

## Lanthanum-Gallate-Germanate Phosphors with Long Persistent Infrared Emission

### **Disclosure Number**

200902226

### **Technology Summary**

Lanthanum gallate germanates codoped with chromium ( $\text{La}_3\text{Ga}_5\text{GeO}_{14}:\text{Cr}^{3+}$ , M, M = Li,  $\text{Pb}^{2+}$ ,  $\text{Zn}^{2+}$ ,  $\text{Eu}^{3+}$ ,  $\text{Tm}^{3+}$ , and  $\text{Dy}^{3+}$ ) has been prepared using a solid state chemical reaction method. The phosphor with M =  $\text{Dy}^{3+}$  is observed to have persistent infrared emission for more than 8 hours recorded using spectrometer. The wavelength of the major infrared emission is in the range from 700 to 1100 nm. The intensity of the phosphorescence and persistent time can be modified by co-doping proper trapping centers.

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