

Abstract Submitted
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Tunable Thermal Hysteresis in CoNi/Gd Nanolayers MARIA R. HOSSU, SEZEN DEMIRTAS, ALI R. KOYMEN, Department of Physics, The University of Texas at Arlington, Arlington, TX 76019, USA, ROBERT E. CAMLEY, Department of Physics, The University of Colorado at Colorado Springs, Colorado Springs, CO 80933, USA — For the first time we present experimental results proving that artificial ferrimagnetic multilayers show magnetic thermal hysteresis in the total magnetic moment. CoNi/Gd multilayers, a typical ferrimagnetic system, grown by dc magnetron sputtering has **bow-tie** shaped magnetic hysteresis with temperature over a wide range of layer thicknesses and external magnetic fields. The magnetic phase transition occurs at different temperatures during the heating and cooling cycles. Our results show that we can control the width of the magnetic thermal hysteresis loop over a temperature range of 90K. These results are in good agreement with theoretical calculations.

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