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The effect of ion irradiation on magnetic thin films

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The effect of ion irradiation on magnetic thin films, Co/Cu/Si(100) and Ni/Cu/Si(100), was studied. The samples grown on Si(001) by e-beam evaporator have been irradiated by MeV ion. The ion irradiation effect of Co films on Si(100) was studied with or without Cu buffer layer and with various Co thickness. The epitaxial Ni/Cu/Si(100) films show typical perpendicular magnetic anisotropy(PMA) and we discussed the modification of PMA and structural, magnetic properties after ion irradiation. The structure was analyzed by in-situ reflection high energy electron diffraction (RHEED) and x-ray diffraction (XRD), the magnetic properties was measured by polar and transverse magneto-optical Kerr hysteresis measurement (MOKE).