

II. SYNOPTIC CHARTS OF SOLAR MAGNETIC FIELDS

Mount Wilson Observatory

These synoptic charts are constructed from the digital data of the daily magnetograms obtained at the 150-foot Tower Telescope at Mount Wilson. The spectrum line employed is 525.02 nm, Fe I. The magnetograph at the Tower Telescope measures only the longitudinal component of the Zeeman effect. The aperture is a square of either 12.5 or 20.0 arc-seconds on a side and the whole sun is covered in each magnetogram. The digital image is built up over an interval of either 50 minutes for the small aperture or 30 minutes for the larger aperture by scanning the solar image over the spectrograph entrance slit boustrophedonically.

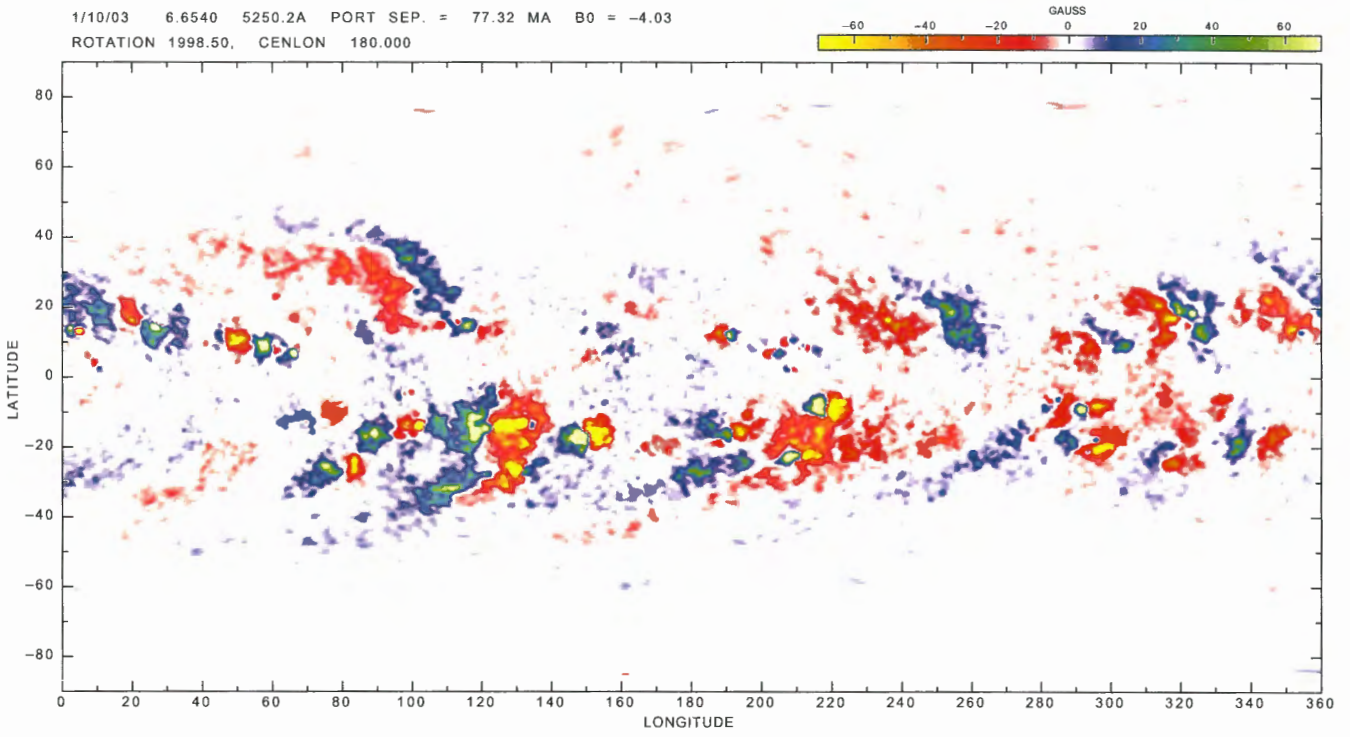
The synoptic chart is built up using all observations available for each point of the solar surface during a specified Carrington Rotation. The point position is based on its Carrington coordinates at the time of central meridian passage. Observations taken when the point is not on the central meridian are corrected for differential rotation to obtain the position which corresponds to that at central meridian passage. The measurement shown is the weighted average of all these observations using a weight function which is the cosine of the central meridian distance. The color coding of the resulting average fields is linear in blue and red with the blue saturated for fields larger than 20 gauss and the red saturating for fields more negative than -20 gauss.

This project was initiated under the auspices of the Carnegie Institution of Washington through their Mount Wilson and Las Campanas Observatory in Pasadena, CA. It is currently operated by UCLA in agreement with the Mount Wilson Institute which has offices at 740 Holladay Road, Pasadena, CA 91106. Partial support for the project is provided by NASA, NSF and ONR.

