

Abstract Submitted  
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**Micromagnetic Simulation of Ferrimagnetic TbFeCo Films with Exchange Coupled Nanophases.**<sup>1</sup> CHUNG MA, XIAOPU LI, JOSEPH POON, JIWEI LU, Univ of Virginia — Amorphous ferrimagnetic TbFeCo thin films are found to exhibit exchange bias effect near the compensation temperature by magnetic hysteresis loop measurement<sup>1</sup>. The observed exchange anisotropy originates from phase separations distributed within the films. Using micromagnetic simulation, we develop a computational model to study exchange bias effect in phase-separated TbFeCo<sup>2</sup>. Two types of cells with different Tb concentration are distributed within the simulated space to obtain a heterogeneous structure. Each cell contains separated Tb and FeCo components, forming two antiferromagnetically coupled sublattices. This model is able to demonstrate exchange bias effect in agreement with experiment. Furthermore, using this model, one can explore ferrimagnetic/ferromagnetic and ferrimagnetic/ferrimagnetic systems, and develop exchange bias materials with desirable properties for applications at room temperature. References: 1. Xiaopu Li, Chung T. Ma, Jiwei Lu, Arun Devaraj, Steven R. Spurgeon, Ryan B. Comes and S. Joseph Poon, Appl. Phys. Lett. 108, 012401 (2016). 2. Chung T. Ma, Xiaopu Li and S. Joseph Poon, J. Magn. Magn. Mater. 417, 197 (2016).

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Chung Ma  
Univ of Virginia

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