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Interface magnetocrystalline anisotropy induced by charge transfer on Pd/Ni/Cu films J.-S. LEE, eSSC and Department of Physics, Pohang University of Science and Technology, Pohang 790-784, Korea, J.-Y. KIM, Pohang Accelerator Laboratory, Pohang University of Science and Technology, Pohang 790-784, Korea, B.H. SEUNG, J.-H. PARK, K.-B. LEE, eSSC and Department of Physics, Pohang University of Science and Technology, Pohang 790-784, Korea, POSTECH TEAM, PLS COLLABORATION — We investigated microscopic mechanisms of interface magnetocrystalline anisotropy in epitaxial Pd/Ni/Cu films using x-ray magnetic circular dichroism and x-ray absorption spectroscopy at Ni $L_{2;3}$ edge and Pd $M_{2;3}$ edge. We found that a considerably charge transfer (from $4d$ to $3d$) of Pd and Ni dominantly occurs near the interface of Pd/Ni. The interfacial charge transfer result is enhanced the orbital magnetic moment, and leads to the interface magnetocrystalline anisotropy induced by about 19.1%.

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