



Bulk glassy alloys with large magnetostriction and high glass forming ability

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Fe-based bulk ferromagnetic glassy alloys were formed in $(\text{Fe}_{0.75-x}\text{Dy}_x\text{B}_{0.2}\text{Si}_{0.05})_{96}\text{Nb}_4$ ($x=0.04$) system by the copper mold casting method. By the effect of Dy addition on glass forming ability, we investigated the fracture strength, magnetostriction as well as soft magnetic properties in FeDyBSiNb glassy alloys. In addition to increase the supercooled liquid region, the addition of Dy is effective in approaching alloy to an eutectic point and also increasing the saturation magnetostriction. On the basis of it bulk glassy alloy ribbons were produced, which exhibit large saturation magnetostriction and also the bulk glassy alloy system exhibits superhigh fracture strength combined with good soft magnetic properties.



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[20th International Conference on Materials Science and Engineering, October 21-22, 2020](#)

8. Abstract Citation : [20th International Conference on Materials Science and Engineering, October 21-22, 2020](#) , [A low-voltage low-power positive feedback operational amplifier using Carbon Nanotube Field Effect Transistor.](#)



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