

**EFFECT OF LAYER STRUCTURE ON RATIO OF CONCENTRATION BETWEEN
POLYMER AND LIQUID CRYSTAL FOR PHASE SEPARATED COMPOSITE
ORGANIC FILMS (PSCOF)**

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The ratio of optimized concentration on optical characteristics for phase separated composite organic films (PSCOF) liquid crystal display is 30% of polymer (NOA65) and 70% of ferroelectric liquid crystal (Felix016). The layer structure in ferroelectric liquid crystal cell made by 30% NOA65 and 70% Felix016 materials is tilt-bookshelf layer structure. The angle of tilt-bookshelf structure is 17° which is almost same of tilt angle of ferroelectric liquid crystal in smectic-C* phase. We know that this result is from compensating the layer buckling. In this paper, we will discuss the effect of layer structure in PSCOF cell on ratio of concentration between polymer and liquid crystal by x-ray measurements. We also discuss the relation between layer structures in the cell and electro-optical properties. We believe that technology of PSCOF is a good solution to solve the problems of align-defect and mechanical shock for future TV application and plastic LCD.



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