

배향막으로 사용된 NDLC 박막의 증착방법에 따른 능력

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Ability of Nitride-doped Diamond Like Carbon Thin Film as an Alignment Layer according to Deposition Methods

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Abstract : In this paper, the LC alignment characteristics of the NDLC thin film deposited by PECVD and sputtering were reported respectively. The NDLC thin film deposited using sputter showed uniform LC alignment at the 1200 eV of the ion beam intensity and pretilt angle was about 2° while the NDLC thin film deposited using the PECVD showed uniform LC alignment and high pretilt angle at the 1800 eV of the ion beam intensity. Concerning the ion beam intensity, uniform LC alignment of the NDLC thin film deposited by the sputtering was achieved at the lower intensity. And the pretilt angle of the NDLC thin film deposited by sputter was higher than those of NDLC thin film that was deposited using the PECVD. The uppermost of the thermal stability of NDLC thin film was 200 °C, respectively. However, NDLC thin film deposited by the PECVD showed stability at high temperature without defects, compared to NDLC thin film deposited by the sputter.

Key Words : liquid crystal, alignment layer, NDLC, PECVD, sputter, ion beam