

Biological plywoods: Self-assembly, structure, and surface shapes

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Biological plywoods, such as plant cell walls and cornea tissues, are cholesteric analogues that form by chiral self-assembly. In this talk we present results using the Landa-deGennes tensor order parameter mode to characterize the self-assembly and structural defects observed in biological materials. The complex wrinkling of plywood surfaces is analyzed by mapping the liquid crystal surface shape equation into Euler's elastica.

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