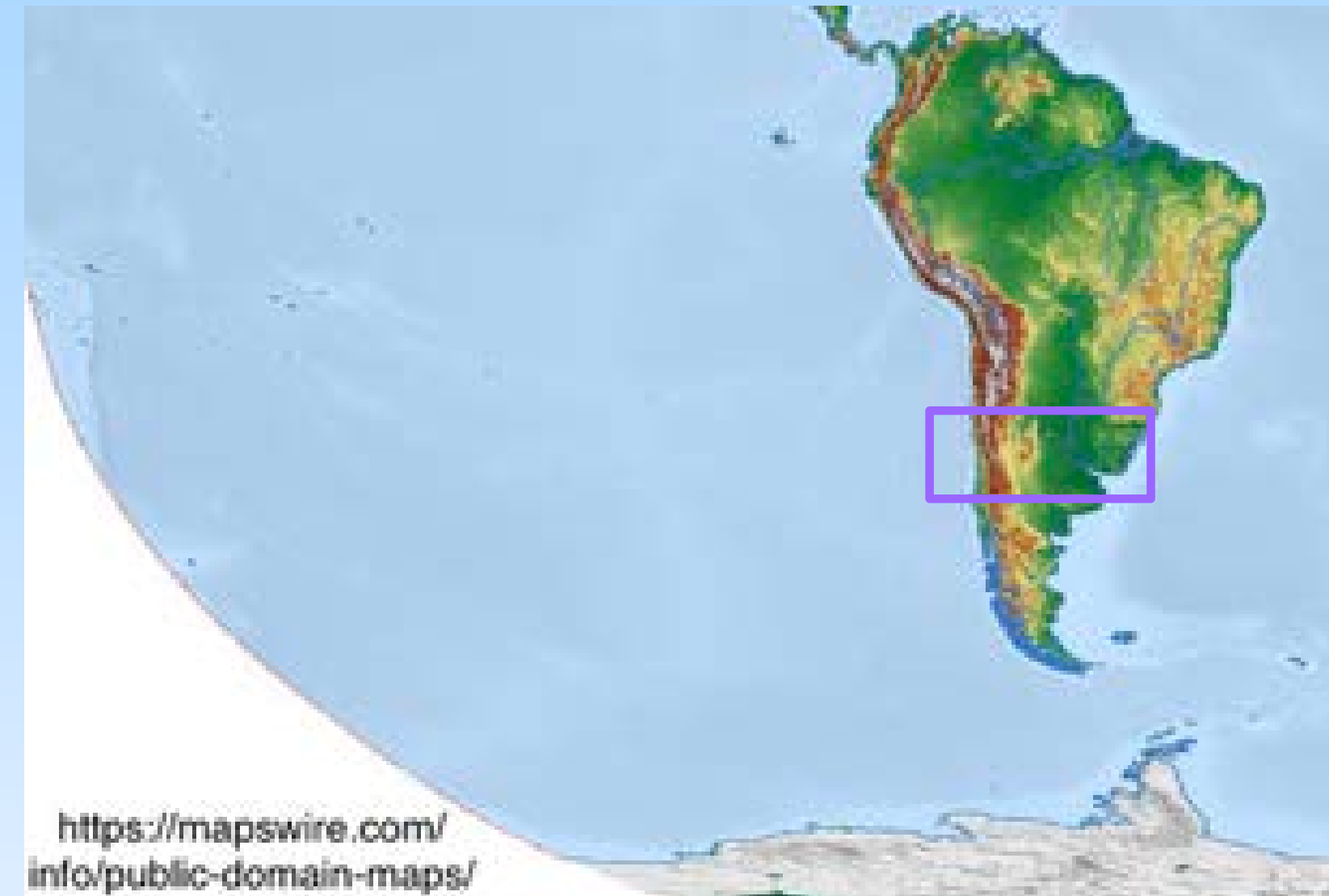


# The 2019 July 2 Total Solar Eclipse, La Higuera, Chile

Alphonse Sterling  
NASA/MSFC

# 2019 July 2 Total Solar Eclipse La Higuera, Chile



**Figure 2.** Orientation map showing details for our centerline site (Courtesy of Xavier Jubier and Google maps). (From Pasachoff et al. 2020.)



PM 3:18 JUN/29/2019



PM 3:20 JUN/29/2019



PM 4:56 JUN/29/2019



PM 4:09 JUN/29/2019





PM 6:36 JUL/ 1/2019



PM 7:33 JUL/ 1/2019



PM 7:33 JUL 1/2019





PM 2:38 JUL/ 2/2019



PM 5:16 JUL/ 2/2019



PM 5:17 JUL/ 2/2019

# Geek Stuff....

- Takahashi FSQ-106ed.
  - f/5 (FL=530 mm).
  - Four-element Petzval design.
- Takahashi EM-11 mount.
- Canon EOS 700D (T5i).