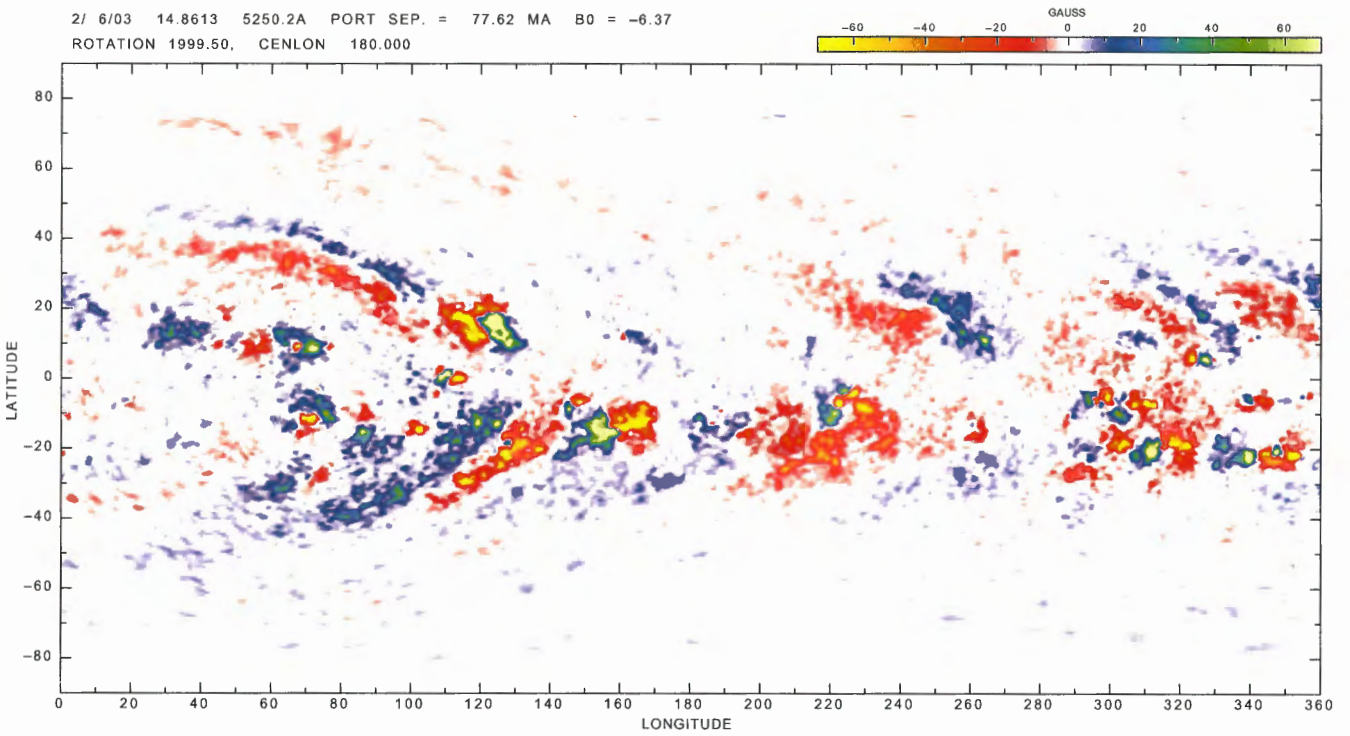
Roger K. Ulrich

II-2 (2003)

1/10/03 6.6540 5250.2A PORT SEP. = 77.32 MA B0 = -4.03
ROTATION 1998.50, CENLON 180.000

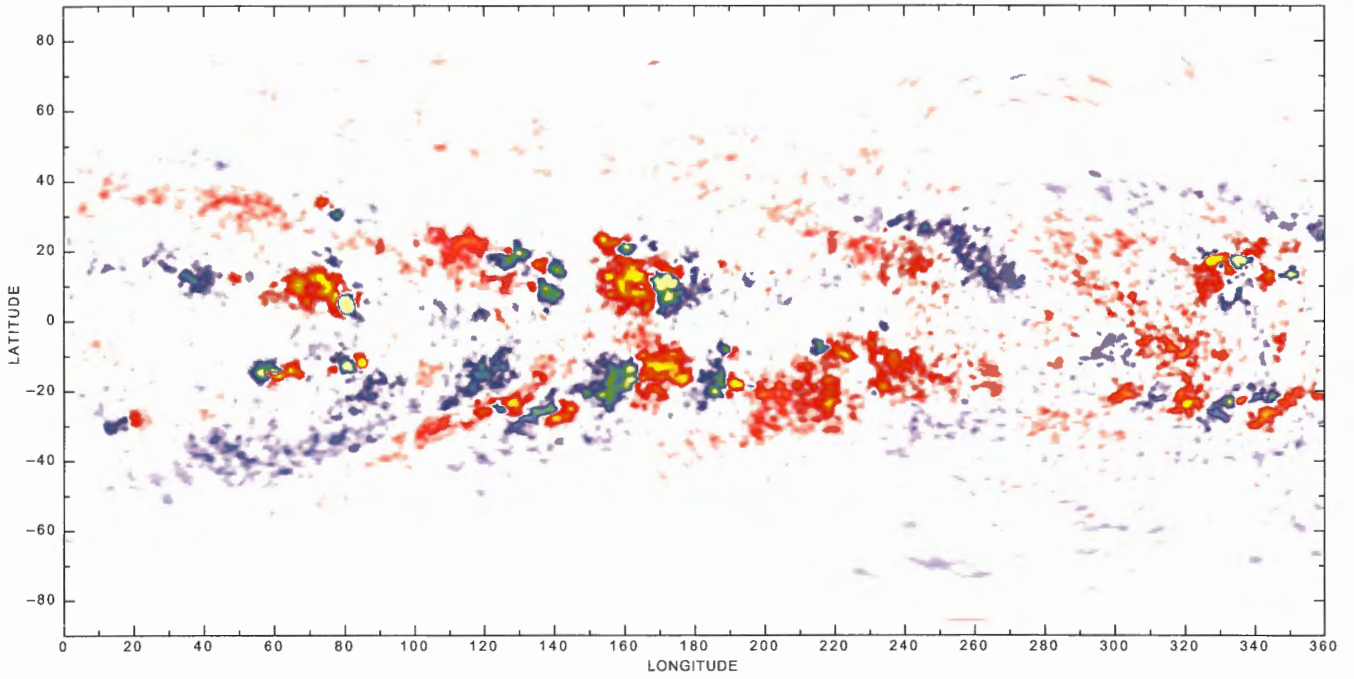
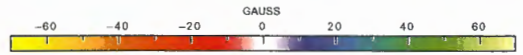


