

# **Solar Cycle Update (Where are the CMEs?)**

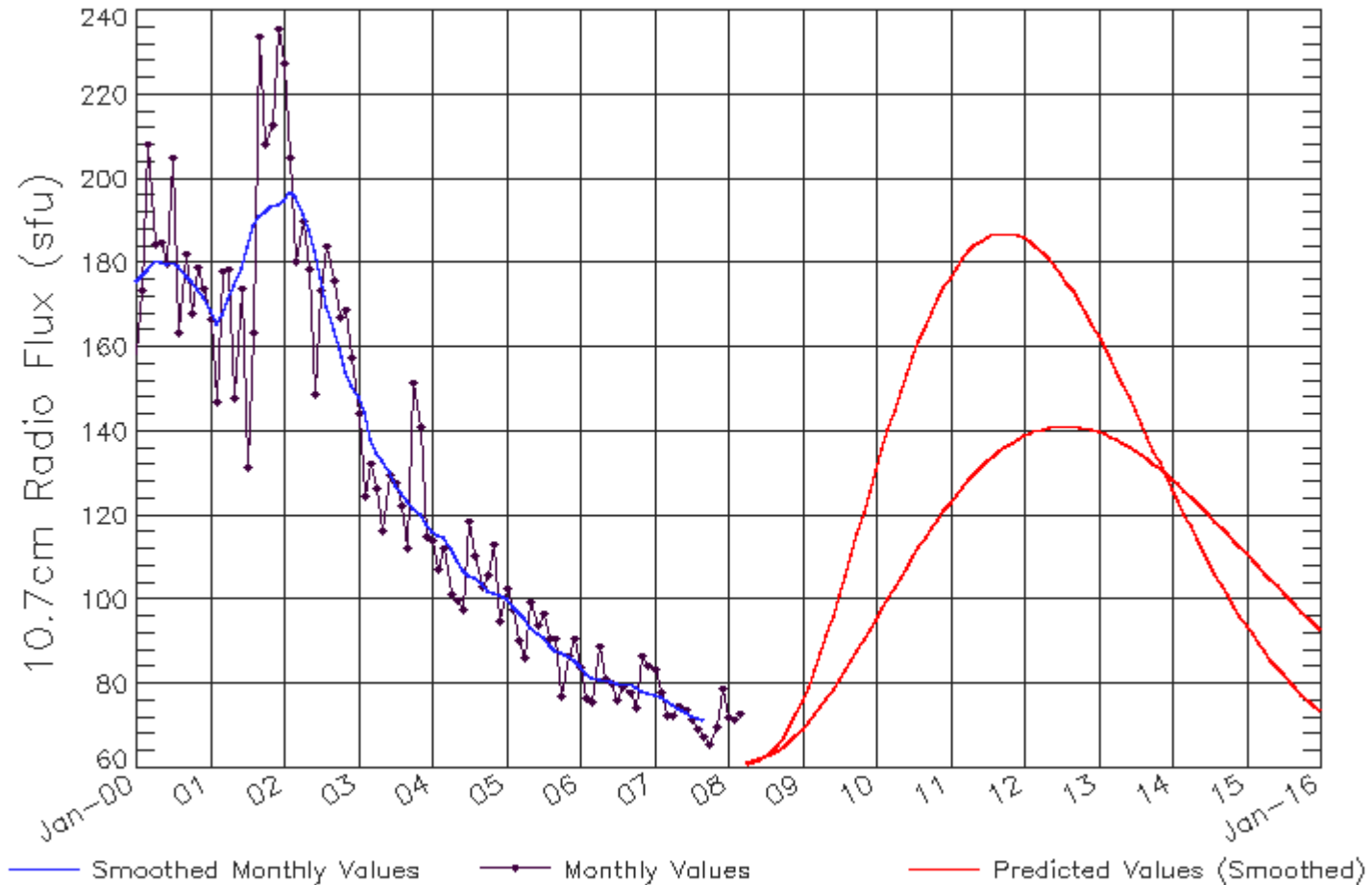
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**O. C. St. Cyr (NASA-GSFC)**

