Hysteresis of Néel-line motion and effective width of 180° Bloch walls in bulk iron

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Subdivided 180° Bloch walls of alternating polarity have been observed on iron whiskers employing the interference-contrast colloid technique. The field-induced conversion of these complex walls is predominantly controlled by Néel-line motion. The static polarization curves, optically recorded for whiskers of various thicknesses, permit an experimental estimation of an effective Bloch-wall width which is in good agreement with the theoretically obtained value for bulk material.