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Effects of Rashba Spin-Orbit Coupling On the Anisotropic Magneto Resistance in Domain Wall *

© *J. Azizi*

Sama technical and vocatinal training college, Islamic Azad University, Ardabil Branch,
Ardabil, Iran
E-mail: j.azizi25@gmail.com

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The present paper, based on semi-classical Boltzmann equation, aims to investigate the effects of Rashba and Dresselhaus spin orbit interaction and impurities on domain wall anisotropic magneto resistance. It has been shown that the mentioned effects play a remarkable role in anisotropic magneto resistance of electron current in domain walls. It was also concluded that while an increase in Rashba coupling strength can effectively enhance anisotropic magneto resistance of the domain wall, an increase in the wave-vector and exchange interaction leads to their decrease.

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