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**PECULIARITIES OF ACOUSTOELECTRON INTERACTION IN
MANGANITES IN STRONG MAGNETIC FIELD**

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9.7 cm ↓

Recently an anomalous (even in the wave vector of sound) acoustoelectric (AE) effect produced by surface acoustic waves (SAW) in manganite $\text{La}_{0.67}\text{Ca}_{0.33}\text{MnO}_3$ (LCMO) films was discovered. The anomalous effect was shown to coexist with the ordinary odd acoustoelectric effect. The anomalous AE effect appeared to result from strong modulation of the film conductivity produced by the SAW elastic deformations.

In the present paper we report on investigations of the influence of the magnetic field H on the magnitude of acoustoelectric current I_{AE} in LCMO films grown on piezoelectric LiNbO_3 substrate. We have found that the total AE current substantially increases with H applied parallel to the SAW wave vector, but this increase is limited to the anomalous component of I_{AE} , while the ordinary AE current is left essentially unchanged. The behavior of the ordinary AE component can be explained by the opposing effects of increased film conductivity and reduced SAW attenuation. With regard to the component of the anomalous component of AE current in magnetic field, we speculate that it is determined by magnetic field induced changes in the dependence of the film conductivity on pressure.

This work was supported by the RFBR (Grant No 04-02-17598) and by the KBN (Projects No 1 P03B 025 26 and 2P03B 044 23).

← 13.4 cm →

Subject category :

4. Rare Earths and Actinides, Alloys and Compounds

Presentation mode :

poster

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