

The measurement of photorefractive effects of layer-structured PR-LC cell with PVK films doped with single wall carbon nanotubes

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Carbon nanotubes (CNTs) have attracted much attention for their unique electrical, mechanical and chemical properties, which are making lots of new fields of applications. Also, the photorefractive effects in nematic liquid crystals have drawn much interest because of their extremely large change of refractive index induced by laser or applied voltage.

In this work, single wall carbon nanotubes (SWNTs) were purified, cut and dispersed to be applied to the experiments about photorefractive effects. After the treatment of SWNTs we made the layer-structured PR-LC (photorefractive liquid crystal) cell with PVK films doped with pre-treated SWNTs and measured photorefractive effects. Finally, we compared SWNTs doped type with fullerene doped type.