# Solar Eclipse Maestro - by Xavier Jubier

[http://xjubier.free.fr/en/index\\_en.html](http://xjubier.free.fr/en/index_en.html)

```
##### TOTALITY #####
#
PLAY,C2,-,01:30.0,Filters_Off.wav, , , , , , , , , FILTERS OFF!!!!

PLAY,C2,-,00:45.0,Filters_Off.wav, , , , , , , , , FILTERS OFF!!!!
# give me time to remove filter

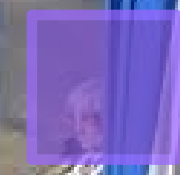
TAKEPIC,C2,-,00:15.0,D700nH,1/4000,16.0,100,1.0,RAW,None,Y,Baily's Beads Q=?
TAKEPIC,C2,-,00:11.5,D700nH,1/4000,16.0,100,1.0,RAW,None,Y,Baily's Beads Q=?
TAKEPIC,C2,-,00:08.0,D700nH,1/500,16.0,100,1.0,RAW,None,Y,Baily's Beads/Diamond Ring Q=?
TAKEPIC,C2,-,00:04.5,D700nH,1/250,16.0,100,1.0,RAW,None,Y, Diamond Ring Q=?
TAKEPIC,C2,-,00:01.0,D700nH,1/125,11.0,100,1.0,RAW,None,Y, Diamond Ring

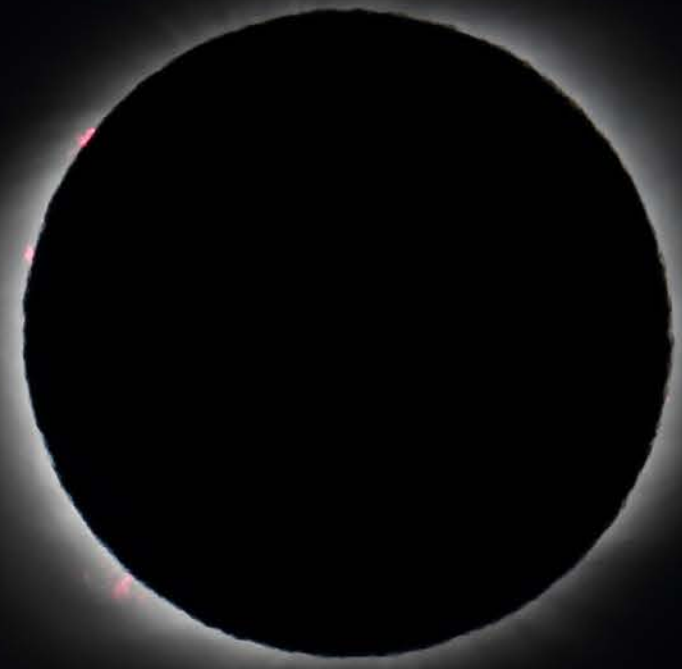
#----- C2 -----
TAKEPIC,C2,+,00:02.5,D700nH,1/1000,16.0,100,1.0,RAW,None,Y,Chromosphere
TAKEPIC,C2,+,00:06.0,D700nH,1/1000,16.0,100,1.0,RAW,None,Y,Chromosphere

#----- CORONAL SEQUENCE -----
# 1000 just done, so start with 500:
TAKEPIC,C2,+,00:09.5,D700nH,1/500,16.0,100,1.0,RAW,None,Y,Corona
TAKEPIC,C2,+,00:13.0,D700nH,1/250,16.0,100,1.0,RAW,None,Y,Corona
TAKEPIC,C2,+,00:16.5,D700nH,1/125,16.0,100,1.0,RAW,None,Y,Corona
TAKEPIC,C2,+,00:20.0,D700nH,1/60,16.0,100,1.0,RAW,None,Y,Corona
TAKEPIC,C2,+,00:23.5,D700nH,1/30,16.0,100,1.0,RAW,None,Y,Corona
TAKEPIC,C2,+,00:27.0,D700nH,1/15,16.0,100,1.0,RAW,None,Y,Corona
TAKEPIC,C2,+,00:30.6,D700nH,1/8,16.0,100,1.0,RAW,None,Y,Corona
TAKEPIC,C2,+,00:34.2,D700nH,1/4,16.0,100,1.0,RAW,None,Y,Corona
TAKEPIC,C2,+,00:37.9,D700nH,1/2,16.0,100,1.0,RAW,None,Y,Corona
TAKEPIC,C2,+,00:41.9,D700nH,1.0,16.0,100,1.0,RAW,None,Y,Corona
```



