

# Abstract Submission for March Meeting 2022

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Submission Type Oral Abstract

Sorting Category: 02 Soft Condensed Matter (DSOFT)

Sub-Category: 02.01.04 Morphing matter: from soft robotics to 4D printing (DSOFT, GSNP, DPOLY) [same as 03.01.20, 01.01.32]

Abstract Title: Multimodal locomotion via folding of a degree-four vertex

Folding an origami pattern is governed by simple geometric rules, yet it can lead to a rich behavior that can be exploited in applications ranging from shape morphing to robotics. Here, we show that the folding one of the simplest origami building blocks ---a rigid, degree-four vertex--- can lead to locomotion. We first

Abstract Body: describe how modifying the geometry of the degree-four vertex can lead to different trajectories. We then realize a simple origami-robot capable of moving along arbitrary trajectories by superimposing multiple crease patterns on the same origami sheet and activating/freezing the hinges leading to the desired motion.

Category Type: Experimental/Theoretical

Newsworthy Research? No

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