Abstract Submitted
for the MAR17 Meeting of
The American Physical Society

Simulation of active polygons in 2 dimensions. ROBERT MARTIN, JOHANNES ZWANIKKEN, University of Massachusetts Lowell — Many phases of matter are being studied in the field of Soft Matter beyond the standard categories of gas, liquid and solid. The rules that govern these phases are often well understood in thermal equilibrium, but do not apply to dissipative or active systems of self-propelled particles. We study the dynamics of 2-dimensional active polygons by means of simulation techniques, to characterize the formation of structure and substructures in driven ensembles, and search for a theoretical framework that relates these phases to the dynamical properties of the particles.

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Date submitted: 11 Nov 2016 Electronic form version 1.4