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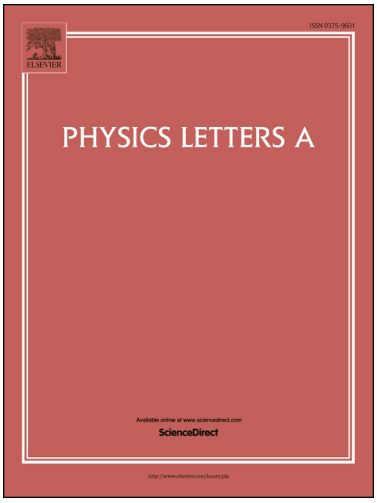

An Experimental Study of the Local Electronic Structure of B-site Gallium Doped Bismuth Ferrite Powders

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Highlights

- Multiferroic $BiFe_{1-x}Ga_xO_3$ $(0 \leq x \leq 0.15)$ powders were prepared through a hydrothermal method.
- A structural transformation from rhombohedral to orthorhombic phase is obtained for 15% Ga doping.
- Local electronic structures of both Bi and Fe atoms has affected by Ga doping.
- Total magnetization sudden decreased when $x \geq 0.05$, possibility that the decrease in magnetization may be attributed to doping an excessive amount of non-magnetic Ga^{3+} ions.