SM&FT 2015 - The XVI Workshop on Statistical Mechanics and nonpertubative Field Theory



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Active dumbbells: from diffusion properties to aggregation phenomena

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In the last two decades active matter has been the object of a surge of theoretical and experimental interest. Apart from the obvious biological relevance, theorists are also specially attracted by the inherently non-equilibrium nature of self-propulsion phenomena. After a quick overview of the theoretical models and experimental systems that are currently under the spotlight, this talk will be focused on one simple model of active dumbbells. Two kinds of results will be presented in some detail, that belong to the opposite ends of the density range: the diffusion behaviour of a single active dumbbell and its interpretation in terms of an effective temperature on one hand, and aggregation processes on the other.

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