**H. Xie (CUA)**

# The Official NOAA Viewpoint

ISES Solar Cycle F10.7cm Radio Flux Progression  
Data Through 31 Mar 08



Updated 2008 Apr 7

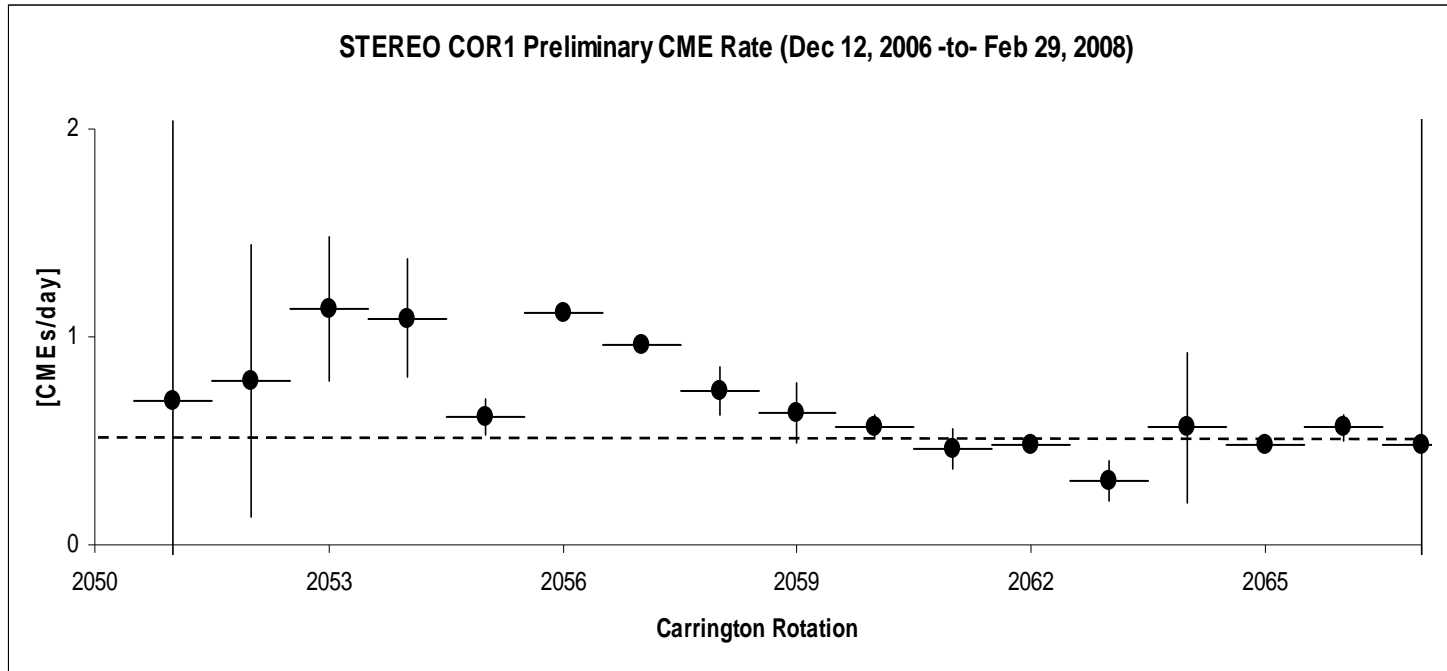
