

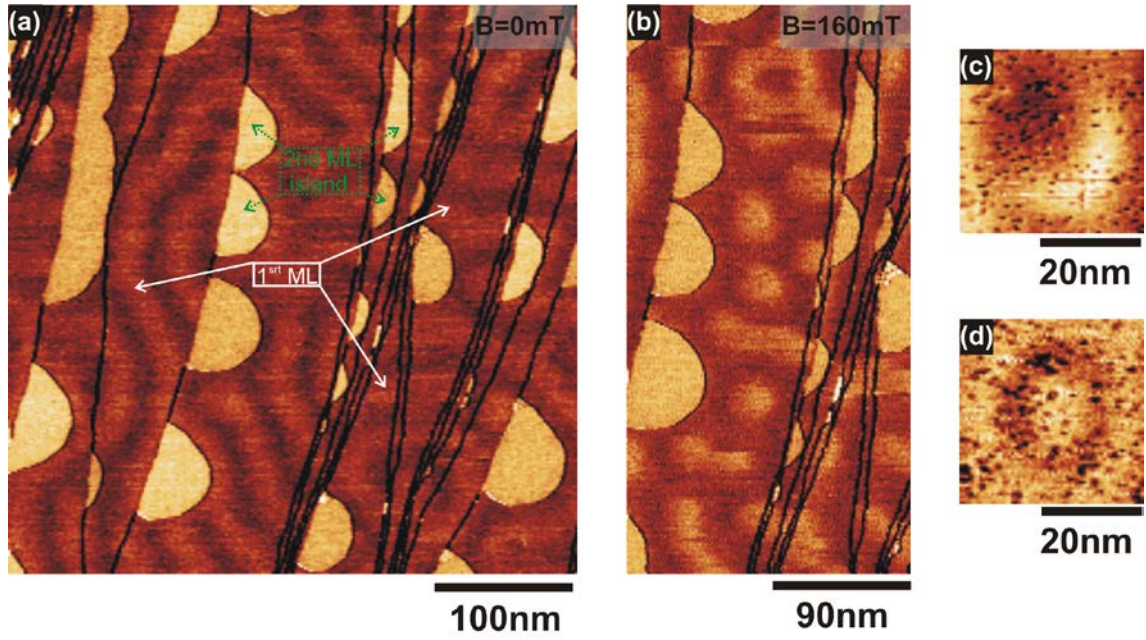


Figure 1: conductance map recorded on the Co monolayer using an out of plane spin polarized tip, revealing (a) a spin spiral at zero magnetic field and (b) the stabilization of magnetic skyrmion under magnetic field – Magnified conductance map of a skyrmion using an in-plane spin polarized tip (c) and a non-spin polarized tip. The image realized with a non-spin polarized reveal a tunnelling anisotropic magnetoresistance of 2 %.

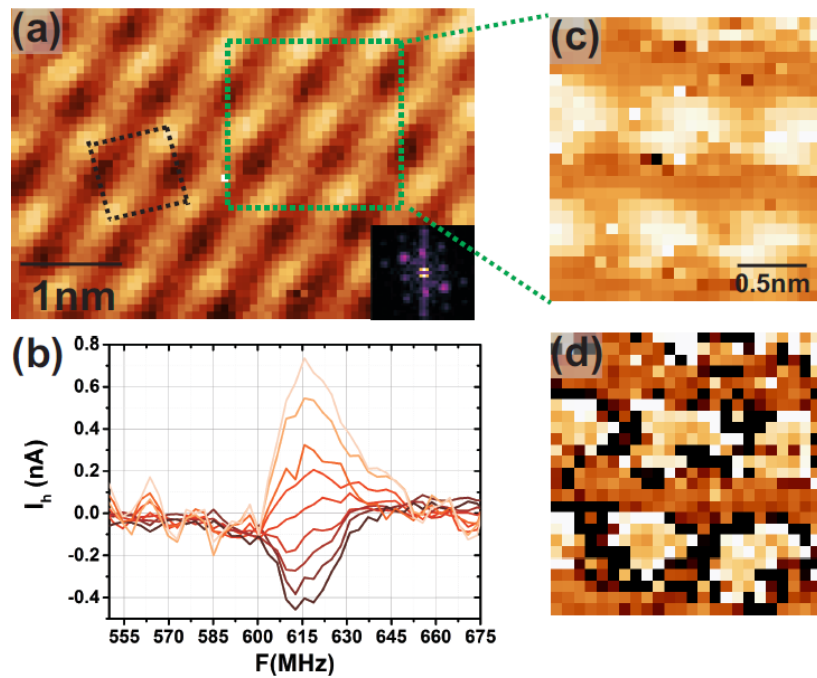


Figure 2: (a) SP-STM topography revealing the skyrmionic spin structure on Fe(1 ML)/Ir(111) – (b) Additional DC component of the tunneling current versus the rf frequency recorded on several location of the spin structure – Spatial variation of the amplitude (c) and frequency position (d) of the peak within an area of $2 \times 2 \text{ nm}^2$ of the skyrmionic lattice.