

Complex Magnetic Order - the Skyrmion Lattice

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Although the theoretical concept of a skyrmion has been suggested several decades ago within the description of fundamental particles, recent realizations of the skyrmion lattice in condensed matter physics have attracted a lot of attention [1]. On top of the fundamental issues of the formation and the stability of the skyrmion lattice, there have been several successful attempts in controlling individual skyrmions [2,3]. We will present our recent results which demonstrate the manipulation of the skyrmion lattice with the application of an electric field [4] where a theoretical framework has been developed that includes magneto-crystalline anisotropy.

[1] Muhlbauer et al., Science 323, 915 (2009)

[2] Finazzi et al., PRL 110, 177205 (2013)

[3] Romming et al., Science 341, 636 (2013)

[4] White et al., PRL 113, 107203 (2014)