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1) The relations between the amplitudes for the production of ordinary baryons and mesons in weak interactions were considered in [3].

MELTING CURVES OF BISMUTH TELLURIDE (Bi_2Te_3) AND ANTIMONY TELLURIDE (Sb_2Te_3) AT HIGH PRESSURES

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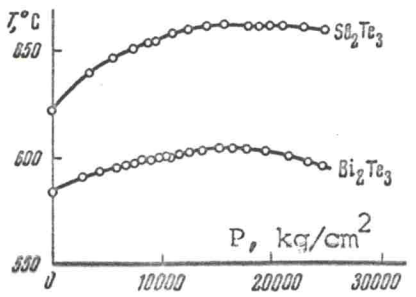
The tellurides of antimony and bismuth are semiconductors with layer structure of the tetradimite type. The relative "friability" of this structure suggests that at high pressures these substances can go over into denser structures. In view of the small width of the forbidden band of Bi_2Te_3 and its further decrease under pressure, it can be assumed that the expected phase transition of Bi_2Te_3, and possibly also that of Sb_2Te_3, is also a transition into the metallic state.

At present there is already some experimental evidence that Bi_2Te_3 becomes metallic under pressure[2], but the details of this transition remain unclear. We have investigated, by the thermal analysis method, the phase diagrams of Bi_2Te_3 and Sb_2Te_3 under hydrostatic pressures up to 25000 kg/cm^2. The temperature and pressure were measured accurate to $\pm$ 0.5°C and $\pm$ 75 kg/cm, respectively.

The experimental results are shown in the figure. As can be seen from the figure, the melting curves of Bi_2Te_3 and Sb_2Te_3 have maxima at 603.3°C and 16000 kg/cm^2 for the Bi_2Te_3 [1] and 662.0°C and 16500 kg/cm^2 for Sb_2Te_3. In addition to the maxima, both curves exhibit kinks which obviously represent ternary points corresponding to the crossing of the melting curves and the lines of phase transition into the solid state. However, the phase transitions themselves were not registered, probably because the heats of the trans-

itions were too low.



Melting curves of Bi_2Te_3 and Sb_2Te_3 up to 25000 kg/cm^2

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1) The melting curve of Bi_2Te_3 was also investigated by D. L. Ball[3] up to 50 kbar pressure, but under quasi-hydrostatic conditions. On the whole, Ball's data agree with ours.

MASER WITH TWO SERIES RESONATORS AND A "MOLECULAR RINGING" AMPLIFIER

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A maser was investigated with two cascaded cavities and with two colliding beams, one cavity acting as generator and the other as amplifier. A schematic diagram is shown in Fig. 1. We investigated the possibility of obtaining in this system a narrower spectral emission line than in a single-cavity maser.