2/ 6/03 14.8613 5250.2A PORT SEP. = 77.62 MA B0 = -6.37
ROTATION 1999.50, CENLON 180.000

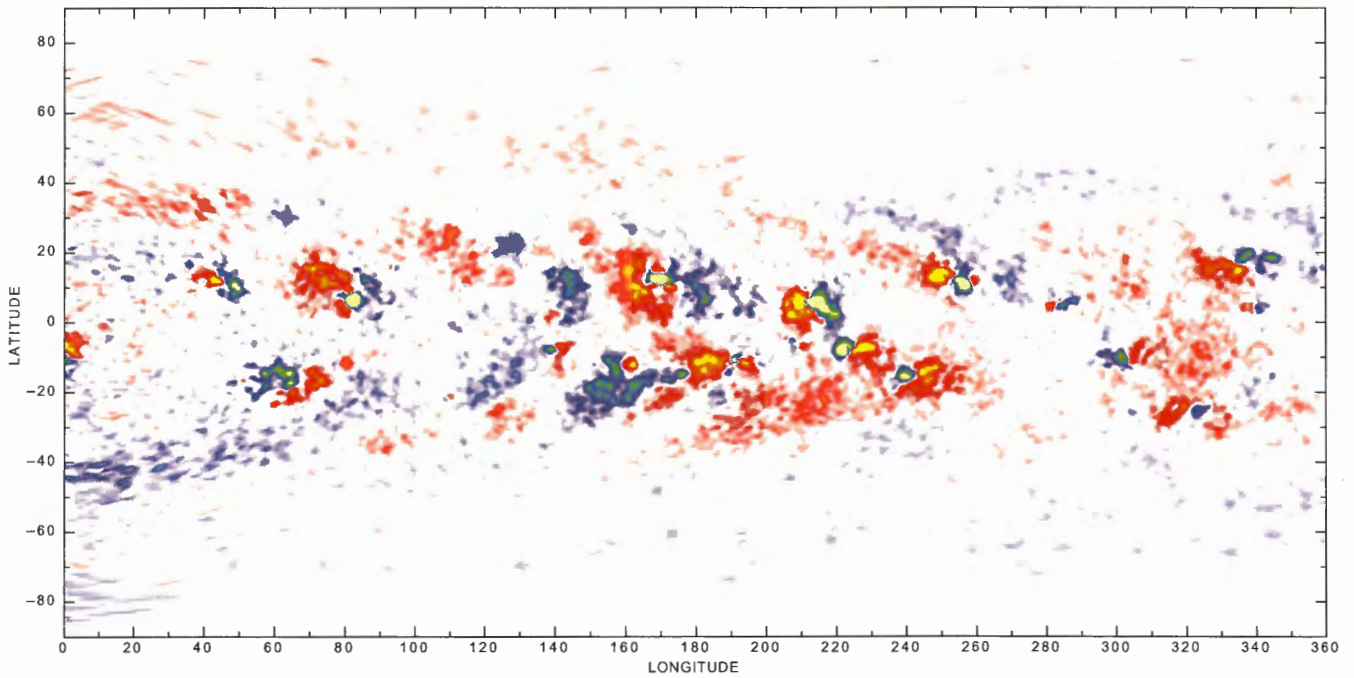


II-3(2003)

