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Characterizing soliton behavior in noise-mediated one-way coupled oscillators CHRISTINE E. WEIDERT, BARBARA J. BREEN, University of Portland, JOHN F. LINDNER, The College of Wooster — While arrays of coupled bistable oscillators have been extensively studied, the unique behavior of such arrays under one-way coupling has been studied only in the last few years. Using numerical simulations run on a high-speed parallel computing cluster and theoretical arguments, we show that the speed of solitons propagating in these arrays is proportional to the coupling strength. In addition, we refine and improve a metric, the complexity, that quantifies the intricacy of the spatiotemporal behavior of the array as a function of coupling and noise.

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