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**A novel ferromagnetic Kondo system MnBi-Pt**[1] P. KHAREL, R. SKOMSKI, R.D. KIRBY, D.J. SELLMYER, University of Nebraska, Lincoln — MnBi is one of few ferromagnetic materials possessing strong magneto-optical properties. In order to understand and control the structural, magnetic and electrical transport properties of MnBi based alloys, we have prepared Pt-alloyed MnBi thin films by sequential evaporation of Bi, Mn and Pt onto a glass substrate using an AJA e-beam evaporation system. The films have post annealed stoichiometry of $Mn_{55-x}Pt_xBi_{45}$ (x = 0, 1.5, 3, 4.5). X-ray diffraction shows that $Mn_{55-x}Pt_xBi_{45}$ thin films adopt a hexagonal NiAs-type structure with preferred c-axis orientation. All the films are strongly ferromagnetic at room temperature, although saturation magnetization decreases and coercivity increases with the substitution of Pt. We have observed that the electrical transport properties of MnBi are highly sensitive to external nonmagnetic impurities including Pt and show a Kondo effect at low temperatures. The origin of Kondo effect in the ferromagnetic MnBi lattice due to the substitution of a nonmagnetic impurity will be discussed.

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