

Abstract Submitted  
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**Mechanisms of defect motion in hexagonal systems on sinusoidal substrates** NICOLAS GARCIA, LEOPOLDO GOMEZ, DANIEL VEGA, Depto. de Fisica-IFISUR-Univ. Nac. del Sur. ANPCyT y Conicet., Argentina — In this work we have studied through a Landau's free energy functional approach the dynamic and equilibrium configurations of two-dimensional hexagonal systems constrained to lie on a substrate with sinusoidal topography. Similarly to previous studies, we have found a strong coupling between defects and geometry, where the regions with the highest local Gaussian curvature act as sink for disclinations. We have studied the influence of the local curvature of the substrate on the diffusional dynamics of dislocations and disclinations. We have found a novel mechanism of defect diffusion where linearly correlated arrays of dislocations (scars) move according to the gradient of curvature.

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