMR Probes

The Transmitter Coil

The Receiver Coil

Spinners (Rotor)

Magic Angles Spinning Facilities

Computer and Controller

Setting NMR Experiment

Characteristic of Measured Nucleus

Properties of Spin

Natural Abundance

Natural Sensitivity

Receptivity

Setting Magic Angles Spinning

Preparing Sample into Rotor

Measurement of Spectrum Reference

Pulse Width Calibration

Spinning the Sample

Probe Tuning

Spectrometer Shimming

Acquisition Parameters

Resonance Frequency of Observe Nuclei

Relaxation Delay

Spectral Width

Dwell time

Number of Data Points

Acquisition Time

Number of Scans

Pulse Width

Processing Parameters

Zero Filing

Signal Weighting

Sensitivity Enhancement

Resolution Enhancement

Perform Fourier Transform

Phase Correction

5 GERMANIA, GEO2

Introduction

Structural Parameter of Germania

Experimental

Chemical Aspects

NMR Measurement

NMR Computer Simulations

Crystalline GeO2 Polymorph

Structure Unit of GeO<sub>2</sub> Glass

The Mean and Distribution Ge–O–Ge

Model and Distribution Bond Angle

Model for CQ and ?

Simulation Spectra

Distributions of the Intertetrahedral Bond Angle

Mean Intertetrahedral Bond Angle

Summary

Crystalline GeO<sub>2</sub>

GeO<sub>2</sub> Glass

## 6 SODIUM GERMANATE GLASS

Introduction

Experimental

Material Preparation

NMR Measurement

Germanate Anomaly

<sup>23</sup>Na NMR Spectra

<sup>17</sup>O NMR Spectra

Summary

## 7 CRYSTALLINE SODIUM GERMANATE

Introduction

Phase Diagrams Na<sub>2</sub>O–GeO<sub>2</sub> System

Crystal Structure Na<sub>2</sub>O–GeO<sub>2</sub> System

Experimental

Synthesis  $^{17}\text{O}$  in Sodium Germanate

NMR Measurement

NMR Computer Simulations

Crystal Phase  $\text{Na}_2\text{O}-\text{GeO}_2$

$^{23}\text{Na}$  NMR Spectra

$^{17}\text{O}$  NMR

Sodium Metagermanate ( $\text{Na}_2\text{GeO}_3$ )

Sodium Enneagermanate ( $\text{Na}_4\text{Ge}_9\text{O}_{20}$ )

Summary

## 8 CADMIUM ALUMINOPHOSPHATE

Introduction

Structure Unit of Phosphate Network

Structure Model Phosphate Glasses

Experimental Procedures

Sample Preparation

NMR Experiments

Phosphorus- $^{31}\text{P}$  NMR Spectra

Phosphate Site Distributions

Phosphorus Chemical Shift

Linewidth and Network Size

Aluminum- $^{27}\text{Al}$  NMR Spectra

Cadmium- $^{113}\text{Cd}$  NMR Spectra

Hydrogen- $^1\text{H}$  NMR Spectra

Summary

## 9 NUCLEAR MAGNETIC RESONANCE INFORMATION

Introduction

NMR Multinuclear Studies

Information From NMR Studies

Future Study

References

Index