

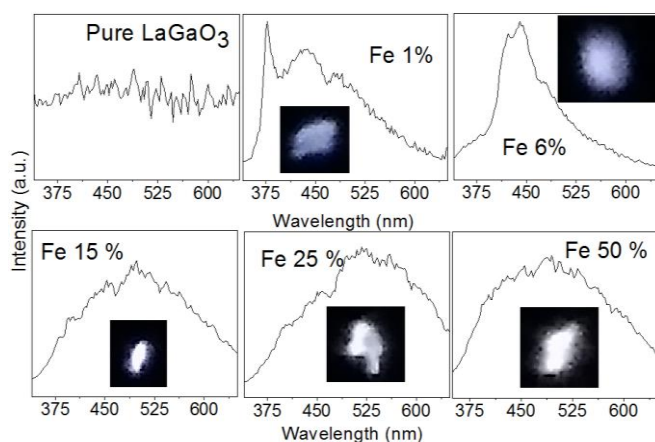
# Doped LaGaO<sub>3</sub>: Good White Light Emitters and Room Temperature Low Field Magneto-dielectric Materials

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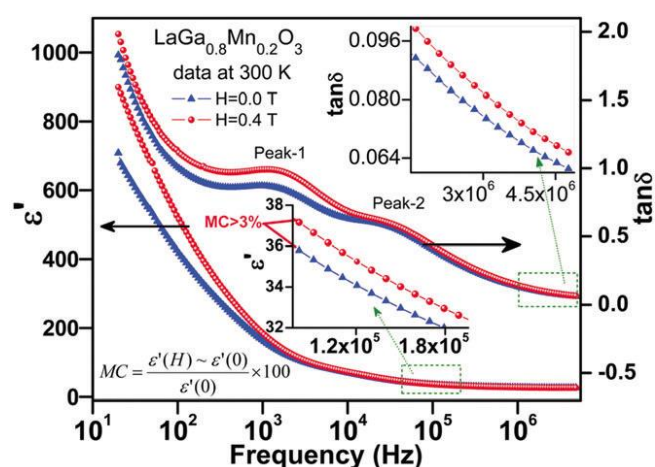
The search for the new material(s) for various electronic applications have dominated the research worldwide particularly after the development of silicon based tiny integrated circuits and BaTiO<sub>3</sub> based tiny capacitors. During last five decades the nature of electronic devices has witnessed huge changes. Very small as well as energy efficient electronic devices are replacing the conventional electronic circuit elements. The white light emitting diode, spin valves devices are some of these real examples.

The material research laboratory of IIT Indore is engaged in the development of new materials for various electronic applications. Recently this laboratory has successfully demonstrated the potentials of Fe and Mn doped LaGaO<sub>3</sub> as a *white light emitting material* and as a *room temperature low field magneto-dielectric material* respectively. The details of the above mentioned claims are available in following references and the glimpses are provided in the figures below. Importantly; these materials do not show ageing effect i.e. degradation and found to be more sensitive and very stable as compared with other competitors.

- (1) <http://dx.doi.org/10.1039/C6TC03641D> (2) <http://dx.doi.org/10.1039/C6RA21693E> and (3) <http://dx.doi.org/10.1088/2053-1591/2/9/096105>



Photoluminescence spectra for Fe doped LaGaO<sub>3</sub> samples. The corresponding color luminescence due to He-Cd laser is shown in the inset. **RSC Adv.**, 2016, **6**, 100230-100238



Mn doped LaGaO<sub>3</sub> showing magneto-dielectric effect at room temperature and at very low magnetic field of just 0.4 Tesla. **J. Mater. Chem. C**, 2016, Accepted Manuscript DOI: 10.1039/C6TC03641D