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General Collective Behavior Modeling Through Flocking.

We construct a model for collective behavior phenomena by undermining the assumption that the rate of change of position equals velocity in the particle Cucker-Smale model for flocking. Conditions for collective behavior to occur are proven and we present a continuous model for self-segregation as an example with simulations. Future avenues of research and a variety of applications such as drone swarms, dynamics of beliefs, and business trends are discussed in the conclusion. (Received January 28, 2019)