

New insights into the magnetic textures of MnSi

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The non-centrosymmetric compound MnSi was the first system in which a magnetic skyrmion lattice has been identified a decade ago. Although skyrmions and skyrmion lattices have been observed in numerous other compounds, MnSi remains a model system for a study of the interplay of the magnetic interactions which are at the origin of the skyrmions. Here, from a quantitative interpretation of muon spin rotation spectra, we revisit its magnetic structure in the helical and conical phases [1,2] and find subtle deviations from the structures taken for granted. These results point to the need of a microscopic model for the description of the interactions at play. Preliminary results in the skyrmion phase are finally presented.

[1] P. Dalmas de Réotier *et al*, Phys. Rev. B **93**, 144419 (2016).

[2] P. Dalmas de Réotier *et al*, Phys. Rev. B **95**, 180403 (2017).