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Application of Metal Spraying to the Construction of a High Voltage Condenser

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atom is given by $s = \frac{\mu \ \delta H}{^2mv^2 \ \delta z} A$ where μ is the Bohr magneton, $\frac{\delta H}{\delta z}$ is the gradient of the field perpendicular to the plane of the beam, A is a factor depending upon the geometry of the apparatus. The detector gives an accurate quantitative measure of the intensity distribution in the spectrum, so that the distribution in velocity may be calculated.

The results show that the velocity distribution is Maxwellian and is characteristic of a temperature very close to that of the crystal, although the crystal temperature was varied by 70 percent of the absolute temperature of the primary beam source. This distribution and the observed cosine scattering would be expected if the atoms adhered to the crystal surface for a short time and were re-evaporated.

The MgO crystals used in this research were furnished through the courtesy of Norton Company, Chippawa, Ontario.

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In the construction of a high voltage condenser of the glass plate type it is necessary to coat relatively large areas (60 square yards in this case) with a smooth conducting layer well bonded to the glass. Spraying molten aluminum directly onto the surface was tried and found to give a suitable coating.

A description of the commercial Metal-Spray apparatus will be given and samples of the sprayed glass presented. Such factors as preparation of the surface, spraying technique, adhesion of the film, electrical resistance of the coating, and the effect of the heat on the glass will be discussed.

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