

UNICAMP – IMECC
Departamento de Matemática

Seminário de Sistemas Dinâmicos e Estocásticos

Expositor: E. N. Macau (INPE)

Título: Collective motion, chaos and synchronization

Data: Sexta-feira, 26 de novembro de 2010, 13h30min

Local: Sala 321 do IMECC

Resumo. The collective and ordered motion is the corner stone many fundamental phenomena in Nature. Examples of these phenomena include the hearts pacemaker cells, neurons in the brain, a group of fireflies, an array of superconducting Josephson junctions, a shoal of fishes, the formation flight of birds. Many technological systems are also based on collective motion, as are the case of generators in a electric power system, oscillators in a communication system, units of a data processing subsystem. In all those situations a collective behaviour pops up from the dynamics of its components, and this collective behaviour allows the efficiently accomplishes of specific tasks without the presence of a leader. In this work we analyze those situations and identify strategies that allows the emergence of the collective ordered motion from chaotic dynamics of its components.

Consulte a programação em [www.ime.unicamp.br/ssde].