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Surface Nano patterning for aligning Chromonic liquid crystals

JEONG YEON, Korea Advanced Institute of Science and Technology, MOHAN SRINIVASARAO, Georgia Institute of Technology, HEE TAE JUNG, Korea Advanced Institute of Science and Technology — We present results on planar alignment of several Chromonic Liquid Crystals. We use a high aspect ratio nano pattern of electrically conductive ITO, which was fabricated by employing a new patterning technique that relies on a secondary sputtering phenomenon (SSP). This method is particularly useful in the case of aligning Chromonics which are considerably harder to align in comparison with conventional thermotropics. Berreman's theory was employed to study the alignment of the Liquid Crystals as a function of the anchoring energy which depend on the dimension of the ITO patterns.

Mohan Srinivasarao
Georgia Institute of Technology

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