found that the low frequency cutoffs (east limb positions) could be understood by straightforward Archimedean's spirals of magnetic field lines between sun and earth with the correct solar wind and field curvature values. This result would suggest that the large disk responsible for type III emission (probably >40 keV electrons) followed the magnetic field lines remarkably well during this period. A total radiation emission cone for type IIIIs of 110-120° was found after comparison of distances between observed cutoffs and magnetic field models. For the high frequency cutoffs (west limb positions), however, it was necessary to shift the field lines by about 2.5 days in order to explain the cutoffs observed using the magnetic field models. Considerable flare and blast wave activity did occur following CM passage of the active region and this evidence suggests that the shift in field lines did occur.

32. Magnetic Flux Measurements in the Photosphere, ROBERT HOWARD, Hale Observatories, Carnegie Institution of Washington, California Institute of Technology. - Using seven years of accumulated magnetic flux data from the Mount Wilson Magnetograph, a study has been made of the average daily magnetic flux of each polarity in various parts of the solar disk. These observations were made with the Fe I 1 5520 line, and magnetic flux is defined to be the magnetograph signal from the 1.5-second square aperture. No correction is made for weakening of the line profile in magnetic regions. During this time interval more than 85% of the total magnetic flux ($|\delta F_m|/F_m$) is confined to latitudes below 40° in both hemispheres. Less than 2% of the total flux was found poleward of 70°. In all latitude zones the total flux west of the central meridian is greater by a few percent than the total flux east of the central meridian. This suggests that in the photosphere on the average, integrated over the magnetograph aperture, the field lines are inclined such that they trail the solar rotation by about one degree. Except for latitudes poleward of 40° in the south, fields of the preceding and following polarities on the average were inclined toward each other by about one degree. An examination of magnetograms in this interval has failed to show any large portions of active regions where the field lines could have been inclined systematically east or west by more than 5 or 10 degrees. Such an effect is easily seen in sunspots where fields near the limb often appear to change sign. In the meridional plane poleward of 40° latitude, field lines on the average are inclined toward the equator.

33. Infrared Continuum Observations of 300-sec Oscillations, H. S. ROBINSON, U. of Calif., San Diego - The infrared continuum allows direct study of the temperature amplitude of solar 300-sec oscillation. Observations at 20 μυ show that the 300-sec component contains about half of the total power present in a 35° diaphragm aperture. The rms amplitude at 20 μυ equals approximately 3°K. At longer wavelengths the amplitude grows quite rapidly, reaching approximately 200 °K in a 7° aperture at 350 μ. This new mode of observation of the 300-sec oscillations should help in delineating their vertical structure, owing to the simplicity of the contribution functions for the continuum.

34. Solar X-ray Features and Events, T. J. JANSENS, G. A. CHAPMAN, A. C. DE LOACH, D. L. MC KENZIE, J. E. MILLIGAN and J. H. UNDERWOOD, The Aerospace Corp., El Segundo, Calif. - Among small x-ray bright points which have been studied we twice observe them to die out quite quickly. One of these occasions involves a pair of x-ray point sources separated by only 9 arc sec and observed at 0127 UT on June 13. This may be the origin of a C2 flare which began at 0108 UT and with no observed visible counterpart.

Total soft x-ray fluxes for several active regions have been measured with time during limb and disc passage. Measurements at the limb gives a measure of the height distribution of the x-ray emitting regions. Extra-long x-ray exposures for Skylab 3 will be shown and discussed.

35. Can the Dissipation of High Frequency Sound Waves in the Low Chromosphere Produce the Temperature Rises? S. D. JORDAN, Laboratory for Solar Physics, NASA-Goddard Space Flight Center, Greenbelt, Maryland - In a recent paper, Ulmschneider has concluded that heating in the low chromosphere due to shock dissipation of "high" frequency sound waves (Period ~30 sec) could balance the net radiative losses due to several lines and continua in the same region (e.g., Ulmschneider, Astron. & Astrophys., 1971, 32, 297). An effort to check this conclusion independently is reported here. Here, the contribution of the spectral lines to the radiative cooling is based on Athay's (Ap. J., 1970, 161, 713) non-LTE treatment which groups the weaker lines together, while treating the stronger lines individually. By using Athay's blanketing curves and simultaneously solving the non-LTE cooling problem for the 1° continuum, a temperature model is constructed for the low chromosphere by assuming a density and initial temperature distribution consistent with standard models, including the HSR model, and using the weak shock theory for the mechanical heating. The resulting temperature distributions, almost without exception, fall significantly below empirically determined distributions for continuum optical depth ($\tau(500A) \approx 10^5$). Thus at this stage, there is good reason to doubt that the high frequency sound waves, alone, can provide enough energy to maintain observed low chromospheric temperatures. One possibility is that the so-called 300 sec oscillation, which actually exhibits spectral components at periods less than 300 sec in recent regions, could begin contributing significantly to the heating in the low chromosphere. Finally, it must be admitted that it is difficult to determine how any of these mechanisms based on one-dimensional models will hold up when the effects of inhomogeneities are included, even in the low chromosphere.

36. Center-to-limb Variation of Impulsive Solar X-ray Bursts, S. R. KANE, U. of Calif., Berkeley - In 1972, the University of California (Berkeley) experiment aboard the GO-5 satellite has observed ~200 impulsive solar x-ray bursts during the period March 1968-October 1969. The spectral characteristics of these bursts are studied as a function of the location of the associated flare on the solar disc. Preliminary analysis indicates that there is no significant center-to-limb variation in the spectral characteristics of these x-ray bursts. The significance of this result in terms of the models of the flash phase emissions will be discussed.

37. Polariometry of the Outer Corona from a Jet Aircraft during the June 1973 Solar Eclipse, C. F. KELLER & J. H. TABOR, Los Alamos Scientific Laboratory, University of California - White light polarimetric photographs were taken from a jet aircraft at an altitude of 37,000 ft just east of the international standard models, including during 12.1 minutes of totality. The instrument and observing procedures were similar to those described previously, (Keller, 1971 Solar Phys., 21,425., and Keller, 1973 NASAS1,19.). Twenty-four exposures were made with