Making H-alpha Synoptic Maps

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The principal meaning of the word, 'synoptic', according to the Merriam-Webster dictionary, is 'affording a general view of a whole'.

The Carrington rotation of the Sun is a system for comparing locations on the Sun over a period of time, allowing the following of sunspot groups or reappearance of eruptions at a later time. Because the Solar rotation is variable with latitude, depth and time, any such system is necessarily arbitrary and only makes comparison meaningful over moderate periods of time. Differential rotation is when different latitudes rotate at different rates and applies to all fluid bodies including all stars and the surface of gas giant planets. Solar rotation is arbitrarily taken to be 27.2753 days for the purpose of Carrington rotations. Each rotation of the Sun under this scheme is given a unique number called the Carrington Rotation Number, starting from November 9, 1853. (The Bartels Rotation Number[1] is a similar numbering scheme that uses a period of exactly 27 days and starts from February 8, 1832.)

http://en.wikipedia.org/wiki/Carrington_rotation
SSWIDL

Most recent version of Dt_tm_mak

WGET available

Ubuntu: install giftopnm

Windows: not able to make movie at this moment

idl> Print, x_carr2date(1988)

idl> 20020330_010344 20020426_073239
• **x_getsynopticfiles, 1974**
  Download images in one rotation period from swrl.njit.edu daily archive for a certain Carrington number

• **x_readgz, dir**
  Ubuntu: has problem opening some GZ files
  Windows: just use WINRAR or other software

• **x_synop_select**
  Remove bad images

• **x_synop_movie & x_synop_html**
  Make a movie for this rotation

• **x_synop_1a**
  Fill data gaps

• **x_synop_1b**
  Normalization, get solar disk

• **x_synop_2**
  Make Stonyhurst (beacon?) map and Synoptic map

• **x_synop_3**
  Make EPS file
2009 July 22
GHN H-alpha Synoptic Maps

H-alpha Synoptic Map of Carrington Rotation Number 1974

BBSO

2009 July 22
GHN_SYNOPTIC_MOVIE 1974

Frame: Displaying 3 of 23  Speed: 34 (frames/sec)

Range Start: 0  Range Stop: 0


2009 July 22
Current GHN data set

2001 March 01  #1973

2009 September 01  #2087

115 maps + movies
http://ghn.njit.edu/picture/GHN_times.jpg

KSO
05 – 15 UT

BBSO
14 – 24 UT

YNAO
23 – 9 \text{(next day)} UT

2009 July 22