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## **[205] Probing magnetism of iron-rich phyllosilicates: semi-quantitative Magnetic Force Microscopy of 2D-van der Waals magnets in the monolayer limit**

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Layered silicate minerals, so-called phyllosilicates, were recently proposed as naturally occurring sources of 2D van der Waals (vdW) materials. Iron-rich members of the phyllosilicate family, were previously investigated for their magnetic properties and exhibit long-range magnetic ordering. However, probing the magnetism of 2D vdW magnets, especially in the monolayer limit, is challenging. To determine their magnetic response, we performed Magnetic Force Microscopy on mono- and multilayer flakes of several iron-rich phyllosilicates prepared on SiO<sub>2</sub>/SiO-substrates. By executing these measurements in external magnetic fields, we were able to semi-quantitatively measure the magnetic response of these materials in dependence of the applied field down to the monolayer limit.

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