

# Controlling domain wall chirality by combining hard and soft magnetic materials in planar nanostructures with wire-ring morphology

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## Abstract

Vortex domain walls (DWs) are characterized by their chirality, an important property that needs to be controlled for the use of such walls in potential technological applications. In this work we explore a wire-ring structure in which we have alternate hard and soft magnetic materials. Our results evidence that, depending on the materials, it is possible to control the DW chirality when it goes through the ring section. Therefore, this system can be used as a device that controls domain wall chirality.

## Author keywords

Chirality  
Domain Wall  
Hard and soft materials