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# The Phenomenon of Induced Photoluminescence in Ferroelectric Mesophase

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## Abstract

Most of ferroelectric liquid crystal (FLC) or ferroelectric mesophase show no photoluminescence (PL). But when, Cu doped ZnO (Cu-ZnO) nanoparticles (NPs) are dispersed in FLC, it shows an induced photoluminescence. This induced phenomenon of PL strongly depends on the concentration of dopant NPs. The Cu-ZnO-FLC composite system has shown two distinct emission peaks near 400 nm and 650 nm that correspond to the violet and red emission respectively. The characteristic features of both the emission peaks suggest their different source of origins. In the present paper, the aspects related to induced PL and its applications have been discussed.

**Keywords:** Photoluminescence, Nanoparticle, Ferroelectric liquid crystal

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