

in the bright line spectrum of the chromosphere, and the explanation of this has been one of the most difficult problems connected with the commonly accepted views of the nature of the sun's reversing layer. The laboratory results suggest a possible explanation.

As Fabry and Buisson have recently shown, the pressure in the reversing layer is about 5 or 6 atmospheres. In view of the laboratory results we should expect the enhanced lines to be more conspicuous as bright lines in the chromospheric spectrum, than as dark lines in the Fraunhofer spectrum, *i. e.*, they should appear as bright lines when a majority of the arc lines are still dark. This appears to be the case. Moreover, in the regions of longer wave-length many arc lines appear as bright in both laboratory and chromospheric spectra. Cobalt is remarkable for the number of bright lines present in the chromosphere, and the lines were not reversed on the laboratory plates under conditions which gave many reversals for titanium, iron and chromium.

This investigation is as yet incomplete but the results so far obtained point toward the conclusion that the conspicuousness of the enhanced lines in the chromospheric spectrum is intimately connected with the fact that they do not reverse so readily as the arc lines. It seems probable also that cobalt is conspicuous for the reason that its lines are not so readily reversed as the lines of many other elements.

DISTRIBUTION OF DISCHARGE BETWEEN A POINT AND PLANE UNDER VARYING PRESSURES.¹

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AN electrified point, which may be either positive or negative, is discharged against a plane one centimeter distant. The plane is formed by ten concentric, insulated rings of brass. Proper connections permit the current discharging through any ring to be measured without interfering with the discharge through the remaining rings. The electrical system is contained in a vessel which may be evacuated, in order that the influence of pressure as well as voltage may be determined. Curves indicate the total current under varying conditions of potential differences and pressures as well as the distribution of the discharge.

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