



PHYSIKALISCHES KOLLOQUIUM

Mittwoch, den 26.10.2011, um 17:15 Uhr

Ort: Reichenhainer Str. 90; Neues Hörsaalgebäude, Raum: 2/N013



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Statistical physics of collective motion

The recent years have witnessed the explosive growth, within the statistical physics community, of works dealing with “active matter”, loosely understood as the situations where energy is spent locally to produce some kind of directed (non-random) displacement. In this context, particular interest has been paid to the phenomenon of collective motion.

Examples abound, at all scales, from large herds of mammals, bird flocks, fish schools, cell colonies, subcellular filaments and motor proteins, not to mention various man-made swarms. Often, no leader or guiding field is present, and collective motion can be seen (by the physicist!) as the result of the spontaneous breaking of rotational symmetry in populations of interacting particles.

After a general introduction, I will present an updated account of the emerging picture of universality classes of collective motion, as understood from studies of minimal models, a viewpoint radically orthogonal to that prevalent in animal behavior studies.



Alle Zuhörer sind ab 17:00 Uhr zum Kaffee vor dem Hörsaal eingeladen.