Lundi 16 octobre 2017, 12h30

Ecole de Physique, Auditoire Stueckelberg

« Topology of the Fermi surface wavefunctions and magnetic oscillations in metals »

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Abstract:

In the traditional Fermiology, the size and shape of the Fermi surface in a metal is often deduced from the period of magnetic oscillations of transport or thermodynamic characteristics, *e.g.*, from the de Haas – van Alphen effect. We find that the intercept γ of the infinite-field asymptote of the oscillations yields information about the topology of the Fermi surface wave functions. The topological invariance of γ originates from the symmetry of extremal orbits, which depends not only on the space group but also on the field orientation with respect to the crystal axes. The wavefunctions fall into 10 distinct classes stemming from the crystalline symmetry; transitions between the classes occur via magnetic breakdown.

Une collation en compagnie du conférencier sera offerte après le colloque.

Prof. Dmitry Abanin