

Spin and phonon excitations in layered antiferromagnets

Wednesday, 6 July 2022 09:00 (45)

The results of optical magneto-spectroscopy study (Raman scattering, THz absorption, high frequency magnetic resonance) of layered MnPS₃ and FePS₃ antiferromagnets will be presented. Attention will be focused on magneto-elastic interaction in MnPS₃ [1] and appearance of magnon polarons in FePS₃ [2]. Besides, the origin of a magnon gap in MnPS₃ and splitting of this gap observed in both compounds, will be discussed.

1. Magnetoelastic interaction in the two-dimensional magnetic material MnPS₃ studied by first principles calculations and Raman experiments

D. Vaclavkova et al., 2D Materials 7, 035030 (2020).

2. Magnon-polarons in van der Waals antiferromagnet FePS₃

D. Vaclavkova et al., Phys. Rev. B 104, 134437 (2021)

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