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Title

Optical Injection and Terahertz Detection of the Macroscopic Berry Curvature

Source

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Abstract

We propose an experimental scheme to probe the Berry curvature of solids. Our method is sensitive to arbitrary regions of the Brillouin zone and employs only basic optical and terahertz techniques to yield a background-free signal. Using semiconductor quantum wells as a prototypical system, we discuss how to inject Berry curvature macroscopically and probe it in a way that provides information about the underlying microscopic Berry curvature.