PM 8:01 JUL/ 2/2019

















# Refined Results













# Fully Processed Results







AM 2:26 JUL/ 3/2019



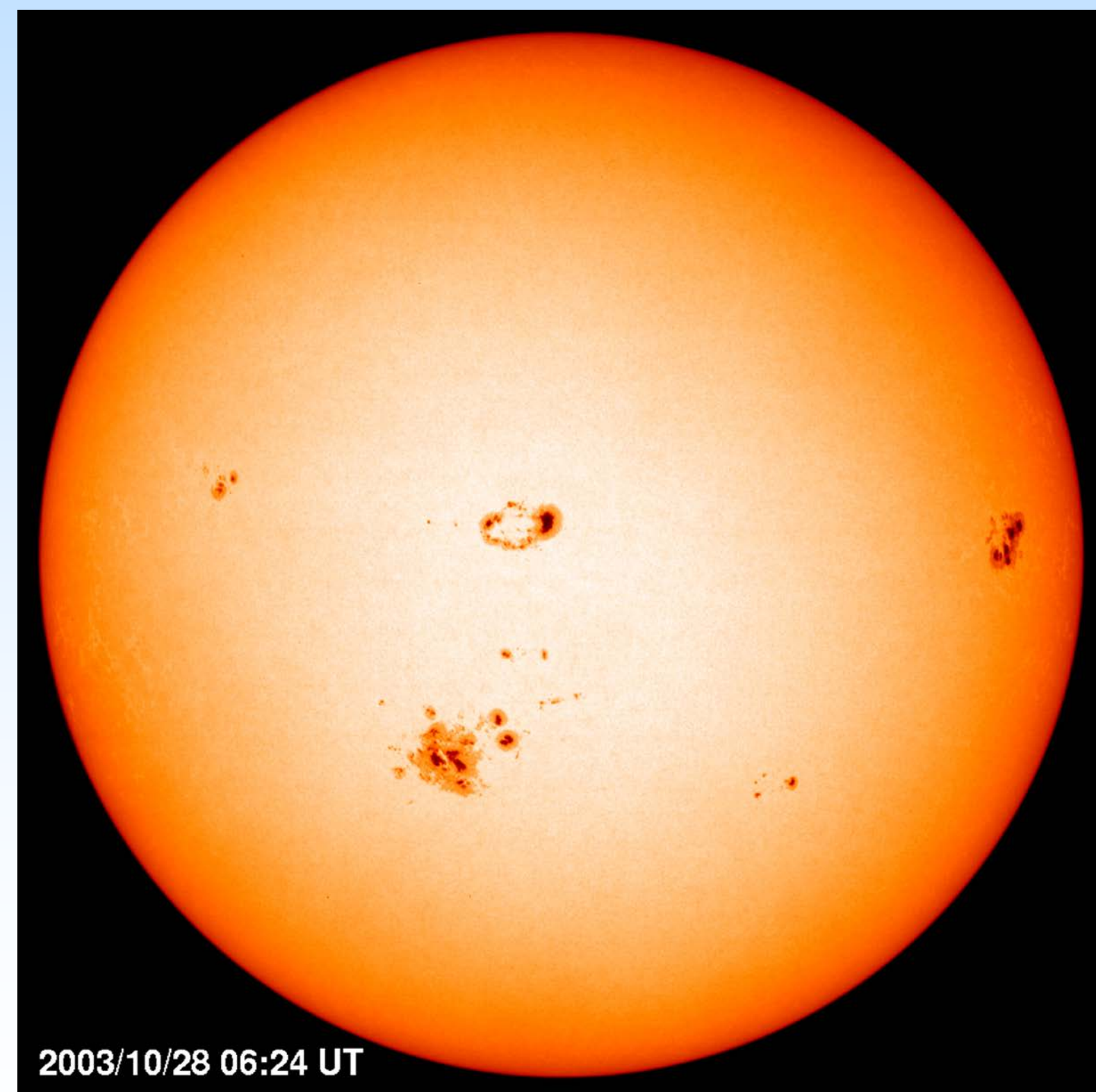


# Coronal Structure

# The Solar Atmosphere

The Outer layers (Atmospheres) of the Sun:

