

CPP Transport Properties of Ni/Ru and Co90Fe10/Cu Interfaces

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1. 서론

Using Current-Perpendicular-to-Plane (CPP) magnetoresistance measurements, we derive values of twice the enhanced interface resistance, $2AR^*_{F/N}$, and the interface scattering asymmetry, $\gamma_{F/N}$, for the ferromagnetic/non-magnetic (F/N) pairs Ni/Ru and Co90Fe10/Cu. For Ni/Ru, we find $2AR^*_{Ni/Ru} = 1.7 (+0.4 \sim -0.2) \text{ f}\Omega\text{m}^2$, similar to the value for Fe/Cr, but we estimate $|\gamma_{Ni/Ru}| = 0.15 \pm 0.03$, much smaller than the value for Fe/Cr or the asymmetry found for Ni(Ru) alloys. For Co90Fe10 we find $2AR^*_{CoFe/Cu} = 1.1 \pm 0.2$ and $\gamma_{CoFe/Cu} = 0.8 \pm 0.1$, both similar to the values for Co/Cu.