

# **EFFECT OF YTTRIUM DOPING ON THE PROPERTIES OF BISMUTH FERRITE: A REVIEW**

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## **ABSTRACT**

Multiferroics are those materials which have simultaneous existence of at least two ferroic properties in the same material. Multiferroic magnetoelectrics exhibit both ferromagnetic and ferroelectric properties. One of the primary applications of magnetoelectrics is in memory devices, high density data storage etc. An ideal memory material is one that exhibits high saturation magnetization, high remanent magnetization and polarization along with low coercive value. Bismuth ferrite (BFO) is a magnetoelectric material which has drawn quite an attention over the last few years. It has been observed that the multiferroic properties of BFO can be improved significantly by doping with rare earth transition metals. In this paper, we are going to provide a review on the important findings of research investigations on the enhancement of properties of BFO due to yttrium (Y) doping. Hence, the material with enhanced properties can be applied in a number of applications like gas sensors and optical fibers which require essentially high precision.

**KEYWORDS:** Bismuth Ferrite, Multiferroic, Yttrium Doping, XRD, SEM, FTIR, Raman Spectroscopy