

PREFACE

Nuclear quadrupole resonance (NQR) is a rapidly developing branch of radio-spectroscopy. The spectroscopic parameters measured by NQR are directly related to the electron distribution around the nucleus under study. They are highly sensitive to the minor changes in this distribution as well as to subtle structure changes.

Recent progress in pulse NQR instrumentation has led to an increasing importance of the method in inorganic chemistry due to removal of limitations imposed on the line widths of the samples by continuous wave technique.

This work presents a review of the applications of NQR to the study of various classes of inorganic compounds. Separate sections consider complex ions, donor-acceptor complexes, bridging dimers, chain and layer polymers. Structure, electronic and other important properties of the compounds are discussed in terms of the NQR results.

The introductory chapter is concerned with general aspects of NQR spectroscopy. It presents the most widely used theoretical background for the interpretation of NQR data and describes briefly the recording techniques. The latest advances, trends and potentials of the method are also discussed in this chapter.

The main purpose of the first part of the work is to show the value of NQR spectroscopic parameters which provide important information even within a seriously simplified theoretical approach.

The review assumes no previous knowledge of radiospectroscopy and the interested reader is referred to the original literature for a detailed study of the formal theory of NQR.

We hope this volume will be an easy source of information both for non-specialists and specialists. It is intended for chemists, physico-chemists and crystallochemists as well as for students and postgraduates.

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The authors