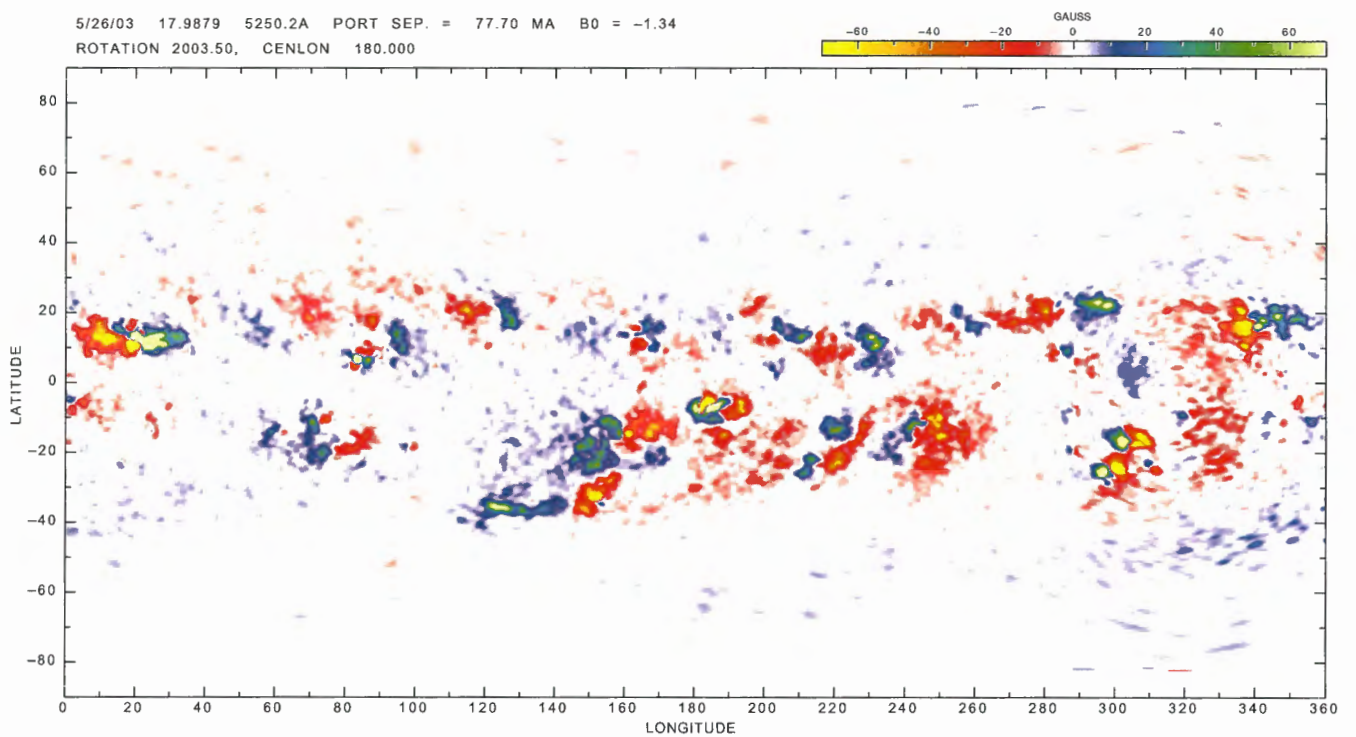
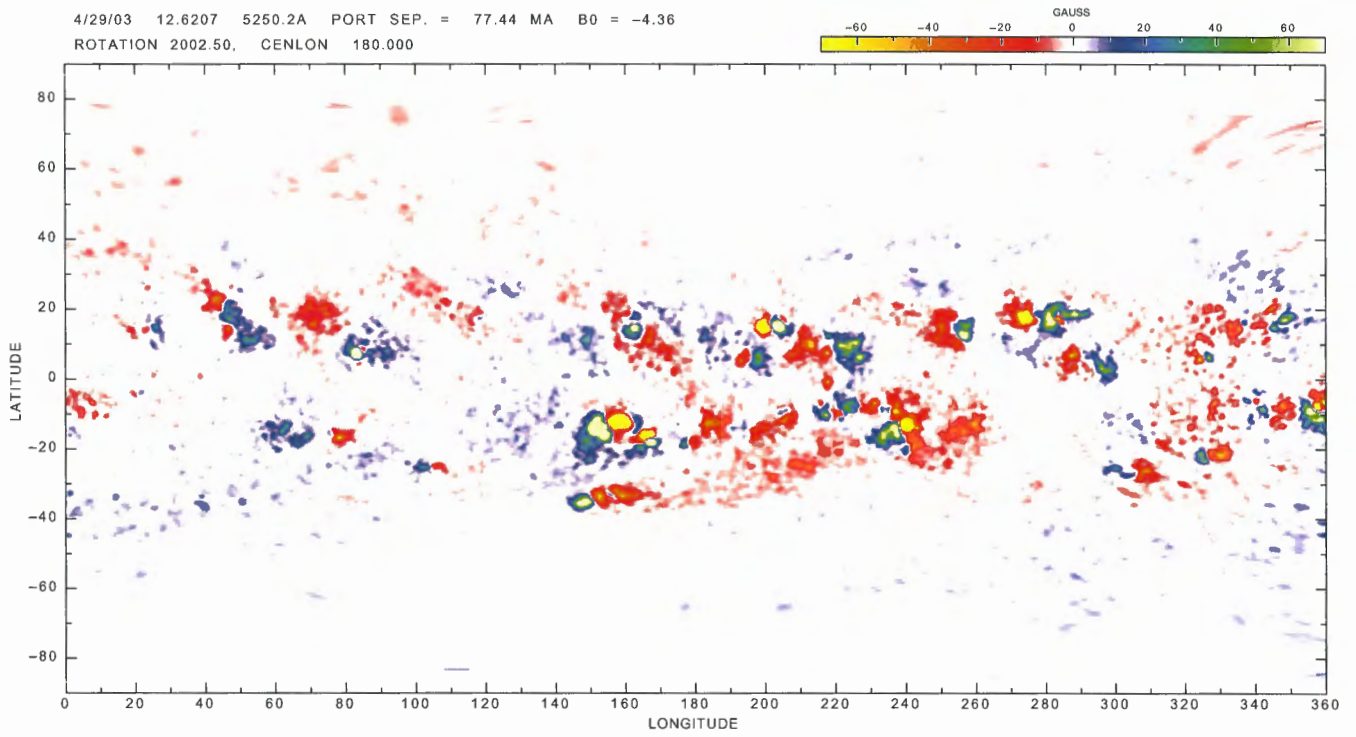
3/ 5/03 22.8984 5250.2A PORT SEP. = 77.68 MA B0 = -7.25
ROTATION 2000.50, CENLON 180.000



