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Stress and temperature effects study on anhysteretic curves behavior of magnetostrictive materials

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Abstract : The present work deals with the effect of stress and temperature on the effective magnetic field which occurs in magnetostrictive materials when it is subjected to external applied field. The magnetostriction is then computed for changes made onstress and temperature respectively. The anhysteretic curves representing the magnetization behavior with applied magnetic field are deduced. The results obtained are comparable with those provided in literature.

Keywords : Stress, Magnetostrictive materials, Magnetization, Temperature, Stress field, Anhysteretic curve