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**Spin-Polarized Electron Probes of Nanomagnetism**

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The development of spin-polarized electron sources and electron spin analyzers for free electrons has enabled various useful spectroscopic and microscopic measurements of magnetic nanostructures, thin films and surfaces. The evolution of GaAs spin-polarized electron sources has made the production of intense, highly polarized electron beams relatively easy and routine, while several spin analysis techniques have greatly simplified what was once a difficult measurement. This talk will review some of these developments and describe how they have been applied to specific measurements of nanoscale magnetic properties in various structures. In particular, recent measurements using Scanning Electron Microscopy with Polarization Analysis (SEMPA) to investigate magnetoelectric coupling in multiferroic heterostructures will be described.

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