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### **Spin Transfer Torque in Non-Uniform Magnetizations<sup>1</sup>**

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A spin polarized current exerts a torque when it passes through a region of non-uniform magnetization. In magnetic multilayers, this torque can reverse the magnetization of the layers or cause it to precess. In magnetic wires, it can move domain walls. These torques and their consequences can be largely understood from a series of simple models. However, experiments have become sophisticated enough to show that these simple models are not complete. In this talk, I will motivate the interest in these systems, describe the simple models that capture most of the physics, and highlight some the open questions that will be addressed in the later talks in this session.

<sup>1</sup>Work done in collaboration with A. Zangwill and J. Xiao.