

이온빔을 이용한 폴리이미드 표면의 액정배향효과

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Liquid Crystal Alignment Effect on Polyimide Surface by Ion-beam Irradiation

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Abstract : It is widely investigated to liquid crystal (LC) alignment using non-contact alignment method such as ion-beam (IB) irradiation, UV alignment, and oblique deposition.^{1,2} Because conventional rubbing method has some drawbacks. These include defects from dust and electrostatic charges and rubbing scratch during rubbing process. In addition, rubbing method needs additional process to remove these defects. Therefore rubbing-free methods like ion-beam irradiation are strongly required. We studied LC alignment effect on polyimide surface by IB irradiation and electro-optical (EO) characteristics of twisted nematic liquid crystal display (TN-LCD). In this experiment, a good uniform alignment of the nematic liquid crystal (NLC) with the ion-beam exposure on the polyimide (PI) (SE-150 from Nissan Chemical) surface was observed. We also achieved low pretilt angle as a function of ion-beam irradiation intensity. In addition, it can be obtained the good EO properties of the IB-aligned TN-LCD on PI surface. Some other experiments results and discussion will be included in the poster.

Key Words : LC alignment, ion-beam, polyimide, pretilt angle, electro-optical characteristics

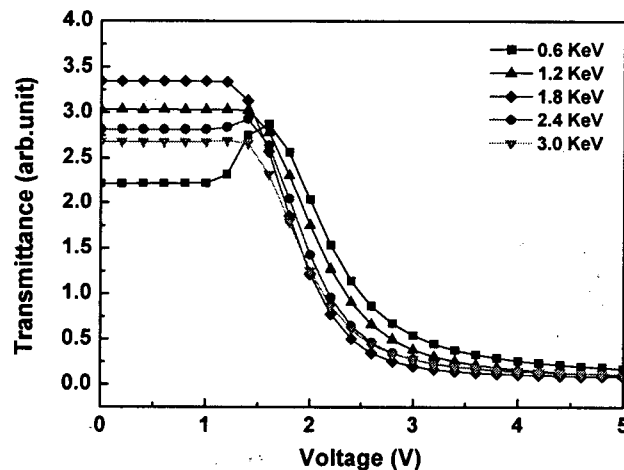


Figure 1. Voltage-transmittance curve of the TN-LCD on PI surface irradiated by ion-beam irradiation as a function of ion-beam irradiation intensity.

참고 문헌

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