

Modeling swarms: from micro to macro

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A general class of mathematical structures (integro-differential equations) that can model self-organization at the so-called mesoscopic level is proposed. The equations are of kinetic type and the interactions have nonlinear nature and may be referred to as the mesoscopic scale of description. The structures lead to interesting mathematical problems of blow-up of solutions [2], [3]) that are directly related to swarming behavior. Both microscopic and macroscopic levels are also studied ([4]).

References

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