

Abstract Submitted
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Origins of Asymmetric Magnetization Reversal in Exchange Biased Multilayers¹ YANG LIU, SHUOGUO WANG, YANG LI, NING CHEN, SHUAI LIU, MINGHUA LI, GUANGHUA YU, DEPARTMENT OF MATERIALS PHYSICS AND CHEMISTRY, UNIVERSITY OF SCIENCE AND TECHNOLOGY BEIJING TEAM, STATE KEY LABORATORY OF MAGNETISM, BEIJING NATIONAL LABORATORY FOR CONDENSED MATTER PHYSICS, INSTITUTU TEAM, UNIVERSITY OF PUERTO RICO AT MAYAGUEZ TEAM — Novel asymmetric magnetization reversal behaviors (ARBs) as well as positive exchange bias (EB) are observed by using the alternating gradient force magnetometer (AGM) in both Co/FeMn bilayer with an oblique out-of-plane exchange anisotropy and the Co/FeMn bilayer in which Co layer has a quite heavy thickness. There are two different ARBs, arised from the ferromagnetic and the antiferromagnetic layer respectively under the perpendicular magnetization. Our results show that two intrinsic origins of the ARBs (i.e. the competing anisotropy and the inhomogeneity of the magnetic structure) coexist. Both of them are indispensable for the development of the ARBs in our Co/FeMn multilayers.

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