

3rd International Conference and Exhibition on Materials Science & Engineering

October 06-08, 2014 Hilton San Antonio Airport, USA

Patterned nano magnets

J B Ketterson and J Sklenar
Northwestern University, USA

With modern e-beam lithographic techniques one can now pattern thin magnetic films into a variety of structures, particularly periodic arrays. Lately there has been much interest in the dynamic properties of such arrays as manifested in spin wave resonances observed by microwave absorption. In this talk we will discuss two dimensional arrays of discs and holes. More exotic structures like spin ice arrays and quasicrystals will also be discussed. Finally we will describe some recent experiments on the generation and propagation of spin waves in uniform films observed by direct coupling as well as additional effects associated with the spin Hall effect.