

P R E F A C E

Usefulness of pyrochlore-type oxides in various devices and other applications is due to their wide spectrum of properties such as electrical, magnetic, dielectric, optical and catalytic behaviour. Despite these oxide pyrochlore materials continue to be systematically examined for their structural and transport properties, basically for ascertaining the nature of relationship between these two and broadly for identifying their potential for being use for newer applications.

This dissertation work comprises Five Chapters in which attempt has been made to present the work carried out on the subject consistant with the development of the topic concerned.

In the First Chapter important aspects like structure of pyrochlores, structure and stability, applications are discussed in brief. The orientation of the present work is included at the end. Chapter Two deals with the ceramic method and actual preparation of sample in laboratory. Characterization of pyrochlores are discussed with the help of X-ray diffractograms for the confirmation of pyrochlore structure formation. Chapter Three deals with electrical resistivity and thermo emf. Chapter Four deals with the a.c. conductivity and dielectric studies. A summary of the work is given in Chapter Five.

A list of references is incorporated at the end of each chapter.

The experiment set-up diagram, experimental data are neatly presented.

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