4/ 2/03 6.2638 5250.2A PORT SEP. = 77.04 MA B0 = -6.50
ROTATION 2001.50, CENLON 180.000

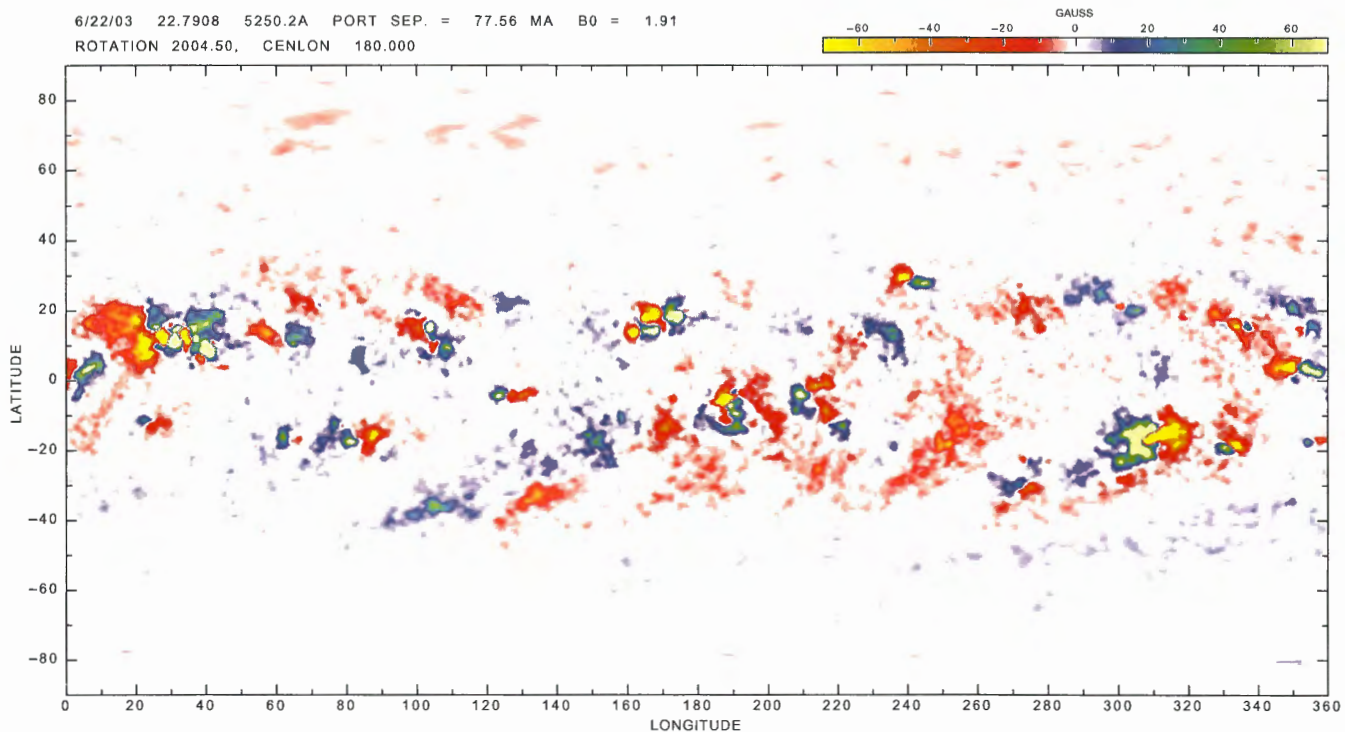


II-4(2003)