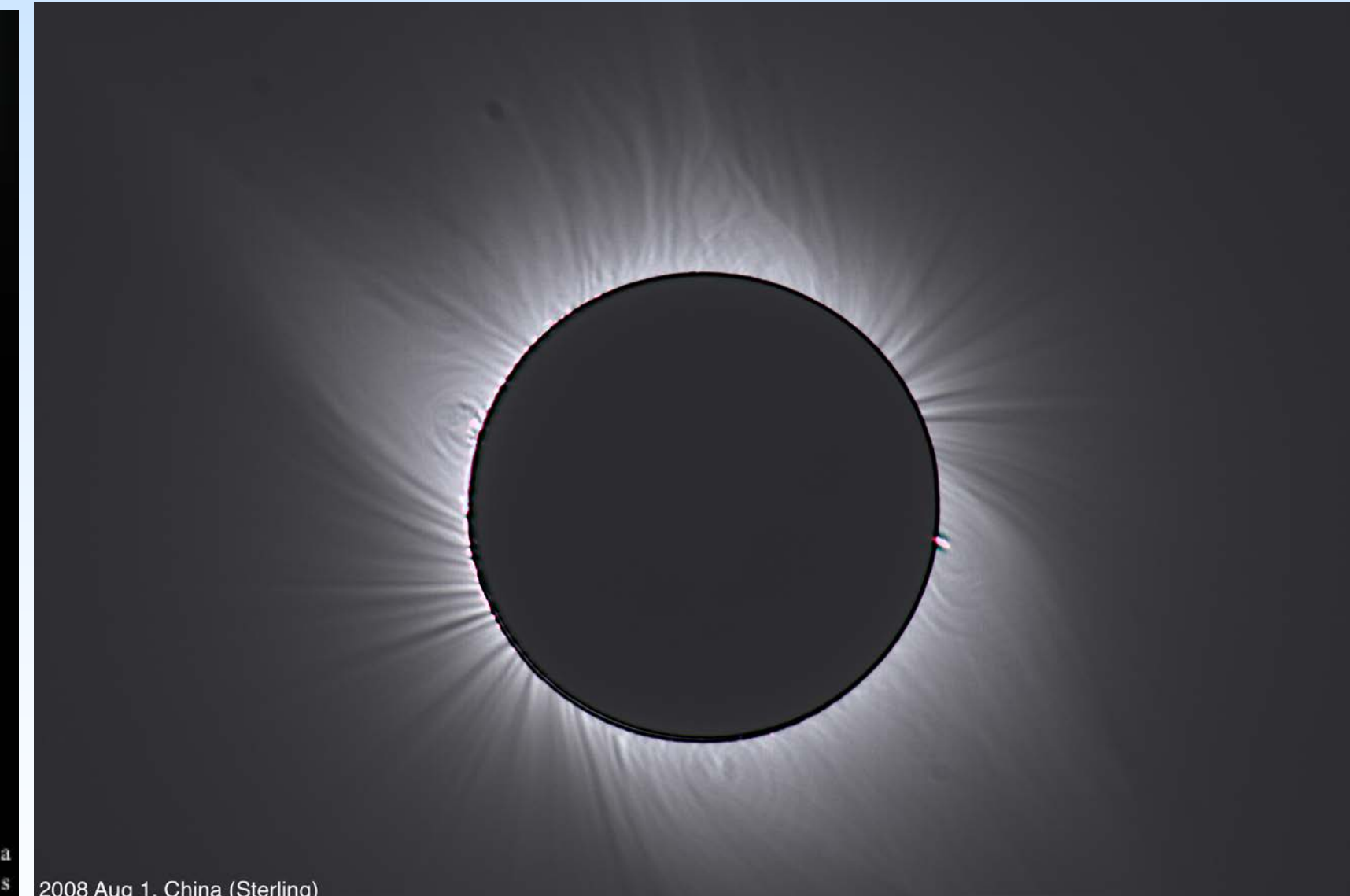
Photosphere

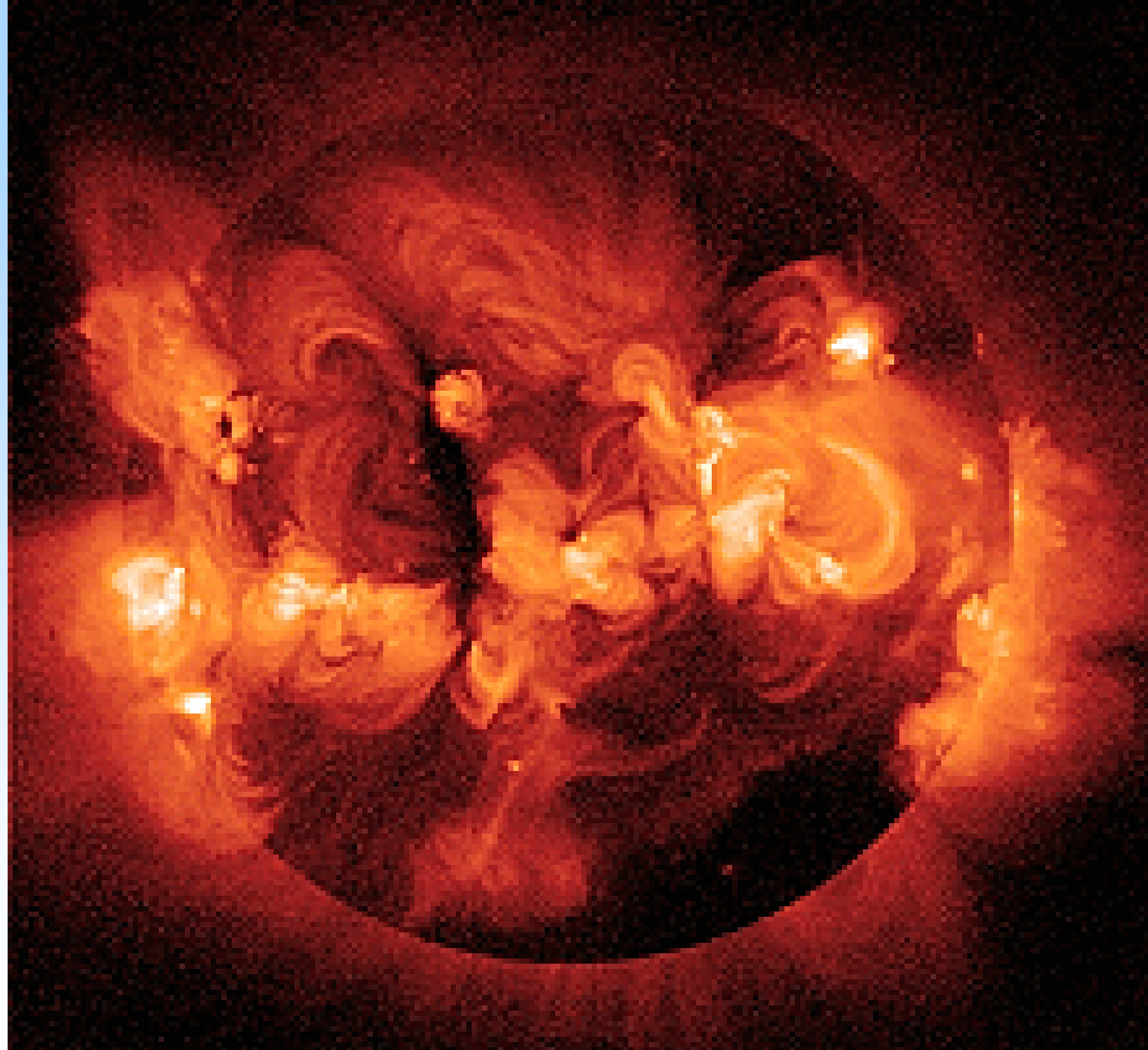


