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Title: On the Cucker–Smale model with time delay

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Abstract: The Cucker–Smale model has been proposed in 2007 as a model for flocking of birds. In general, it may describe phenomena where autonomous agents reach a consensus or self–alignment without a central direction, based on environmental information. Taking into account a delayed answer of the agents to signals from environment, we introduce a time delay τ in the model. This makes the problem more difficult to deal with due to the loss of some good geometric properties of the classical Cucker–Smale system. Under suitable conditions, an asymptotic flocking result is obtained when the delay τ is sufficiently small.