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**Emergent Electrodynamics of Skyrmions in Chiral Magnets**

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Skyrmions are particle-like states of continuous fields named after the English particle physicist Tony Skyrme. Their existence has long been considered in nuclear matter, quantum Hall systems, liquid crystals, superfluid $^3$He and ultracold atoms. As their defining property they support a topological winding number of 1. In magnetic materials spin configurations with a non-vanishing topological winding number, driven by the interplay of magnetic anisotropies, dipolar interactions and geometrical frustration, have been known for a long time. This is contrasted by the recent discovery of skyrmion lattices in chiral magnets, i.e., long-range magnetic order in which each magnetic unit cell contains a skyrmion and thus a non-zero winding number. As a practical consequence, the non-zero topological winding number implies that the conduction electrons in the presence of a skyrmion experience changes of Berry phase, that correspond precisely to one quantum of emergent magnetic flux. In transport measurements this leads directly to a topological Hall signal. Moreover, tiny electric current densities are already sufficient to generate a motion of the skyrmions first observed indirectly in neutron scattering. Since each skyrmion supports one quantum of emergent magnetic flux the motion of the skyrmions induces an emergent electric field consistent with Faradays law of induction that may also be observed experimentally. The excellent theoretical description of the skyrmion lattices observed so far in metals, doped semiconductors and insulators suggests that they represent a rather universal phenomenon to be expected in a wide range of systems supporting chiral spin interactions. Taken together with the first insights into their emergent electrodynamics, skyrmion lattices in chiral magnets develop into a new area of condensed matter magnetism offering insights relevant for applications.