NOAA/SWPC Boulder, CO USA

St. Cyr – STEREO SWG – Meudon – April 2008

## Preliminary CME Catalogue

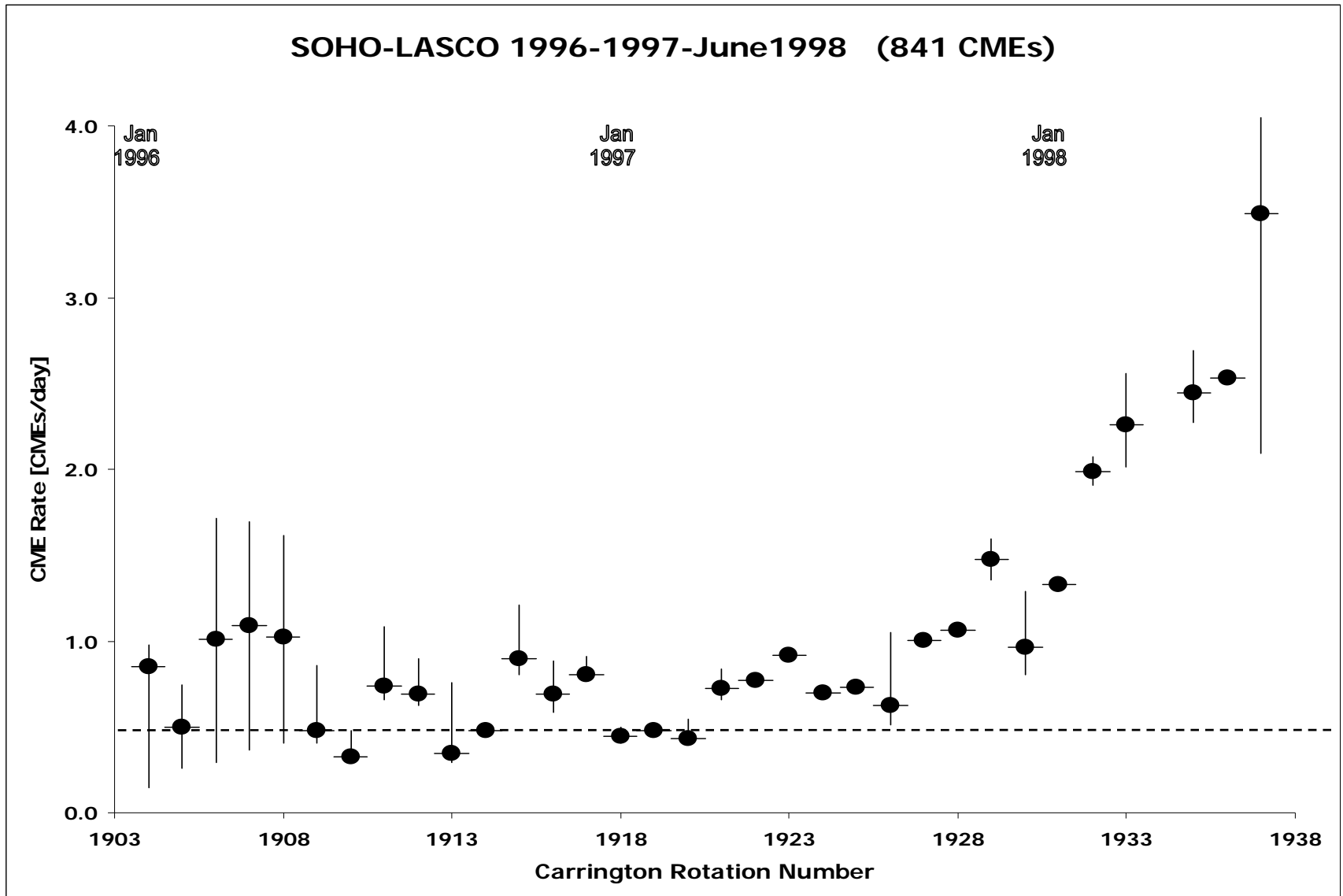
St. Cyr (Jan-Aug 2007)

Hong Xie (Sep 2007-future)