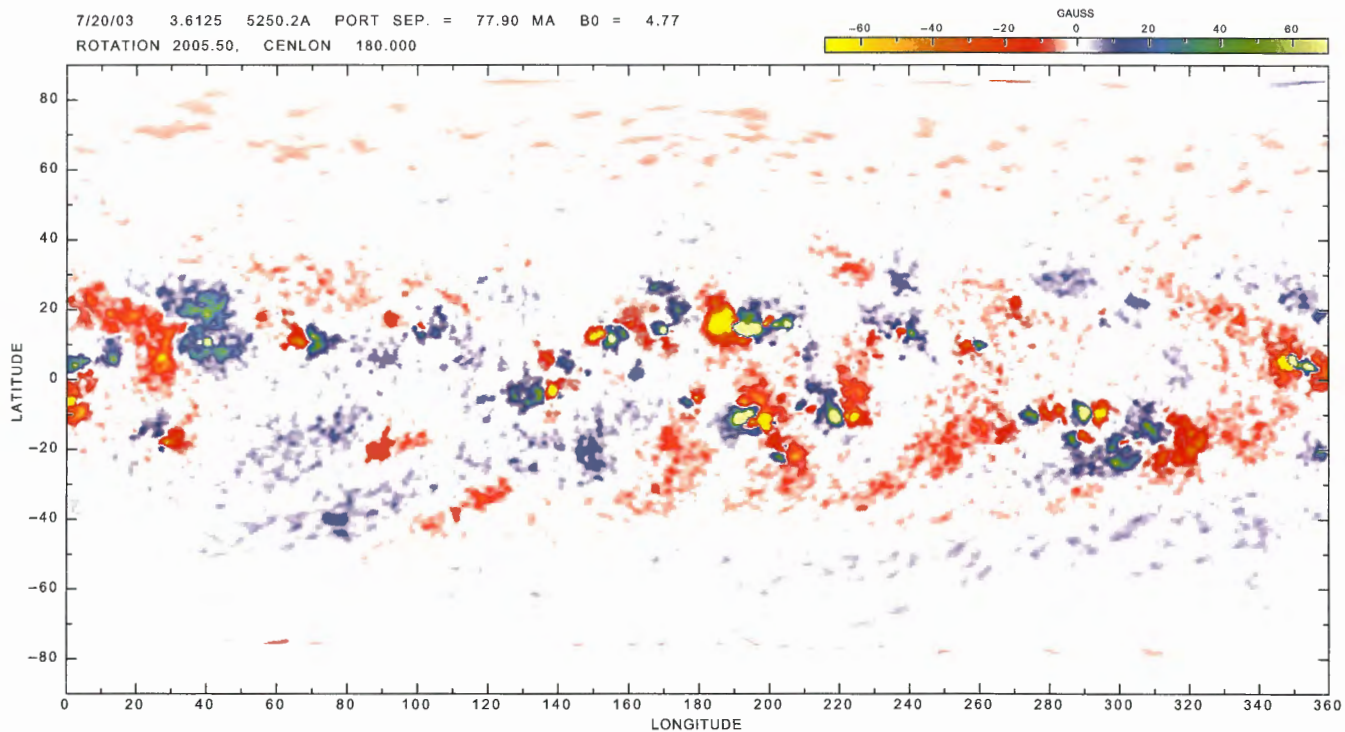


II-5(2003)

