

## **Studies of Structural and Dielectric Properties of (Bi<sub>0.95</sub>Mg<sub>0.05</sub>)(Fe<sub>0.95</sub>Zr<sub>0.05</sub>)O<sub>3</sub> Electroceramics**

**N P SAMANTRAY\*, B B ARYA, L. DHAL and R N P CHOUDHARY**

*Multifunctional Materials Research laboratory, Department of Physics  
Siksha 'O' Anusandhan (Deemed To Be University), Bhubaneswar-751030  
Email: npsamantray@gmail.com*

*Received : 5.12.2022 ; Accepted : 4.01.2023*

**Abstract.** The polycrystalline sample (Bi<sub>0.95</sub>Mg<sub>0.05</sub>)(Fe<sub>0.95</sub>Zr<sub>0.05</sub>)O<sub>3</sub> was synthesized using solid-state reaction method. The room temperature X-ray diffraction analysis confirms the sample is formed in a single phase rhombohedral structure. The dielectric properties of the sample has been studied varying the frequency from 1 kHz to 1000 kHz and temperature from 25<sup>0</sup>C to 500<sup>0</sup>C which provide some important properties of the prepared sample.

**Keywords:** multiferroics; solid-state reaction; dielectrics; polarization.