Internal Seminar
Magnetic and Anomalous Hall Effect Studies on Tb-Fe and Tb-Fe-Co thin films
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Amongst several rare-earth-transition intermetallic films, Tb-Fe and Tb-Fe-Co films have been known for their applications in magneto-optical recording media, perpendicular magnetic tunnel junctions and perpendicular magneto-resistive random access memory (MRAM) devices, due to the strong uniaxial magnetic anisotropy normal to the plane of the film (PMA). Tb$_{25}$Fe$_{75}$, Tb$_{31}$Fe$_{69}$ and Tb$_{44}$Fe$_{56}$ films were found to have PMA at 300 K with the change in the sign of Hall resistivity ($\rho_H$) from positive (Tb$_{31}$Fe$_{69}$) to negative (Tb$_{44}$Fe$_{56}$), indicating compensation of the moments of Fe and Tb between these compositions. In Tb-Fe-Co films, the change in the sign of $\rho_H$ observed from positive to negative between Tb$_{35}$Fe$_{37}$Co$_{28}$ and Tb$_{56}$Fe$_{25}$Co$_{19}$ films with PMA, implied compensation of Tb and Fe/Co moments between these compositions.

Tuesday, Jan 31$^{st}$ 2017
2:00 PM (Tea/Coffee at 1:45 PM)
Seminar Hall, TCIS