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(54) DOMAIN WALL DISPLACEMENT ELEMENT, MAGNETIC ARRAY, AND METHOD OF MANUFACTURING DOMAIN WALL DISPLACEMENT ELEMENT

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(57) ABSTRACT

A domain wall displacement element includes a magnetoresistance element which has a reference layer and a domain wall displacement layer each containing a ferromagnetic body, a non-magnetic layer, and first and second magnetization fixed layers which are in contact with the displacement layer, wherein the first layer has a first region in contact with the displacement layer, a non-magnetic first intermediate layer, and a second region contacting the first intermediate layer, the first region has a first ferromagnetic layer contacting the first intermediate layer, the second region has a second ferromagnetic layer contacting the first intermediate layer, the first and second ferromagnetic layers are ferromagnetically coupled, a ferromagnetic layer closest to the displacement layer in the first region and a ferromagnetic layer closest to displacement layer in the second magnetization fixed layer have the same film configuration, and the first and second regions are different in film configuration.

