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Orbital Hall effect and its detection

HYUN-WOO LEE, Pohang Univ of Sci Tech

The orbital Hall effect refers to the electrical generation of an orbital angular momentum current in a transverse direction. The orbital Hall effect can arise intrinsically through Berry curvature and in certain materials including 5d transition metals, the orbital Hall effect plays a crucial role for the generation of the spin Hall effect. This talk briefly summarizes the present theoretical understanding of the orbital Hall effect and presents recent progresses in the experimental detection of the orbital Hall effect.