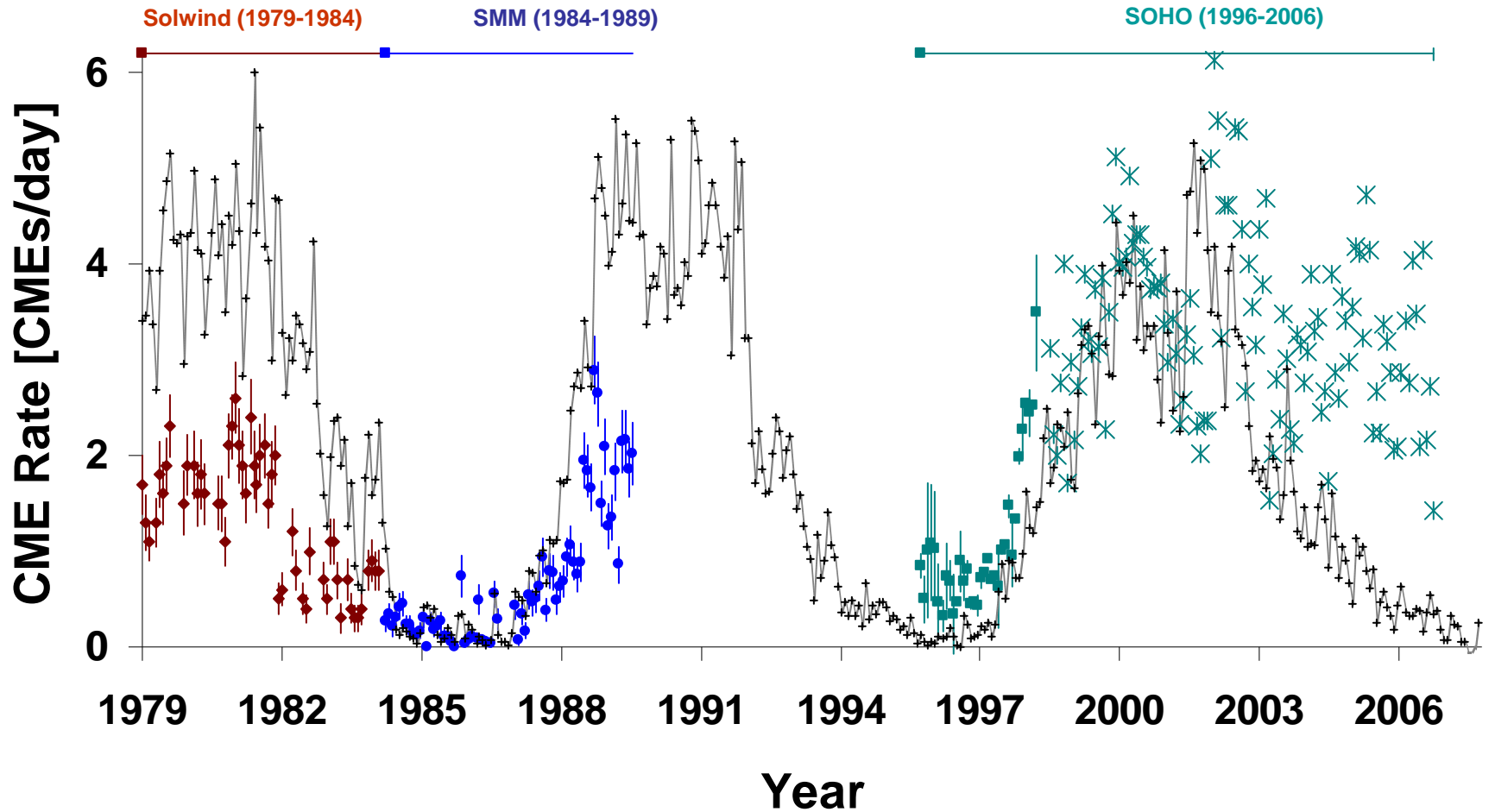
SOHO LASCO  
CME Rate in  
1996-1997 was  
~0.5 CMEs/day

