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[841] Skyrmion Confinement in Magnonic Antidot Lattices

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Magnonic crystals are a novel type of artificial crystals formed by the periodic arrangement of magnetic nanostructures and magnetic skyrmions [1] are topologically stable spin textures, generally stabilized by Dzyaloshinskii-Moriya interactions [2]. Key challenges regarding the skyrmion lattice are to stabilize and confine them. The aim of the present work is to stabilize and confine the magnetic skyrmions by patterning a nanometer size antidot lattice in high perpendicular magnetic anisotropy films. The observations are very important for future magnon spintronic devices based on skyrmion lattices.

References:

- [1] D. A. Gilbert et. al., Nat. Commun. 6, 8462 (2015).
- [2] O. Boulle et. al., Nat. Nanotech. 11, 449 (2016)

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