

## Recent Results of Neutron Scattering Experiments

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In this DOE-funded project with P.R. LeClair, we are utilizing DOE National Laboratory facilities to study exchange interactions in intermetallic systems. High-quality samples fabricated and characterized in MINT laboratories are measured using the neutron scattering facilities at Oak Ridge National Laboratory. Neutron diffraction and inelastic scattering experiments are performed at the High-Flux Isotope Reactor and polarized neutron reflectometry experiments are performed at the Spallation Neutron Source. These neutron scattering experiments characterize the fundamental physical properties of magnetic nanostructures. Examples of recent neutron scattering results that show spin ordering behavior in antiferromagnetic films, spin wave quantization in confined structures and magnetic structures superlattices will be presented.