9.7 cm

Examination of high field magnetostriction peculiarities in anisotropic superconductors.

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The high field features of magnetostriction in anisotropic superconducting compounds of transition metals (e.g. 2H-$NbSe_2$, YBaCuO, etc.) in the mixed state were investigated. The sharp (for an order of magnitude) increase of magnetostriction in high magnetic fields is examined. The coupling of the observed phenomena with transitions in the array of magnetic vortices is analyzed. For that the monotonic equilibrium component of magnetostriction and irreversible one are separated. The temperature dependences of position and shape of the magnetostriction maxima in increasing and descending fields are analyzed by means of solution of multiextremum problem and probability approximation. Possibility of antiferromagnetic contribution to the observations is discussed.

13.4 cm

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