# SOHO LASCO CME Rate

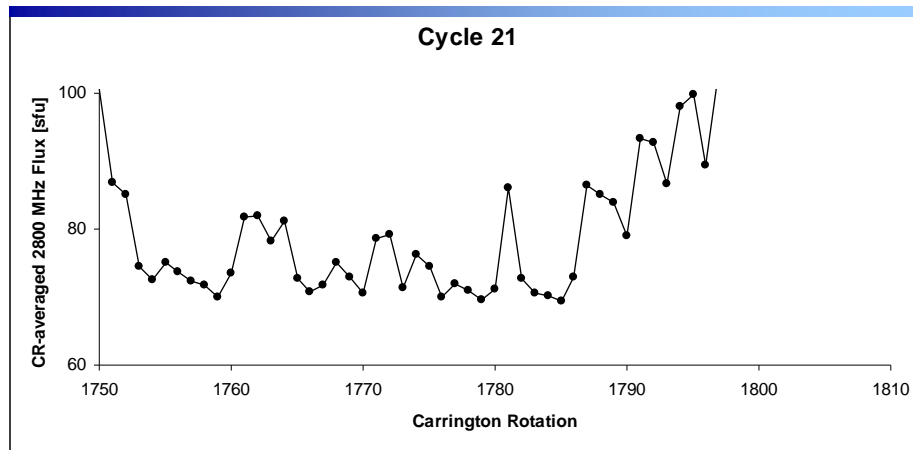


# Historic CME Rate

## CME Rate by Carrington Rotation

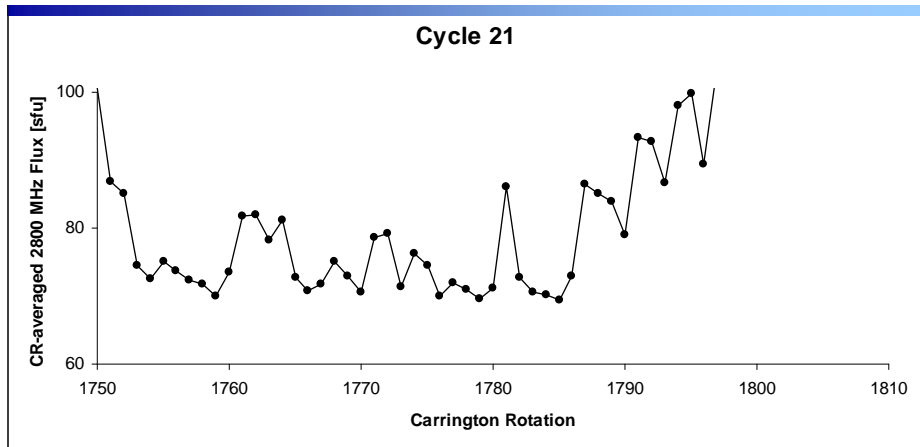


# Historic 2800 MHz at Minimum

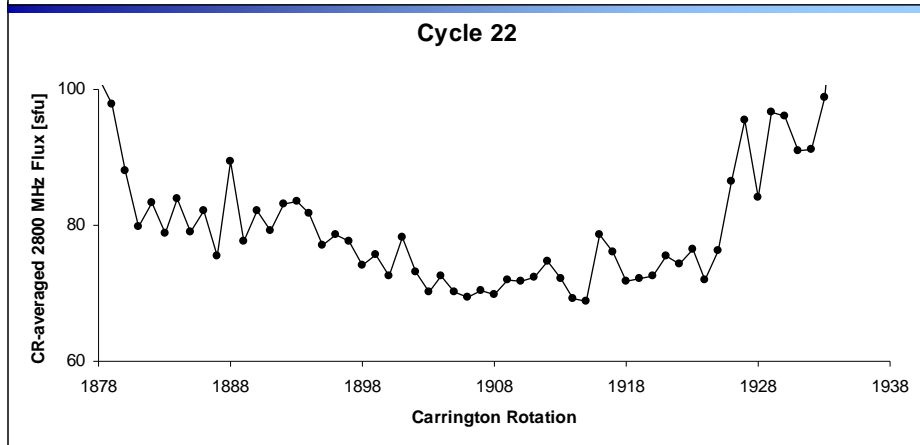


**48 CRs**

# Historic 2800 MHz at Minimum

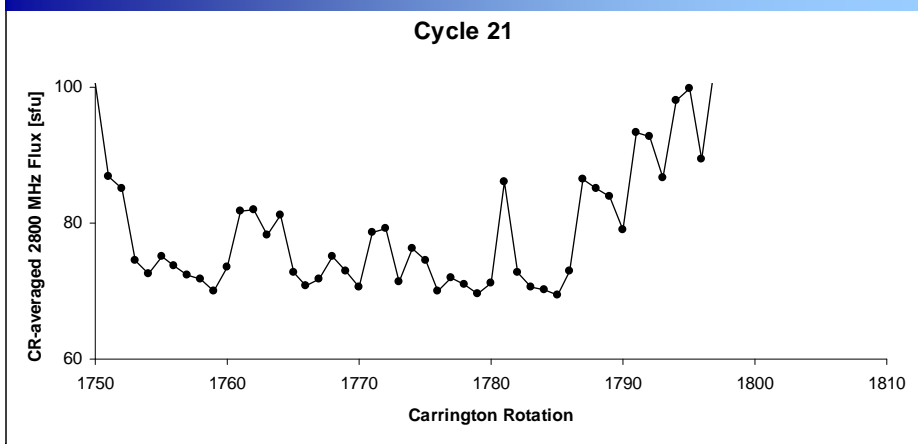


