

THE HALO COMPLEX OF APRIL 5, 1936, AT CHURCH POINT, N. S.

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ABSTRACT.

A halo complex occurred at Church Point, Nova Scotia, on April 5, 1936. In addition to the halos of 22° and 46° , the parhelia of 22° , the tangent arcs of the halo of 22° , the lower tangent arcs of the halo of 46° and the parhelic circle, oblique streaks were observed in various portions of the parhelic circle and also coloured arcs in the regions of the oblique arcs of the anthelion.

A very unusual combination of halos was observed at Church Point, N. S., on April 5, 1936. The phenomenon occurred at 11:15 a.m., A.S.T., and lasted "in parte" and "in toto" till 3 p.m. Figure I represents the outlines of the halos as observed a little before 2:30 p.m. when the altitude of the sun was 48° ; aa' represents the halo of 22° , bb' the halo of 46° , cc' the tangent arcs of the halo of 22° , ee' the parhelia of 22° , mm' the parhelic circle, ii' the lower lateral tangent arcs of the halo of 46° and hh' the horizon. As for rr' the arcs observed seemed to correspond to the positions of the arcs known as the oblique arcs of the anthelion; but these arcs are generally referred to as being white arcs due to reflection by ice needles¹ and the arcs observed were coloured red on one side, thereby suggesting a case either of refraction or of diffraction. The parhelic circle was very conspicuous; a great portion of the circle consisted of white streaks much like the fibrous white clouds called cirri. Oblique streaks protending about 5° inside the circle and showing a red border towards the sun were also seen at the parhelia. Arcs aa', bb' and cc' were coloured red towards the sun; the arcs ii' and rr' also were coloured red on one side but no reliable notes were made as to the relative positions of their coloured linings.

¹Humphreys. "*Physics of the Air*", McGraw-Hill Book Co., New York, 1929, pp. 521-523.

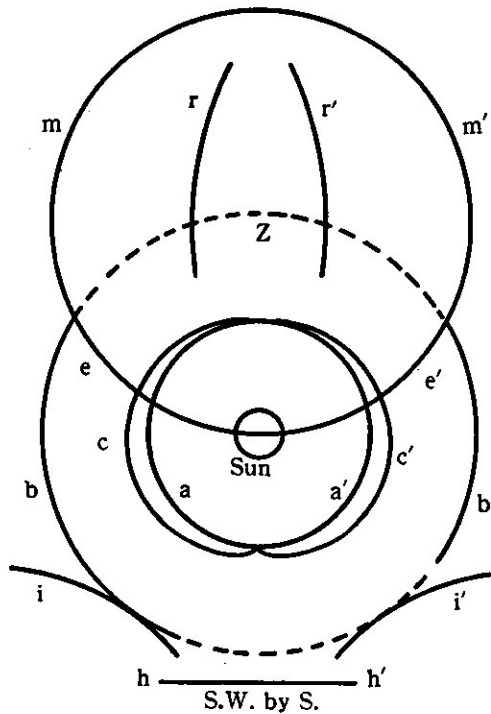


Fig. I. The Halo Complex of April 5th at Church Point, N. S.
Dotted lines indicate portions of arcs that were not visible.

The arcs of 22° and 46° , also the parhelic circle, were measured with the sextant. The angular dimensions thus obtained exceeded the values obtained by calculation by a little more than one degree; but later this difference was found to be due to a deviation of the index mirror of the sextant used, the mirror being out of its position.

In conclusion, the writer wishes to stress the beauty of the phenomenon observed at Church Point, April 5, especially in the afternoon, after a little western breeze had cleared the atmosphere leaving a sky of a perfect blue except the glare around the sun, a few scattered cirri and the glorious halos. The temperature at that time of the day was 42°F. ; on the following day it was much colder and on April 7, we had one of the worst storms of the season.