

Abstract Submitted  
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**Method of measuring anhysteretic magnetization and magnetostriction in ferromagnetic thin films** PETER FINKEL, EDWARD GARRITY, Thomson — We have developed a new method of the stress dependant anhysteretic magnetization measurements in a thin-film ferromagnetic materials. This is achieved by combining conventional vibrating sample magnetometer with the specially designed loading fixture allowing to apply uniaxial stresses on thin film and wires. The anhysteretic magnetization is obtained by ac demagnetization of the sample and measuring the subsequent magnetization at a given dc magnetic field. Also we have developed a contactless method for determining uniaxial stress in thin anisotropic ferromagnetic samples based on monitoring velocity of a flexural wave using time of flight measurements. The method has been demonstrated for membrane thickness down to  $100\mu\text{m}$  and stresses up to 1 GPa. Estimated accuracy of this method is better than 0.2%.

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