

# Recent Progress in Spintronics at USTB

Nanosciences and Nanotechnologies: An International Journal		Rare Metals	
		IEEE	
		170	1
Nature Materials	1	Physical Review Letters	22
Applied Physics Letters	8	Physical Review B	
SCI	700		
	3		8
	11	9	
		10	
		2005	
		( ITRS)	

**Abstract:** Spintronics emerged from discoveries in the 1980s concerning spin-dependent electron transport phenomena in solid-state devices. Since the observation of giant magnetoresistance (GMR) independently by Albert Fert et al. and Peter Grünberg et al., the phenomenon of GMR has attracted tremendous interests in both fundamental understanding of magnetism and technological applications. The spin-valve structures (SPVs) which exhibit GMR at room temperature have already been widely used in the magnetic read heads inside the hard disk drives. Prof. Albert Fert and Peter Grünberg, have therefore been granted “Nobel Prize” in 2007. The Spintronics laboratory of USTB was established in 2005. This presentation will give a review of our recent progress regarding the spin transfer torque, perpendicular magnetization films, magnetic nanoparticles and multiferroic thin films.