6/22/03 22.7908 5250.2A PORT SEP. = 77.56 MA B0 = 1.91
ROTATION 2004.50, CENLON 180.000

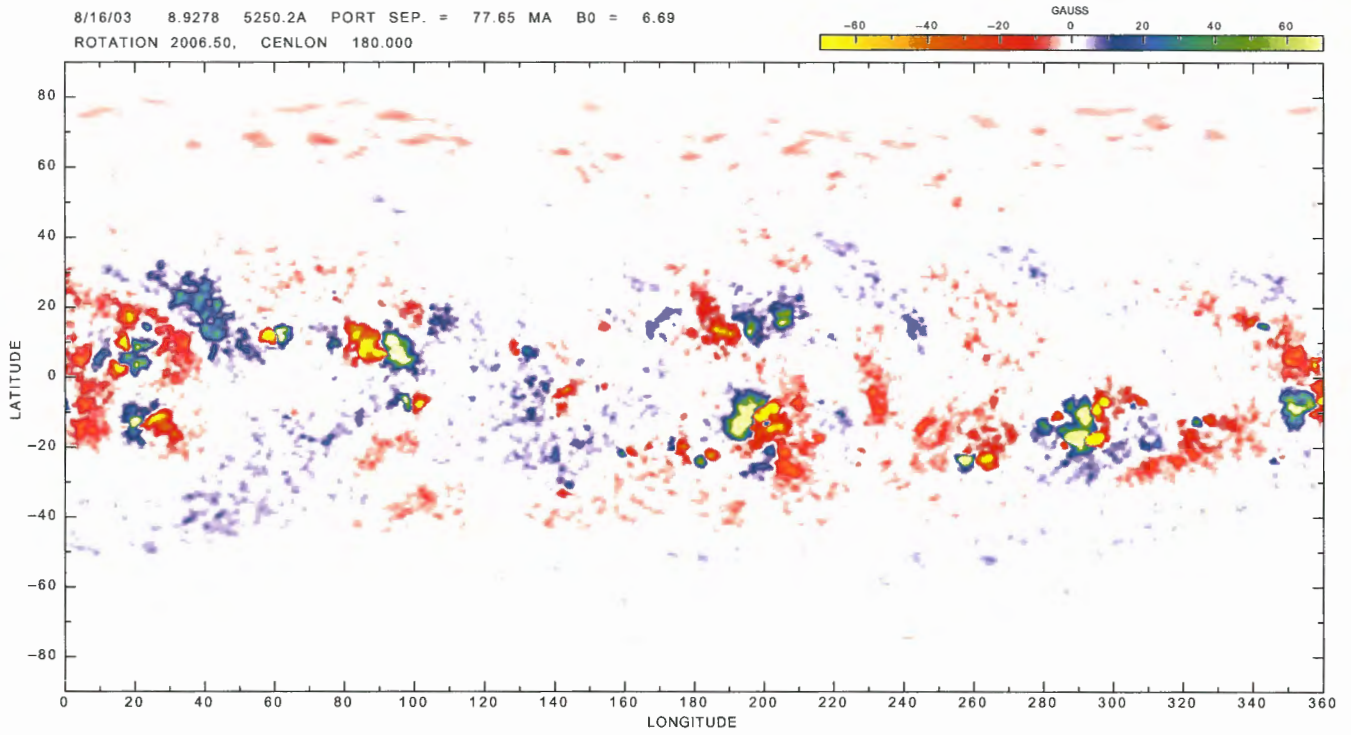


7/20/03 3.6125 5250.2A PORT SEP. = 77.90 MA B0 = 4.77
ROTATION 2005.50, CENLON 180.000

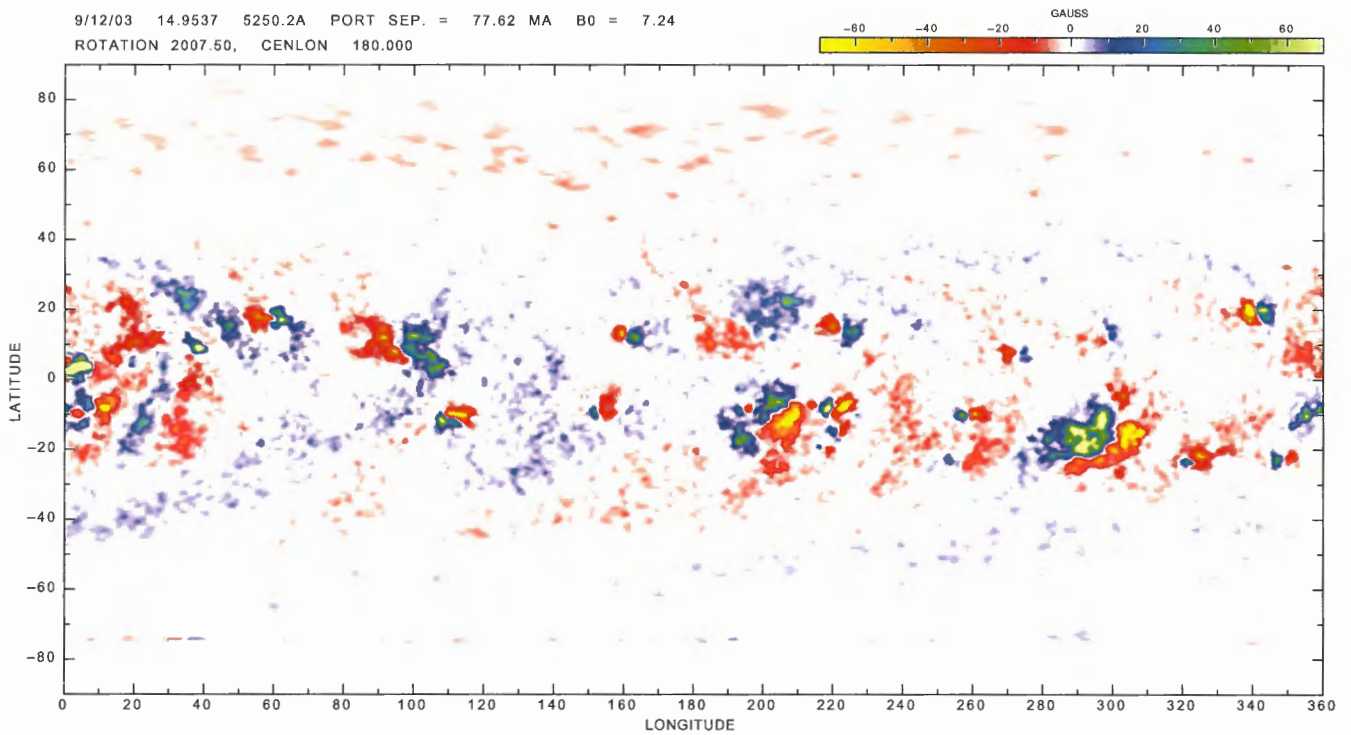


II-6 (2003)

