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**Influence of Forcing Structure on Two-Dimensional Weak Turbulence** YANG LIAO, DOUGLAS KELLEY, NICHOLAS OUELLETTE, Yale University — The dependence of the dynamics of two-dimensional turbulence on its forcing topology is an interesting and practical question for experiments. We generate quasi-two-dimensional flows in thin layers of salt water with a forcing geometry that is either a lattice of alternating vortices or an array of alternating shear bands. We observe that the vortex flow has more fluctuating energy, but that the shear flow has larger spatial gradients. We attribute these differences to the fact that shear forcing imposes fewer constraints on the flow and allows the production of smaller length scales.

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