

wavelength $\lambda = 0.77$ mm (see Fig. 2), where T_H is the transmission coefficient in the presence of a magnetic field. We note that when even a weak longitudinal field is applied ($H_0 \sim 100$ Oe) the resonant absorption decreases by a factor 3.5, and application of $H_0 \sim 1400$ Oe makes the resonance almost unobservable.

An external field in the opposite direction exerts a smaller influence. No influence of the transverse field on the investigated resonance was observed.

It is interesting to note that the values of the fields leading to the vanishing of the resonance correspond to fields in which the domain structure vanishes and the orthoferrites become magnetized [4]. The asymmetry of curves 1 and 2 in Fig. 1 can be explained in analogy with the explanation used in [4] for the asymmetry of the hysteresis loops in orthoferrites.

Since the observed resonant absorption occurs only in the presence of a domain structure, it can be assumed that it is due to the interaction of the submillimeter radiation with the high-frequency vibrations in the domain walls. Such vibrations exist possibly alongside the low-frequency vibrations of the domain boundaries [5] in systems with two sublattices.

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MELTING CURVE OF MOLYBDENUM UP TO 90 KBAR

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In spite of the fact that molybdenum is one of the best known widely-used high-melting-point metals and one of the most important alloying elements, its melting curve has hitherto never been measured. This is due to the fact that traditional melting-temperature measurements with thermocouples, which ensure high measurement accuracies, become unsuitable because of melting of the thermocouple material. For this reason the melting temperature of molybdenum, even at atmospheric pressure, is known only accurate to $\pm 50^\circ\text{C}$ [1].

We deemed it interesting to measure the melting curve of molybdenum by an optical method. The apparatus and the procedure for the measurement of the temperatures and pressures were described by us in detail in earlier papers [2].

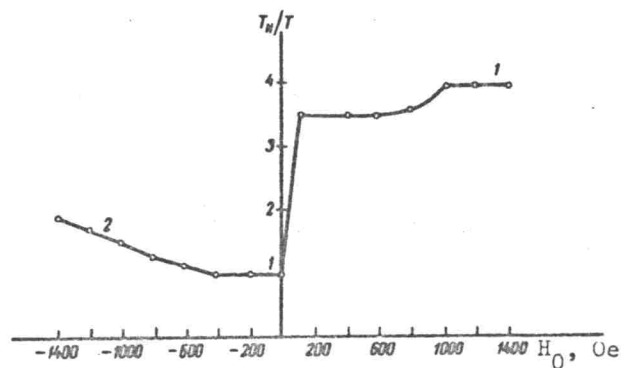


Fig. 2. Decrease of resonant absorption as a function of H_0 at $\lambda = 0.77$ mm.