

Topological excitations in molecular and van der Waals ferromagnets

G. Aeppli

¹ *ETH Zürich, EPF Lausanne and Paul Scherrer Institut, Switzerland*

We describe the topological excitations in one-dimensional magnets and how they can be detected in field- and temperature-dependent magnetization measurements¹. Molecular magnets in the transition metal phthalocyanine (Pc) family form particularly ideal realizations of magnetic chains displaying such excitations, whose characteristics are also tunable via their self assembly conditions. In particular, magnetization data for FePc, which is an organometallic semiconductor displaying transistor action², are well described by ideas originally proposed for the inorganic and insulating magnetic chain compound CsNiCl₃. The topological excitations which are anticipated³ for certain two-dimensional van der Waals magnets are also described as a guide to future experiments.

[1] Z. Wu et al., *Advanced Functional Materials* 1902550 (2019)

[2] L. R. Fleet et al., *ACS Appl. Mater. Interfaces* 9, 20686 (2017)

[3] S.S. Pershoguba et al. *Phys. Rev. X* 8, 011010 (2018)