Chromosphere



Corona



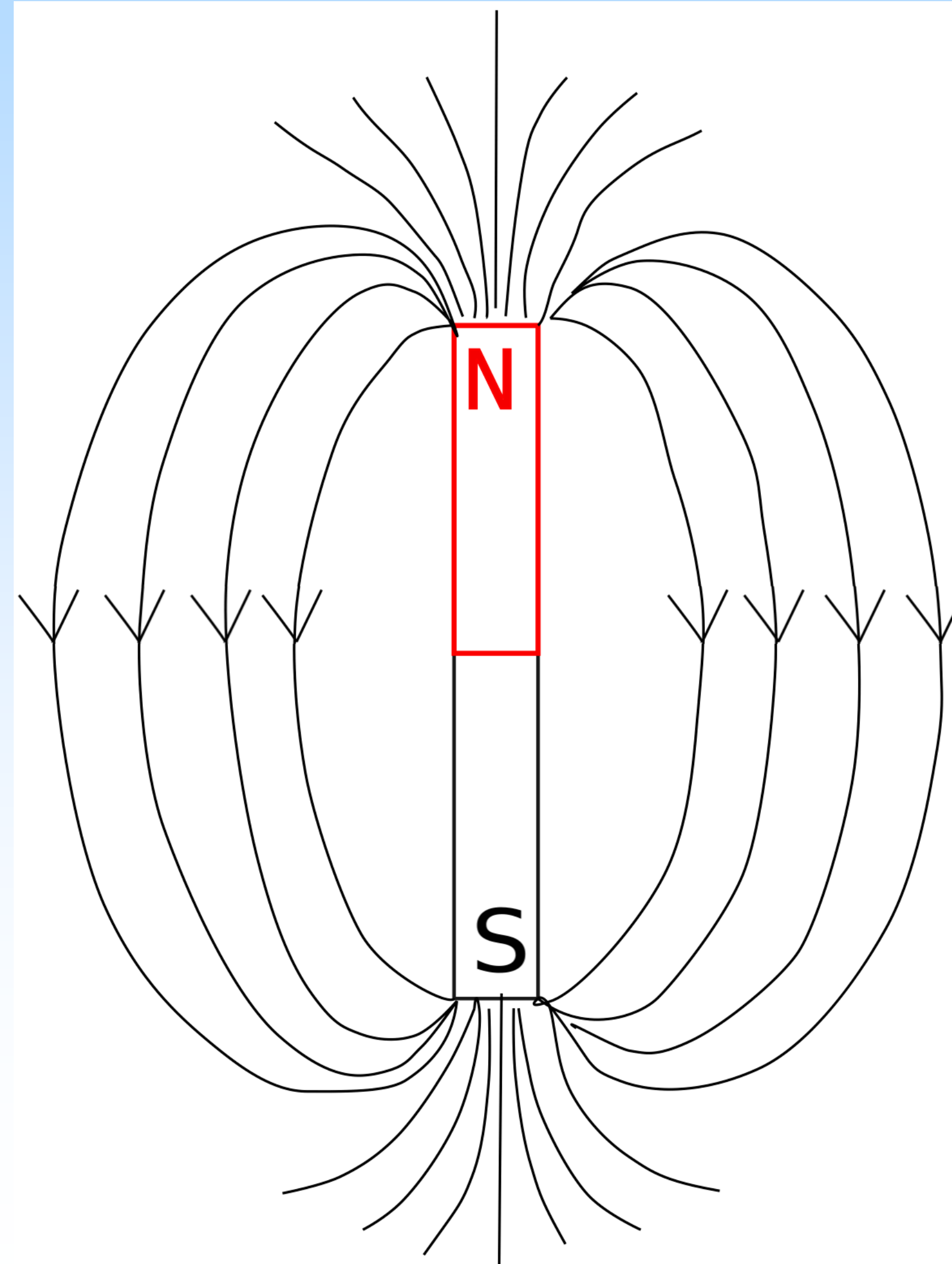


