

Magnetic structure modification of NiFe/Au/Co/Au multilayers by He⁺ ion bombardment through nanospheres

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9.7 cm

Magnetic patterning, i.e., local changes of magnetic properties without topographical changes is of particular interest due to possible applications in new generation of magnetic storage media. This effect, originating from the structure modification, can be induced by ion bombardment. Because of special requirements for magnetic hard discs technology the attention is focused on magnetic layered films with perpendicular anisotropy (e.g., Co/Pt, Co/Au). As a result of intermixing at the interfaces the perpendicular anisotropy decreases with increasing ion dose. Magnetic patterning in nanoscale was realized by focused ion beams or bombardment through mechanical or lithographic masks. In our contribution we demonstrate that large area magnetic patterning in nanoscale can be realized by ion bombardment of NiFe/Au/Co/Au multilayers through a single layer of latex nanospheres arranged in regular structure.

13.4 cm

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