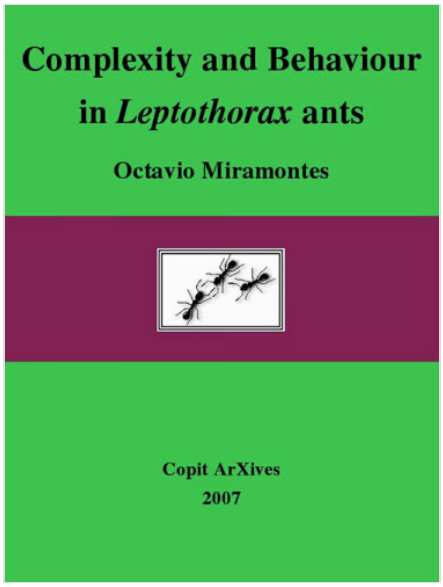
Complexity and behaviour in Leptothorax ants

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Sinopsis

Social behaviour in ants of the genus Leptothorax is reviewed. Attention is paid to the existence of collective robust periodic oscillations in the activity of ants inside the nest. It is known that those oscillations are the outcome of the process of short-distance interactions among ants and that the activity of individual workers is not periodic. Isolated workers can activate spontaneously in an unpredictable fashion. A model of an artificial society of computer automata endowed with the basic behavioural traits of Leptothorax ants is presented and it is demonstrated that collective periodic oscillations in the activity domain can exist as a consequence of interactions among the automata. It is concluded that those oscillations are generic properties common to both natural and artificial social complex systems.



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