8/16/03 8.9278 5250.2A PORT SEP. = 77.65 MA B0 = 6.69
ROTATION 2006.50, CENLON 180.000

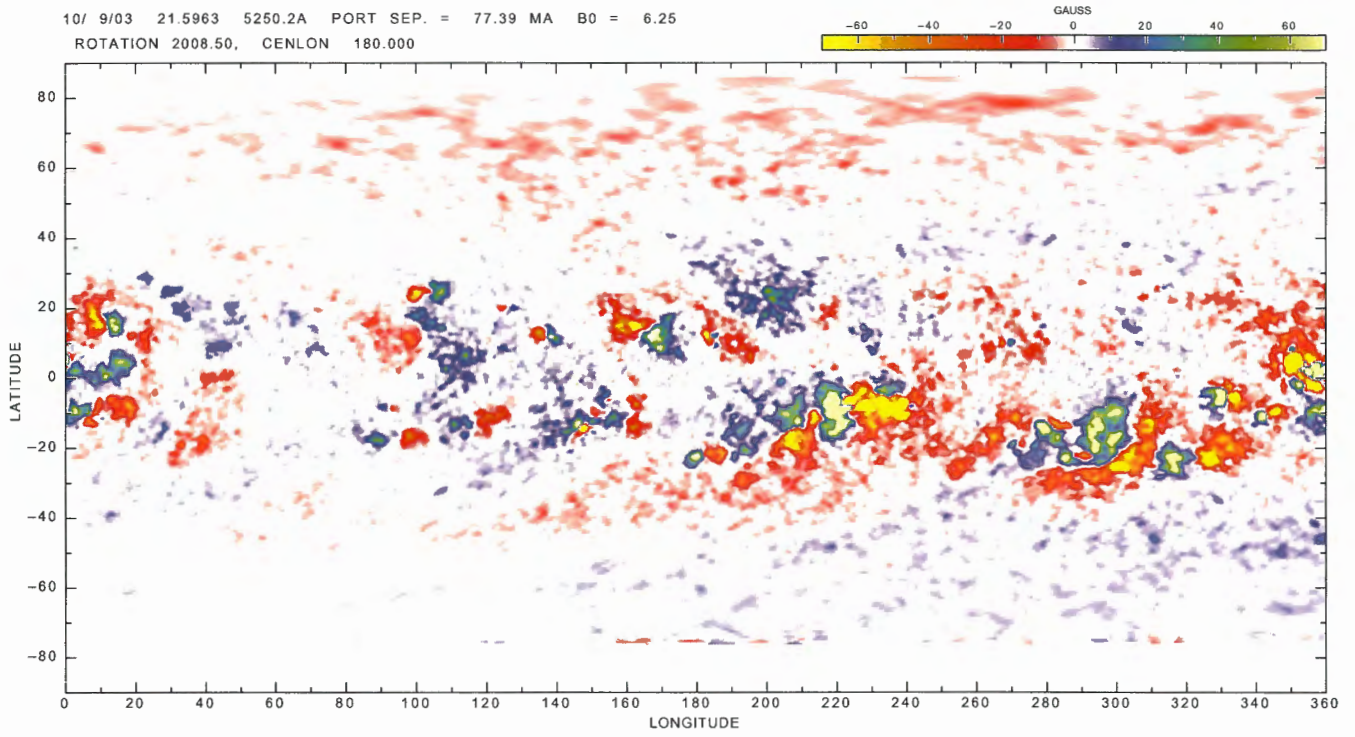


9/12/03 14.9537 5250.2A PORT SEP. = 77.62 MA B0 = 7.24
ROTATION 2007.50, CENLON 180.000

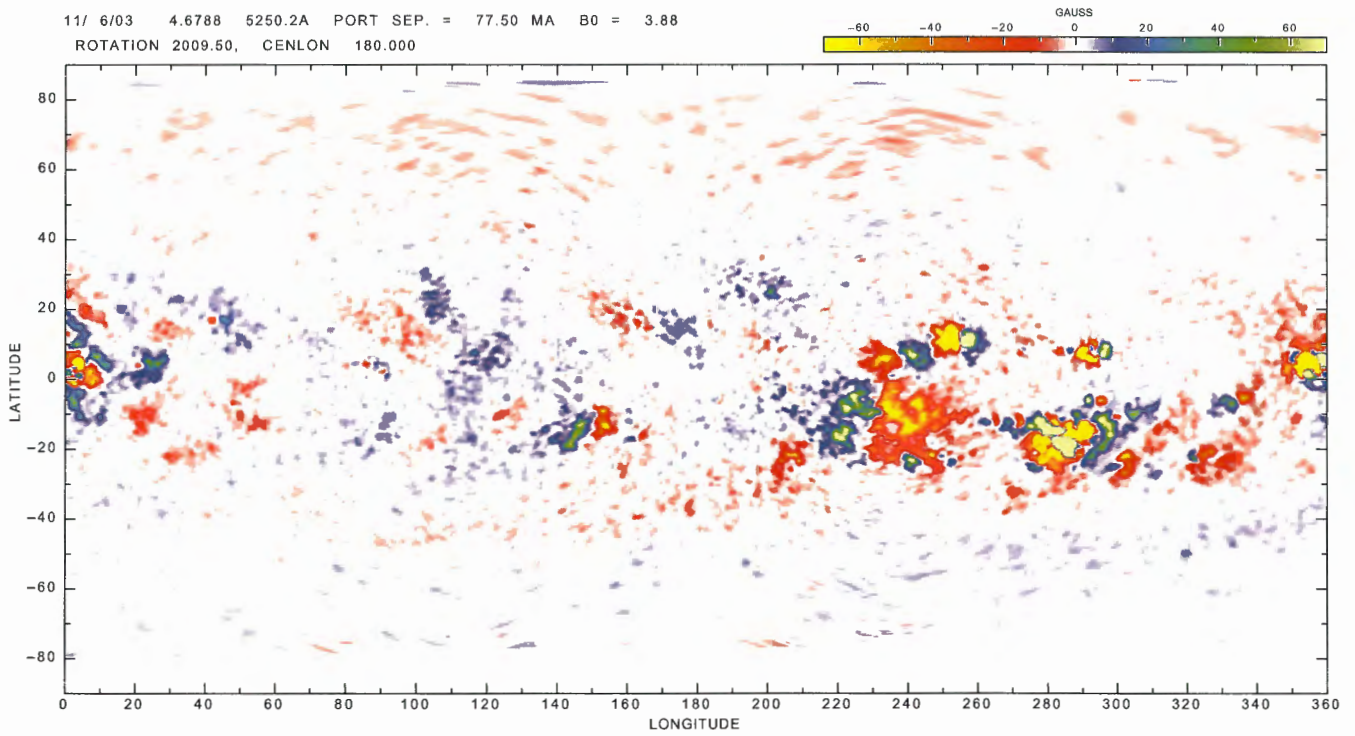


II-7(2003)

10/ 9/03 21.5963 5250.2A PORT SEP. = 77.39 MA B0 = 6.25
ROTATION 2008.50, CENLON 180.000



11/ 6/03 4.6788 5250.2A PORT SEP. = 77.50 MA B0 = 3.88
ROTATION 2009.50, CENLON 180.000



II-8(2003)

