

Abstract Submitted  
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**Ribbons of Infinite Length**<sup>1</sup> GABRIELA JARAMILLO, SHANKAR VENKATARAMANI, Univ of Arizona — In recent years there has been a growing interest in the different ribbon configurations obtained after subjecting thin strips of acetate to tension and twist. In the work of Chopin J. et al, the case of a ribbon with clamped edges is studied and a phase diagram is obtained with a plethora of possible shapes ranging from helicoids to ribbon crystals. A natural question is then to ask if the boundary conditions promote some of the shapes seen in this diagram. To tackle this question we isolate the effects of the clamped edges by considering infinitely long ribbons. Our analysis suggests that in this case the preferred shape will be a spiral (or cylindrical) configuration. Similar results have been found in recent experiments involving ribbons subjected to similar loading conditions, but which are clamped only on a small region near the center line.

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