

**magnetic properties of cast iron based amorphous alloys** KANE Shashank, 이 효진, 김 성백, 정 윤희, KIM C.S.<sup>1</sup>, VARGA L.K.<sup>2</sup>(**포항공과대학교**, <sup>1</sup>**국민대학교**, <sup>2</sup>**RISSPO**.) Soon after the synthesis of bulk amorphous alloys, Fe-based alloy systems have attracted attention particularly because of their commercial importance as cheap soft magnetic materials. Cast iron (Ci) alloys with a small amount of B allows one to be able to cast cylinders with transversal dimensions of up to 0.5 mm; P helps in obtaining homogenous amorphous phase in the ribbons produced by melt spinning and also helps in improving thermal stability and bulk glass forming ability. In this work we report the influence of B and P content on thermal stability, structural and magnetic properties of cast iron based amorphous alloys using DSC, Mössbauer spectroscopy and magnetic measurements. Ribbons (about 35  $\mu\text{m}$  thick and 4 mm wide) prepared using a planar flow casting technique of nominal composition  $\text{Ci}_{95.65}\text{B}_{4.32}$ ,  $\text{Ci}_{91.48}\text{B}_{8.42}$ ,  $\text{Ci}_{87.82}\text{B}_{12.17}$ ,  $\text{Ci}_{87}\text{P}_{8.65}\text{B}_{4.35}$ ,  $\text{Ci}_{91.3}\text{P}_{4.35}\text{B}_{5.35}$  were studied. Results suggest that addition of B and P affects the stability, glass forming ability, spin texture, disorder and the soft magnetic properties of the studied specimens. Detailed results will be presented.

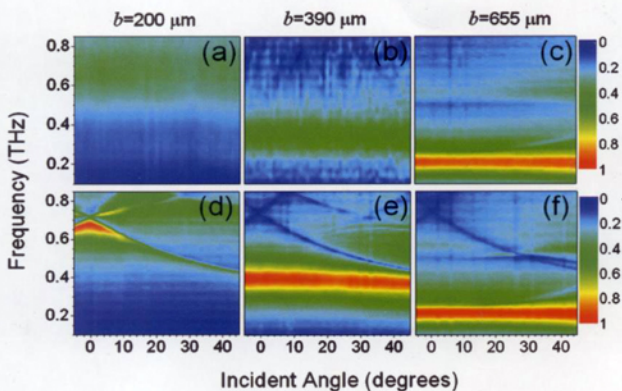
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