

# STUDY AND ANALYSIS OF OXIDE MATERIALS USING FUZZY LOGIC TECHNIQUE

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## ABSTRACT

In this paper oxides of various conducting materials are studied and this knowledge is used for various electronic applications. The experimental analysis of oxides is done with the help of LCR tan $\delta$  digital meter and Q - factor meter. These experimental values are compared with the theoretical values found by using the mass law. Solid state reactions method is applied for the synthesis of oxides materials in which reaction takes place in solid state form. The properties of the product is investigated through various techniques such as X-ray diffraction for phase, evaluation and lattice parameter study. Semiconducting materials are also studied using several parameters and thermal conductivity. The resistivity is calculated by mass law and by pattern recognition method. Fuzzy logic has been used to give better results as it can take large number of factors of failures.

**KEY WORDS:** This paper contains three important terms, they are reliability, permittivity and resistivity.