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필터 기능을 수행하는 투명 유전체 연구
Transparent dielectric material functioning a filter for PDP

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To compensate for color deterioration in PDP(plasma display panel) mostly because of the orange light during Ne discharge, other alternative ways such as fabricating a color filter, putting pigments in dielectric materials have been considered though those methods surely have disadvantages for the real application. The main intention of this work is to substitute conventional dielectric material for the composition containing rare-earth oxide, Nd_2O_3. Typical PbO-based composition($PbO-B_2O_3-SiO_2-Al_2O_3-ZnO$) was used for the host glass, and then Nd_2O_3 was added into up to 20wt%. Futhermore in order to use PbO in a small amount(30wt%), other network modifiers-ZnO, BaO were used substitutionally. The glass transition temperature was observed at around 400~470℃. Coefficient of thermal coefficient and dielectric constant were evaluated. Also optical transmission measurements show orange light absorption rate at 585nm. It is concluded that the transparent dielectric layer containing Nd_2O_3 would improve color resolution by reducing the erroneous discharge during Ne discharge in PDP.