

THE INFLUENCE  
OF STRONGLY DISSOCIATIVE IMPURITY  
ON 'ANOMALOUS' HIGH-FREQUENCY  
CONDUCTIVITY OF SMECTIC PHASES

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S u m m a r y

The influence of tetrabutyl ammonium iodide (TAI) on the conductivity and relaxation processes of a ferroelectric liquid crystal (FLC) (and eutectic mixture of 4-*n*-hexyloxyphenyl- 4-*n*-decyloxybenzoate and 4-*n*-hexyloxyphenyl -4-*n*-octyloxybenzoate and polar chiral additive LUCH-15) has been investigated. It is shown that, due to the increase of conductivity by more than 30 times in the FLC doped with 0.4 % w/w of TAI, the 'anomalous' conductivity jump revealed previously for the smectic phases of the pure FLC almost does not appear in this mixture. The theoretical explanation of the effect is made based on the model proposed earlier. The reasons for and mechanism of the influence of the strongly dissociative impurity TAI on the low-frequency relaxation process are examined. The negligible effect of the impurity on the FLC structure is proved by the absence of high-frequency dispersity changes.