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Optical bandgaps for a Cholesteric Elastomer Slab Under Stress JUAN REYES CERVANTES, MARGARITA RIVERA, Universidad Nacional Autónoma de México — Using the equilibrium configuration adopted by a cholesteric elastomer elongated by the influence of a uniaxial transverse stress, we calculate the solution of the boundary—value problem for the reflection and transmission of obliquely incident plane waves due to a elastomer slab. We find a left-circularly polarized thin reflection band immersed in a wider right- circularly polarized band reflection, when the elastomer is under a stress near to the critical value. Also, a deformation of the reflection band and the reduction of its bandwidth were obtained. These bandgap features suggest to design a finely tuning polarization-universal optical filter.

Juan Reyes Cervantes Instituto de Física UNAM

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