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Study of waving of grass using a soap film model
RAVI SINGH, Brown University, MAHESH BANDI, Okinawa Institute of Science and Technology, L. MAHADEVAN, Harvard University, AMALA MAHADEVAN, Woods Hole Oceanographic Institution, SHREYAS MANDRE, Brown University — Wind blowing over a grass field incites synchronized response from the grass blades, which appear as waves. This effect is called Mo-nami in a terrestrial setting, while in an aquatic setting it is termed as Ho-nami. We use a combination of experimental observations, numerical simulations and theoretical analysis to understand this effect. The experiment is conducted in two-dimensional realization of these phenomena in a gravity driven soap film tunnel. Nylon filaments attached to the boundaries of the soap film play the role of the grass. We provide a preliminary characterization of this analog model for the synchronized oscillations of grass.

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