**48 CRs**

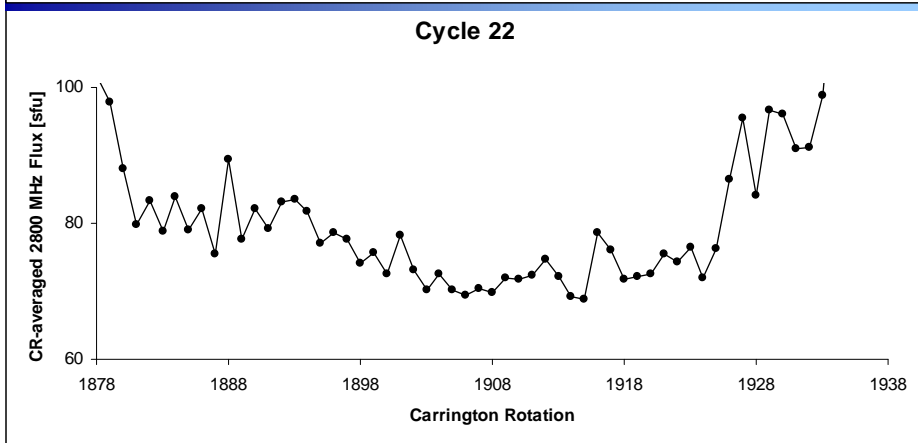


**57 CRs**

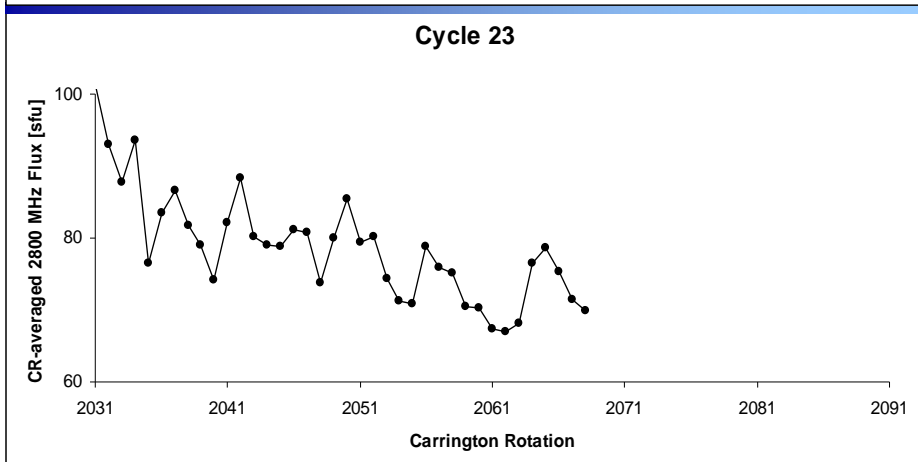
# Historic 2800 MHz at Minimum



48 CRs



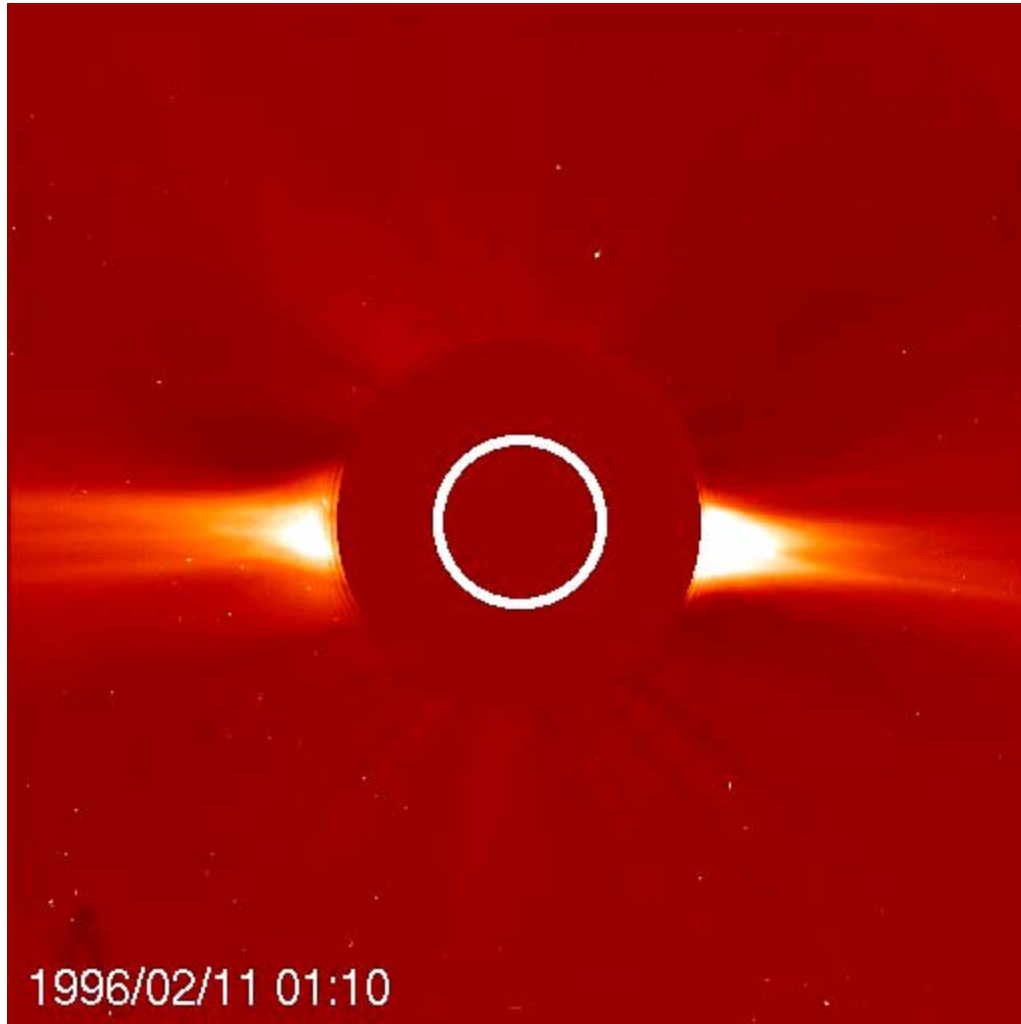
57 CRs



38 CRs  
(March 2008)



# DEFINITION of “Minimum” Corona

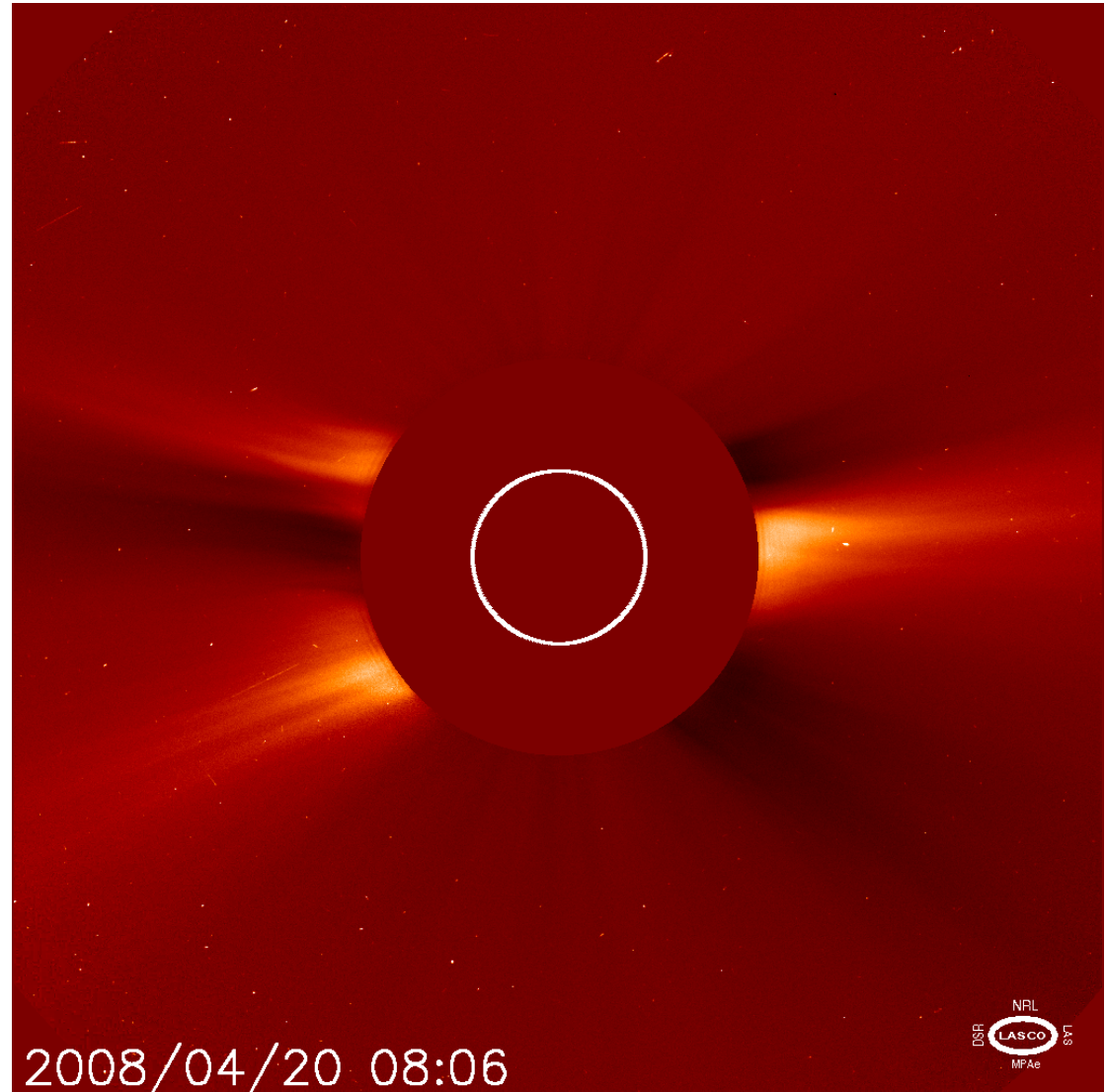


- During the descending phase, the white-light coronal streamers appear first to be “quadrupolar”
- Then a tilted dipole
- Finally an aligned dipole appears for 6-10 rotations when the magnetic and rotational poles are aligned

**SOHO LASCO C2**

# Corona is Not at Solar Minimum Yet!

Has not collapsed  
to a dipole



# Summary

- CR-averaged CME rate is  $\sim 0.5/\text{day}$ , typical of solar minimum
- CR-averaged 2800 MHz flux is  $\sim 70$  sfu, near solar minimum values
- We appear to be only part-way through solar minimum phase based on
  - Duration of CME rate and 2800 MHz
  - Morphology of the white-light corona