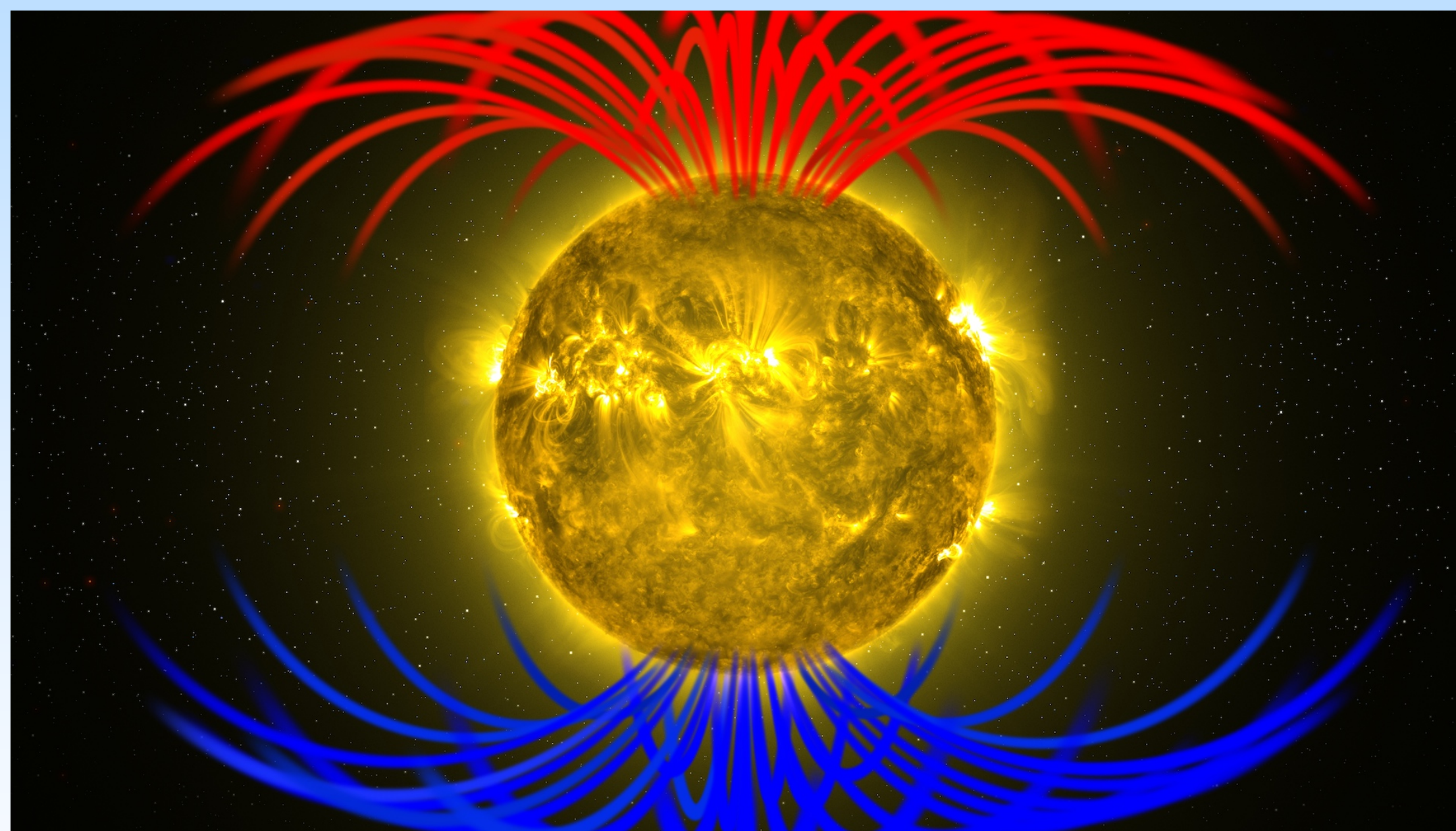
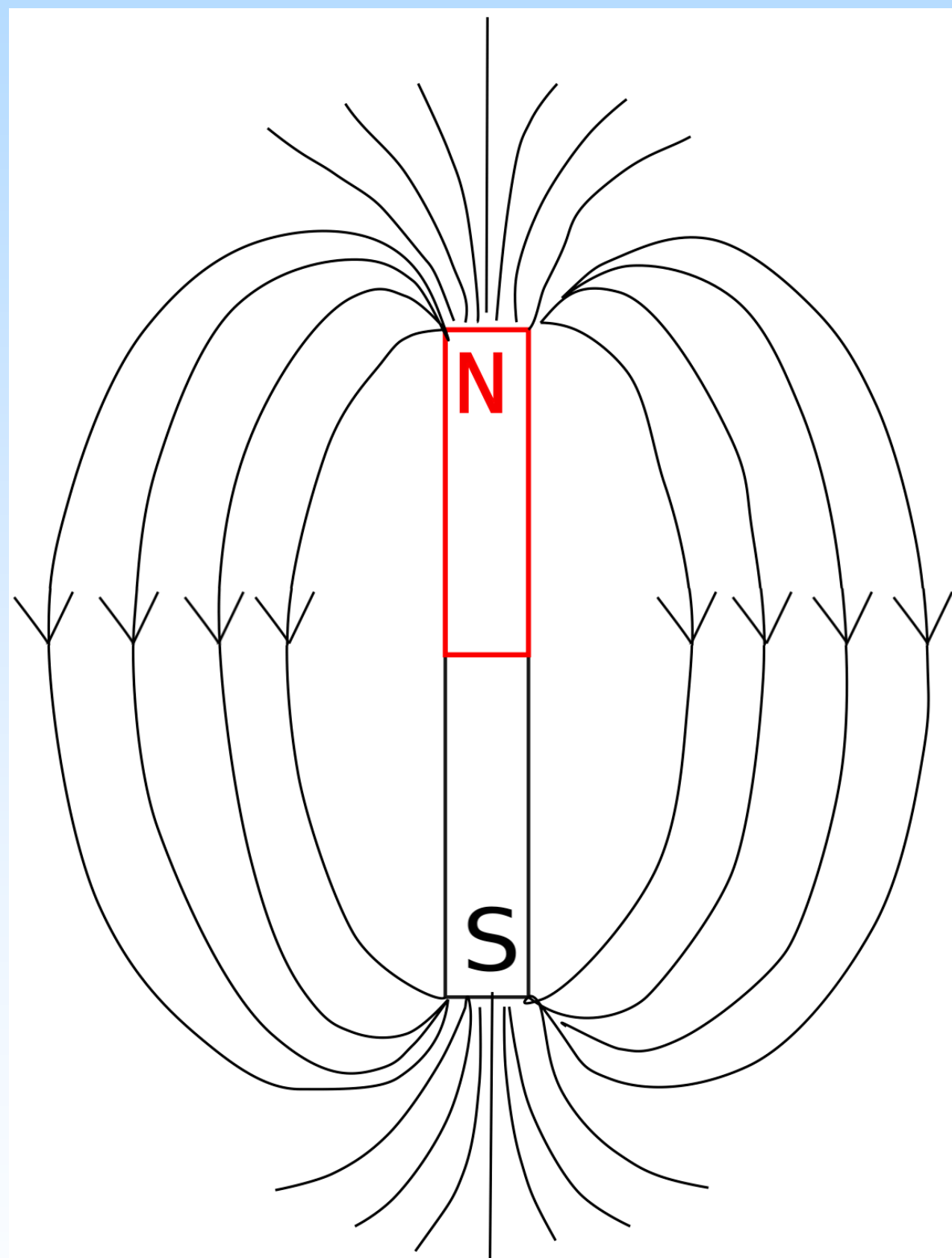
The Corona from Yohkoh/SXT

