

Abstract Submitted  
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**Defect interactions in blueprinted Liquid Crystal Polymer Networks** VIANNEY GIMENEZ-PINTO, ANDREW KONYA, ROBIN SELINGER, Liquid Crystal Institute, Kent State University, FANGFU YE, Laboratory of Soft Matter Physics, Institute of Physics, Chinese Academy of Science — Using finite element simulation we investigate the shape transformation in liquid crystal elastomers imprinted with several defects of different topological charge arranged in a pattern. We investigate how the distance between defects affects the overall shape distortion of the material. These numerical studies represent an efficient method to predict shape distortions in elastomers imprinted with defects depending on the defect's topological charge, the number or disclinations in the director field, the spatial distribution of the defects cores, among other design aspects. Supported by NSF-DMR 1106014.

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