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**Breaking the Symmetry with Flexible Blades: Part II** JULIA COSSE, California Institute of Technology, DAEGYOUM KIM, Brown University, LUTZ MUELLER, MORTEZA GHARIB, California Institute of Technology — Vertical axis wind turbines use various methods of asymmetry to promote rotation. Historically two main methods were used; rigid blades with complex shapes or walls blocking the wind from passing through the upwind moving half of the rotor. This project has investigated the use of flexibility as a simpler alternative with great success. A model turbine with interchangeable blades was built and tested in a wind tunnel when configured with several blades of different materials. We found that rotation occurred only when the turbine was equipped with the flexible blades. Successful wind tunnel studies motivated field-testing of the turbine. This talk addresses the recent results regarding the flexible bladed wind turbine testing in the fickle wind environment of the Caltech field laboratory for wind energy (FLOWE). This research is supported by the Gordon and Betty Moore foundation.

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