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Surface Nano pattering for aligning Chromonic liquid crsytals JEONG YEON KIM, Korea Advanced Institute of Science and Technology, KARTHIK NAYANI, Georgia Institute of Technology, HYEON SU JEONG, HWAN-JIN JEON, HAE-WOOK YOO, EUN HYUNG LEE, Korea Advanced Institute of Science and Technology, JUNG OK PARK, MOHAN SRINIVASARAO, Georgia Institute of Technology, HEE-TAE JUNG, Korea Advanced Institute of Science and Technology — We present results on homogenous planar alignment of several Chromonic Liquid Crystals. High aspect ratio patterns on ITO substrates are used to align the Chromonics. A modification of the Berreman's theory was employed to study the alignment of the Liquid Crystals as a function of the anchoring energy. The theory is used to determine the limit for the amplitude of the patterns beyond which the anchoring energy levels off. The crucial aspect of the work involves the testing of the veracity of the alignment with varying amplitude which in turn gives us a cut off anchoring strength to align Chromonics when compared back to the theory. We note that this value of the cutoff anchoring energy to align Chromonics is higher than that needed for nematics and it should serve as a reference for other techniques which seek to align Chromonics.

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