

Topological and out of equilibrium magnetic textures and their effect on itinerant electrons

mardi 27 février 2024 11:00 (1h 30m)

The physics of topological magnetic textures like skyrmions and bimerons, and in particular the issue of how to isolate and manipulate them individually, is a subject of major importance nowadays in the community of magnetism. We propose a model with a rich phase diagram containing these topological magnetic textures that appear in crystalline, fluid and glassy phases. I'll then discuss the study of this rich magnetic background on conduction electrons that are coupled to the local spins. We study how the different magnetic textures stabilised in this model induce an anomalous Quantum Hall effect. We observe in the ordered skyrmion phase the appearance of Landau levels which persist even in the skyrmion-liquid regime and gradually disappear as the skyrmion density decreases.

The seminars will also be accessible online: <https://www.ihp.fr/en/live> and/or <https://univ-cotedazur.zoom.us/j/3777115746?omn=8388785>

Recording will be available later on: <https://www.carmin.tv/en/>

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