

1 Panorama of apparatus

2 " " "

3 " " "

4 65cm from front

5 Electronic Equip

6 Speaker and lamp & display

7 Curve (no activities)

Bumps not lip or reflection  
from moon, fit out

~~8~~ Drop due to spots  
offset " " "

No evidence on limb  
brightening because moon  
is too small.

December 1, 1950

NATIONAL BUREAU OF STANDARDS  
CENTRAL RADIO PROPAGATION LABORATORY

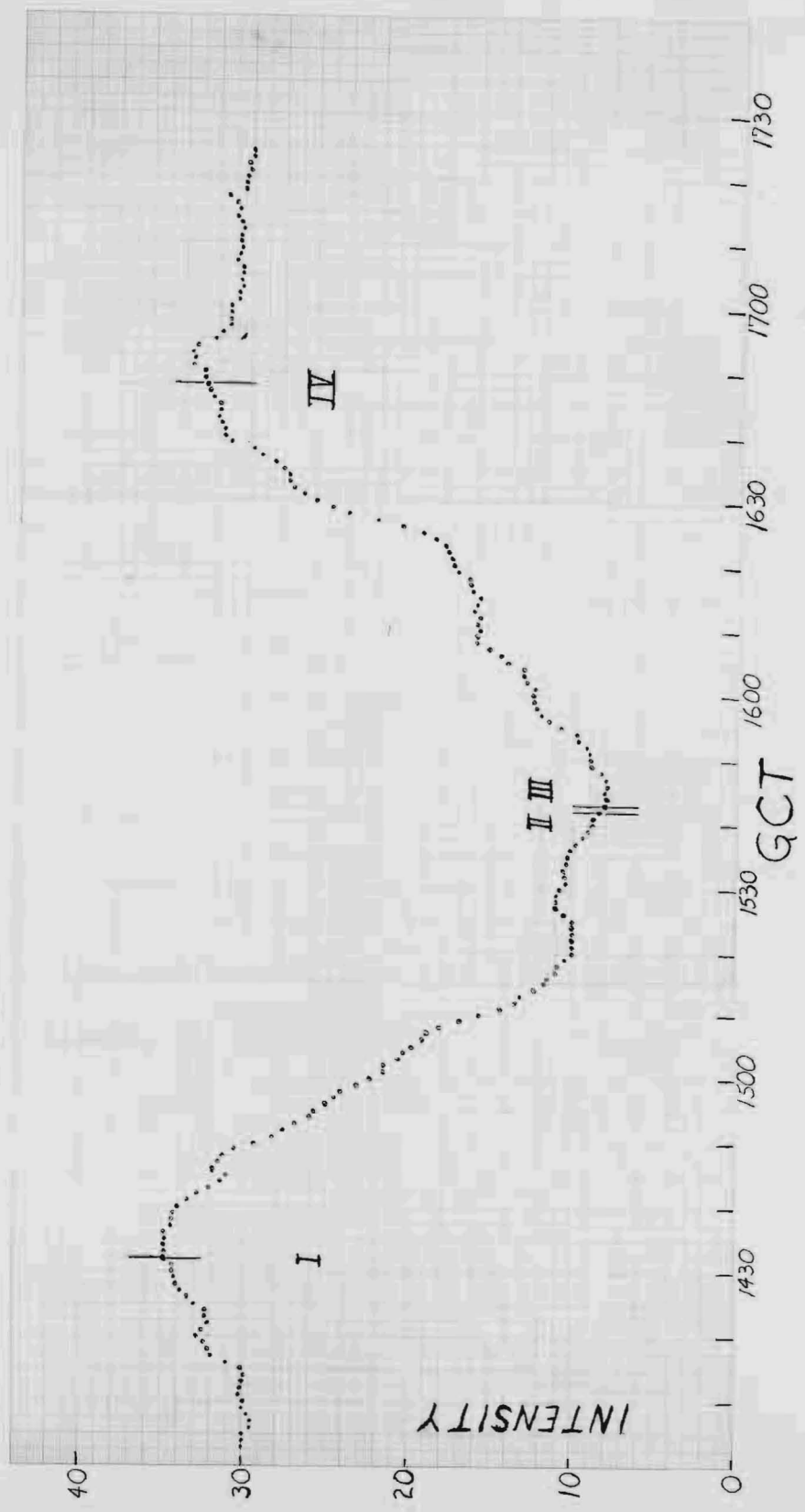
65 CM OBSERVATIONS DURING TOTAL ECLIPSE

By Grote Reber and E. A. Beck

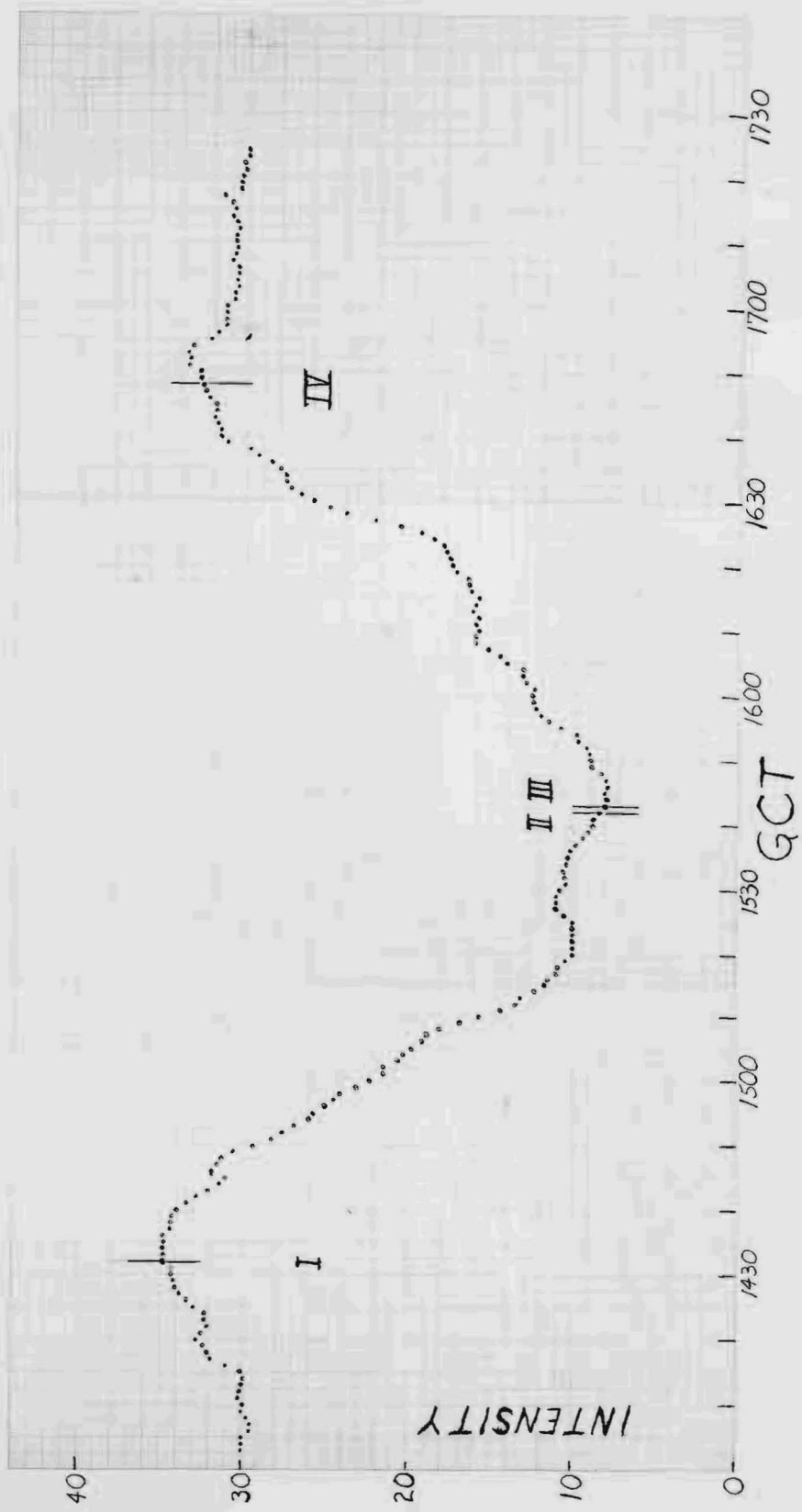
Abstract. The eclipse of September 12 at Attu, Alaska, was observed by means of radio equipment operating at a wave length of approximately 65 cm. A superheterodyne receiver was used with two stages of radio frequency amplification. The collector of radio waves was a mirror 10 feet in diameter with a focal length of 3 feet. It was placed upon an altazimuth mounting. Measurements of solar radio intensity were made from two to four times a minute. The sky at about  $90^\circ$  from the sun was used as a zero reference.

The sun was observed for 2 hours before first contact and found to be reasonably quiet and free from transients. The minimum value of intensity observed was 25 percent of the unobscured sun. This minimum occurred about 2 minutes after optical totality. It is probably due to an asymmetrical excitation of the corona caused by a large group of spots near the east limb of the sun. Another large group of spots was near the center of the solar disk. A marked fall and rise of the solar radio intensity was observed when the moon covered and uncovered this group. The effects of this group

were so large that no good evidence was obtained upon the question of solar limb brightening. At first and fourth contact the solar intensity increased about 10 percent above the quiet background. This effect is so far unexplained, but may be due to reflection of radio waves from the surface of the moon at grazing incidence.



*To get GCT subtract 1200 from indicated values*



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