

# Spin Transport in Metallic Nanostructures

Chris Leighton<sup>1</sup> (PI), Paul Crowell<sup>2</sup> (PI), Mike Erickson

Chemical Engineering & Materials Science<sup>1</sup>, Physics<sup>2</sup>, University of Minnesota

We are using non-local lateral spin valve devices to probe spin transport in metallic nanowires

- ◆ Spin injection from ferromagnetic metals to non-magnetic wires
- ◆ Measure spin diffusion length, injection efficiency, etc.
- ◆ Factors limiting spin diffusion length unknown despite existing applications

## MAJOR OBSERVATIONS:

- ◆ Spin transport strongly dependent on choice of FM
- ◆ Spin diffusion length seems to be limited by strong surface relaxation

