

LOCALIZED STATES IN A NONLINEAR MEDIUM
CONTAINING A PLANE DEFECT LAYER
WITH NONLINEAR PROPERTIES

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S u m m a r y

In the framework of quasiclassical approach, soliton states localized near a plane defect layer with nonlinear properties have been studied at different signs of nonlinearity and different characters of interaction between elementary excitations in the system and the defect layer. The quantum-mechanical interpretation of corresponding nonlinear localized modes is proposed in terms of bound states of a large number of elementary excitation. The existence domains of such states are determined. The properties of those states and their dependence on the character of interaction of elementary excitations with one another and with the defect are studied.