

In-plane Magnetic Micro- and Nanopatterns: Fundamentals, Applications, and Possibilities

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Ion bombardment in an external magnetic field has become an excellent tool to modify the magnetic properties of magnetic thin film systems showing the exchange bias effect. Additionally this novel technique enables lateral magnetic patterning of these layer systems without topography contrast. Magnetic patterns can be achieved either by focussed ion beam techniques or by combining lithography techniques with broad ion bombardment. To understand the fundamental effects of ion bombardment induced magnetic modifications in exchange bias layer systems, the involved modification processes will be discussed in the context of a tentative model. Some applications of ion bombardment induced magnetic patterning (IBMP) will be shown and some further application possibilities will be discussed.

9.7 cm

13.4 cm

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2. Magnetic Films, Surfaces, Multilayers and Nanostructures

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