

Magneto-optics of van-der-Waals antiferromagnets

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Infrared and THz magneto-spectroscopy serves as a relevant tool for investigating a wide range of low-energy excitations in solids. During my presentation, I will provide a succinct overview of research activities employing this experimental technique combined with the high-magnetic-field facility at the LNCMI in Grenoble. My talk will be primarily focused on recent results obtained on layered antiferromagnets, particularly those belonging to the FePS₃ family. These investigations have revealed a surprisingly complex magneto-optical response which goes beyond the conventional picture of classical antiferromagnetic resonance. We interpret it in terms of magnon-polarons and magnon excitations with high angular momenta.