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The effect of MeV C⁺ ion irradiation of Epitaxial Co/Cu multilayer

M. C. Sung, D. G. You, H. S. Park, J. C. Lee, S. Y. Je, J. S. Yang*,

J. H. Song*, J. Lee and K. Jeong

Atomic-scale Surface Science Research Center and Institute of Physics and Applied Physics,
Yonsei University, Seoul 120-749, Korea,

*Advanced Analysis Center, Korea Institute of Science and Technology, Cheongryang, P.O. Box
131, Seoul 130-650, South Korea

The effect of ion irradiation on epitaxial fcc Co/Cu(001) multilayer was studied. The samples grown on Si(001) by e-beam evaporator have been irradiated by 1 MeV C⁺ ion with ion dose of $1 \times 10^{16}/\text{cm}^2$. The as-grown epitaxial films show 4 fold structural and magnetic anisotropy and conserve its symmetry after ion irradiation. The ion irradiation reduced the coercivity and improved the squareness of hysteresis loop. The magnetoresistance (MR) ratio was decreased. We conclude that these are resulted from the grain growth and the improved crystal quality which is confirmed by x-ray diffraction (XRD).