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Abstract

The magnetostriction of an antiferromagnet Au_2Mn of the screw type spin arrangement was measured up to a magnetic field intensity of 80 kOe in the temperature range from room temperature to the liquid He point. Both the longitudinal and transverse magnetostriction curves consist in series of (1) a fairly complicated part in a low magnetic field range, (2) a contraction of the order of 200×10^{-6} , and (3) a weak contraction proportional to the intensity of the magnetic field in a high field range. At temperatures above 200°K , slight expansion can be seen between the stages (2) and (3) in the case of the longitudinal effect. The observed magnetostrictions can be considered to be caused by (1) the rotation of the magnetic moment in the c -plane, (2) the rotation of the magnetic moment toward the c -axis, and (3) the change in screw angle during the course of magnetization.

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