measurements, and to the Admiralty Research Laboratory for supplying experimental layers.

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Electrical Conductivity of Molybdenite Crystals

RECENTLY, the magnetic properties of molybdenite crystals have been studied in this laboratory at room temperature[1] and also at both high and low temperatures[2]. It was then thought desirable to extend the investigations on this crystal to electrical conductivity. The electrical conductivity of single crystals of molybdenite has been measured by various workers[3], but a more systematic study of the electrical properties was necessary in order to understand the nature of the carriers of the electric current in this crystal.

The electrical conductivities of some well-developed single crystals of molybdenite were measured at room temperatures and also at high and low temperatures (from 100° K. to about 500° K.). Conductivity along the basal plane ($\sigma_{\perp}$) is about 10^3 times greater than that at right angles to the basal plane ($\sigma_{\parallel}$). At room temperatures for currents both along and at right angles to the basal plane Ohm's law is not obeyed. But if the temperature of the crystal is raised to about 420° K., Ohm's law is perfectly obeyed for currents along both the directions (Fig. 1).

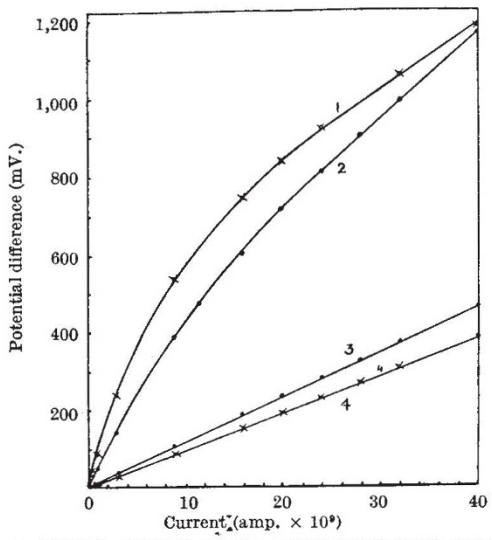

Fig. 1. CURVE 1. CURRENT-VOLTAGE CURVE FOR CURRENT AT RIGHT ANGLES TO THE BASAL PLANE AT ROOM TEMPERATURE. CURVE 2. CURRENT-VOLTAGE CURVE FOR CURRENT ALONG THE BASAL PLANE AT ROOM TEMPERATURE. CURVE 3. SAME AT 420° K. CURVE 4. CURRENT-VOLTAGE CURVE FOR CURRENT AT RIGHT ANGLES TO THE BASAL PLANE AT 420° K.

From the nature of variation of the conductivity with temperature, it has been found that at low temperatures the conductivities along both the directions have a tendency towards a temperature-independent value (Fig. 2). It is further apparent from the temperature variation of the conductivities that for both directions of the crystal there are two types of conductivities, one predominating at lower

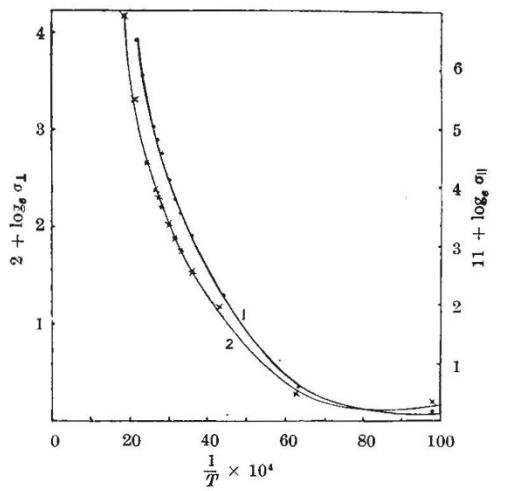

Fig. 2. CURVE 1. CURVE FOR CURRENT ALONG THE BASAL PLANE. CURVE 2. SAME FOR CURRENT AT RIGHT ANGLES TO THE BASAL PLANE

temperatures and the other at higher temperatures (Fig. 2).

From these results it seems that the conductivity in molybdenite crystals at higher temperatures is effectively electronic.

Details of these investigations will shortly be published elsewhere.

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Disappearance of *Zostera marina*

THIS very common flowering plant used to cover large areas of estuaries of Britain, but about fifteen years ago it died out almost completely on both sides of the Atlantic, though not on the Pacific coasts of the United States. Evidence as to the present condition is now being sought, both here and in America. It would be much appreciated if those who knew the *Zostera* beds formerly would please send information as to continued absence or extent of regeneration, also as to whether anything else now occupies the areas thus left bare. The late Dr. E. J. Butler informed me in September 1938 that annually since 1932 he had watched a small 'meadow' in Guernsey. Though about 75–90 per cent went the first year, the rest was then holding its own. The fungus *Ophiobolus halimus*, Diehl and Mounce, was always present on it, but there was no sign of extermination. In fact, he thought there was some increase. There is very little of it around here now.

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