

Colloquium

Flocking Dynamics on an Augmented Cucker-Smale Model

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地 點：應用數學系多媒體教室（理 408 室）

摘 要：

Phenomena of collective motions such as flocking of birds, schooling of fishes and herds of quadrupeds are often observed in complex biological systems. Many different types of models have been proposed and analyzed to explain these. Among them, the one introduced by Cucker and Smale in 2007 has gained much attention due to the fact that a smoothly weighted communication function is introduced. In this talk, we will survey the Cucker-Smale model and some of its variants under various network topologies such as complete, hierarchical and group-hierarchical leadership coupling. Moreover, we will propose an augmented Cucker-Smale model and address the problem of collision avoidance.