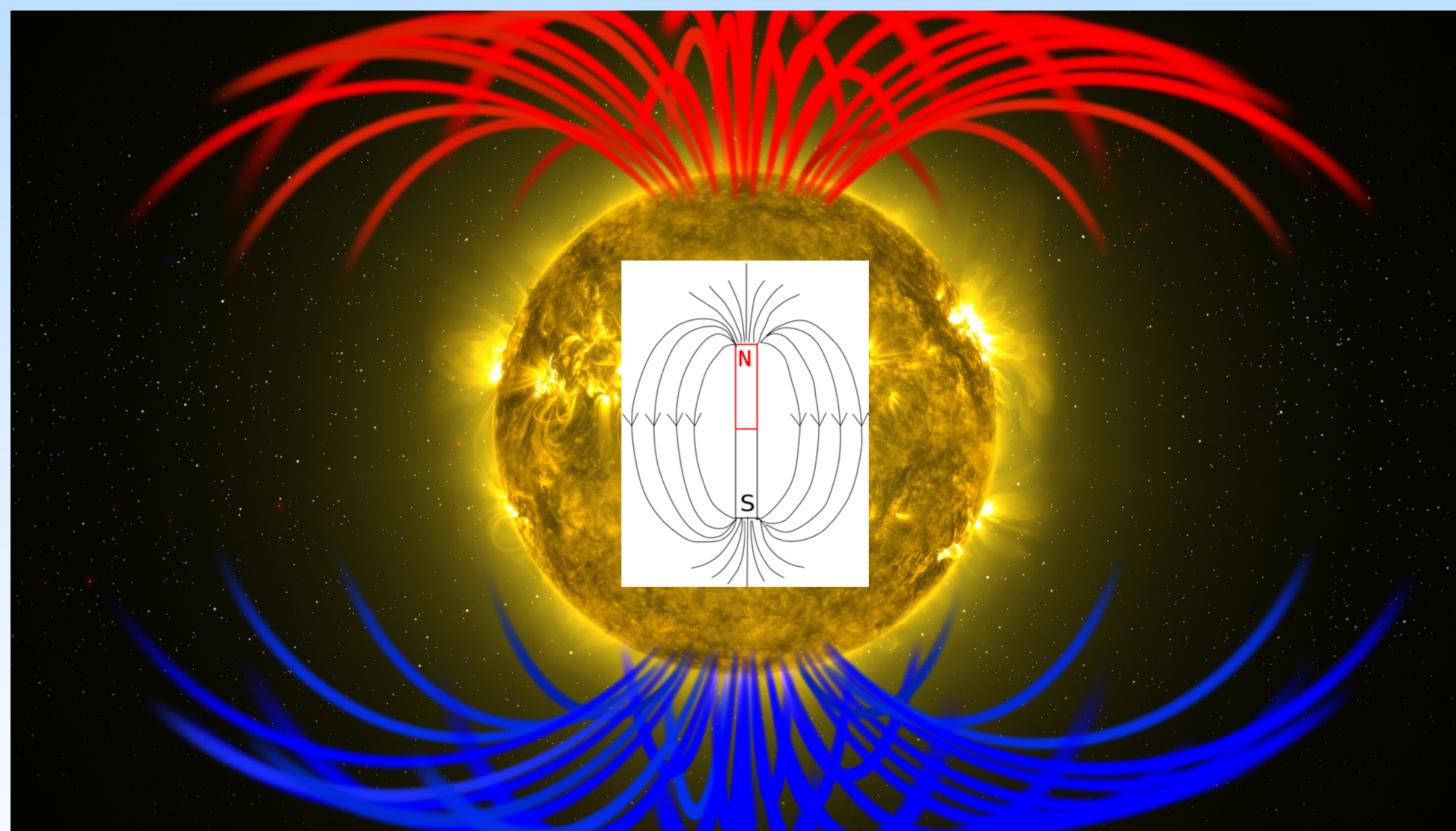
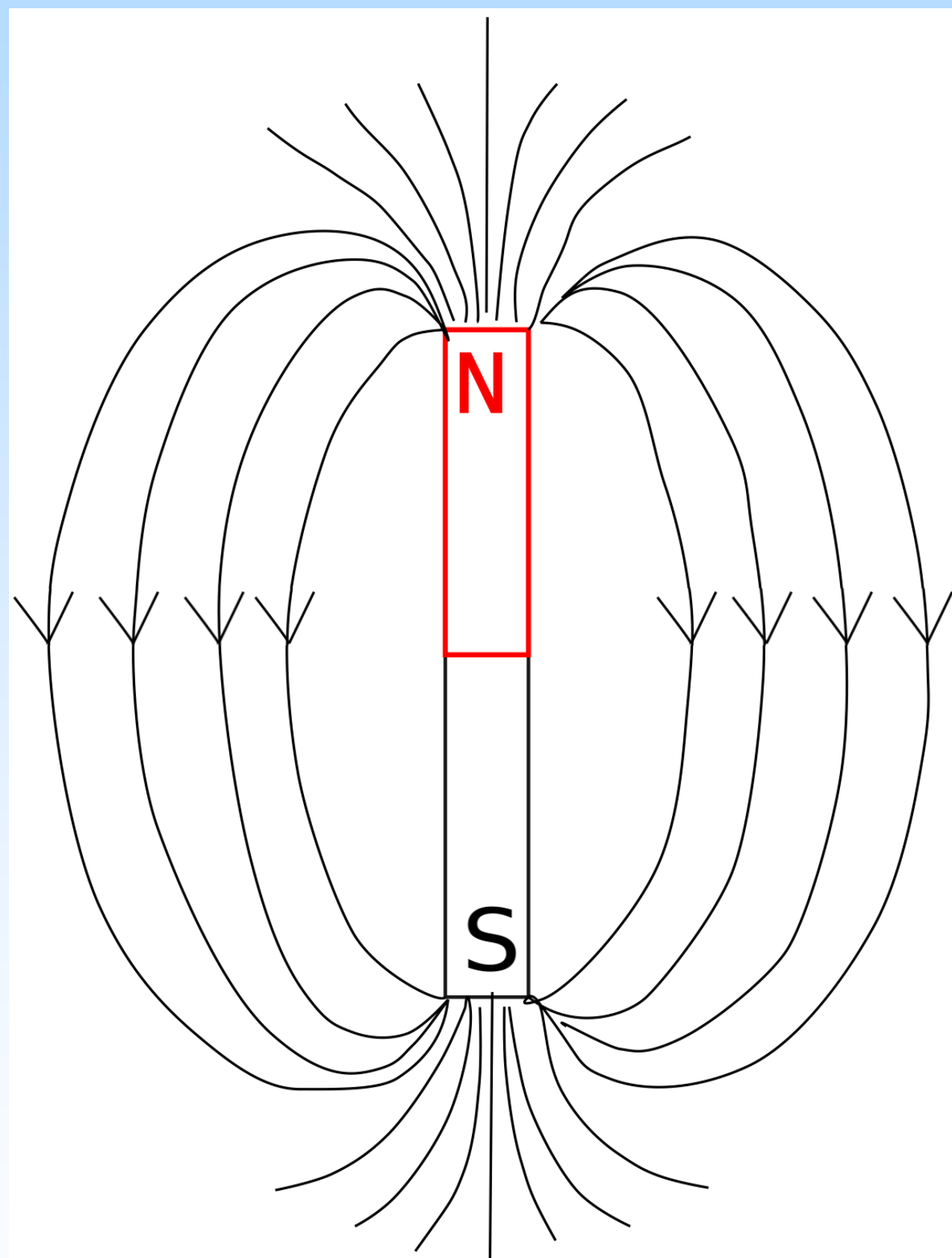
NASA

