LOCAL MODES IN LOW-DIMENSIONAL MAGNETIC $NaFe(WO_4)_2$

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S u m m a r y

The low-dimensional compound $NaFe(WO_4)_2$ is studied by the magnetoresonance methods in the frequency interval 25—142 GHz and in the temperature range 1.8—175 K. The frequency-field dependence of the AFMR spectrum along the easy axis of a crystal, and the characteristic parameters describing the antiferromagnetic absorption [ν_1=(141±1) GHz, ν_2=(168.7±1) GHz, H_{a1}=10.5 kOe, H_{a2}=15 kOe, H_{sf}=(50±0.1) kOe] are determined. The value of the interlayer exchange interaction is estimated, and the additional absorption related to the local modes, which are conditioned by the breaking of a translational order in the low-dimensional magnetic structure, is revealed. The dependence of the principal values of the magnetic susceptibility of $NaFe(WO_4)_2$ on temperature is studied. The effect of rotation of the magnetic susceptibility axes in the plane (ac) with a variation in temperature is discovered. The reason of the effect is a low symmetry of the crystal and a low dimensionality of the magnetic structure.