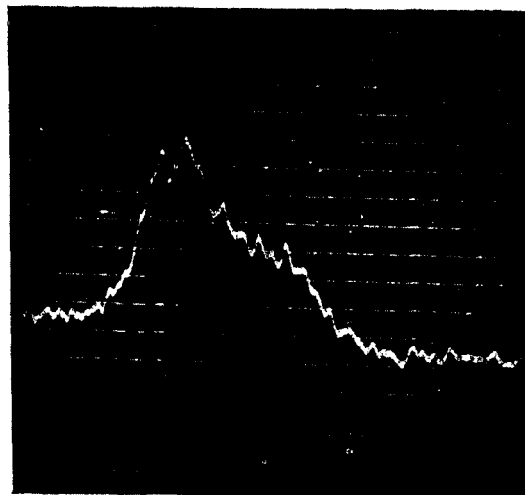
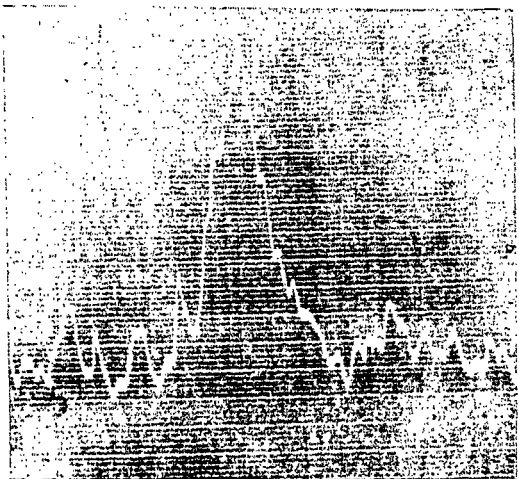


The Structure of H α Absorption
Markings on the Sun.

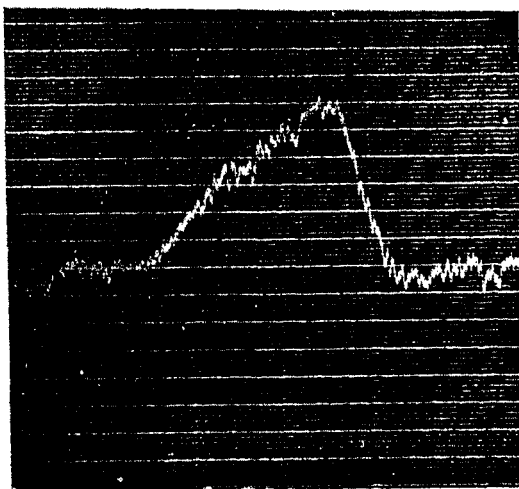
EXAMINATION of a large number of absorption markings in spectro-heliograms of the sun taken in H α light has revealed that the intensity of absorption is not uniform across the width of a marking. It is found that in every well-defined marking there is a line of maximum absorption running along its length and that the position of this line depends on the lie of the marking on the solar disc. For example, when a longitudinal marking lies along or near the central meridian, the line of maximum absorption runs along the middle and when the marking is farther and farther away from the central meridian, this line shifts towards the limb side and finally, when near the limb, the marking is actually bordered by this line of maximum, so that the absorption falls off abruptly and the general level of intensity of the solar surface is reached. The same phenomena are observed in other cases also. When a marking is radial on the disc, the line of maximum absorption is symmetrically situated at the centre and shifts from



1927 March 24
Marking at Long. 22° W.



1927 March 22
Marking at Long. 5° E.



1927 March 20
Marking at Long. 32° E.

this position towards the limb, when the marking deviates from the radial position.

The accompanying micro-photometer curves show the variation of absorption across the breadth of a longitudinal marking as it transited the sun's disc from the 19th to the 26th March 1927. Only three curves are given here showing the absorption when the marking was (1) on the eastern hemisphere, (2) very near the central meridian, and (3) on the western hemisphere. The symmetrical nature of the middle curve and the shift of the peak in opposite directions, *i.e.*, towards the limb side, where the curve becomes steep, are quite evident.

It is hoped that that these observational facts will afford an important clue to the

structure of the absorption markings. The results can be explained if it is assumed that the cross-section of the mass of hydrogen gas involved is roughly triangular in shape with its base up. The subject will be dealt with more fully elsewhere.

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August 23, 1932.