

Abstract Submitted
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Of annealing on the microstructure and magnetic properties of selected (Ni-Mn-Ga) melt-spun ribbons OHUD ALSHAMMARI, MAHMUD KHAN, Miami University — Permanent magnets based on rare earth metals are in the central part of commercial use. However, the increasing demand of these magnets and the limited availability of rare earth elements is causing continuous increase in the pricing of these magnets. Therefore, the need of developing cheaper non-rare earth based permanent magnets is of great importance. Here we present the results of our experimental investigations on the melt spun ribbons of selected Ni-Mn-Ga based inter-metallic compounds. The results show that the microstructure and associated magnetic properties of the ribbons can be controlled by annealing techniques. The coercive field varies strongly with the annealing conditions, and the materials also exhibit exchange bias behavior that can be exploited to develop new permanent magnets.

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