

# Hysteresis behaviour of skyrmions in Pt/Co/Au multilayer nanodots

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The magnetic skyrmion stability is studied theoretically in circular Pt/Co/Au multilayer stacks with perpendicular magnetic anisotropy and interface Dzyaloshinskii-Moriya interaction (DMI). We are focusing on skyrmion behaviour in dependence on different parameters like a diameter of the dot and number of multilayer repetitions. For patterned structures consisting of several repetitions we observed two stable skyrmion magnetic configurations with a significant difference in their skyrmion diameters. We found reversible hysteresis loops of the skyrmion radius as a function of the external magnetic field. It gives realistic opportunities to create memory cells where change of the magnetization state, defined by the skyrmion diameter, would be realised with sweeping the external magnetic field or change in the spin-polarized current.