

STABILITY  
OF MAGNETIC NANOWIRES AGAINST  
SPIN-POLARIZED CURRENT

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S u m m a r y

The stability of the ground magnetization state of a thin magnetic nanowire against a longitudinal spin-polarized current is studied theoretically with the dipole-dipole interaction taken into account. The critical current, i.e. the minimum current, at which the instability of the ground state develops, is determined. The dependence of the critical current on the size and the shape of a transversal wire cross-section is clarified. Theoretical predictions are confirmed by numerical micromagnetic simulations.