

## MÖSSBAUER STUDIES OF ACICULAR Fe-Co PARTICLES

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Acicular Fe-Co alloy particles are one of the promising candidates for high-density magnetic recording media. The effects of Co addition related with the magnetic properties of Fe-Co alloy particles were investigated using Mössbauer spectroscopy, TEM, and X-ray diffraction. Acicular  $\text{Fe}_x\text{Co}$  ( $x=5,4,3,2$ ) alloy particles coated with silica were prepared by the method of chemical coprecipitation and subsequent  $\text{H}_2$  reduction. The crystal structure was found to be cubic in all  $x$  range. The lattice constant  $a_0$  decreases as the contents of Co increases. Analyzing  $^{57}\text{Fe}$  Mössbauer effect data concerning the local configurations of Co atoms, the influence of magnetic hyperfine interactions can be monitored.