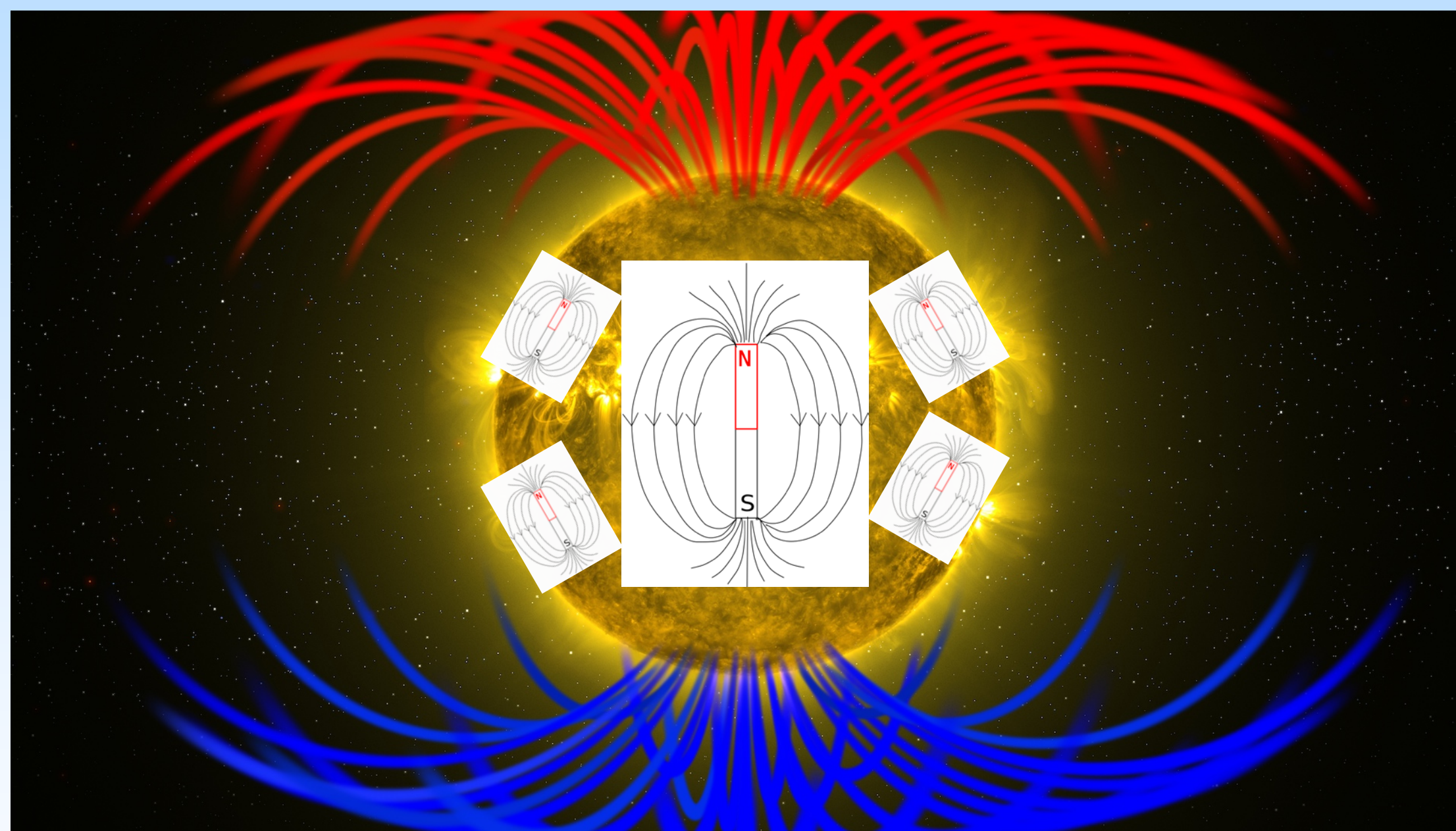
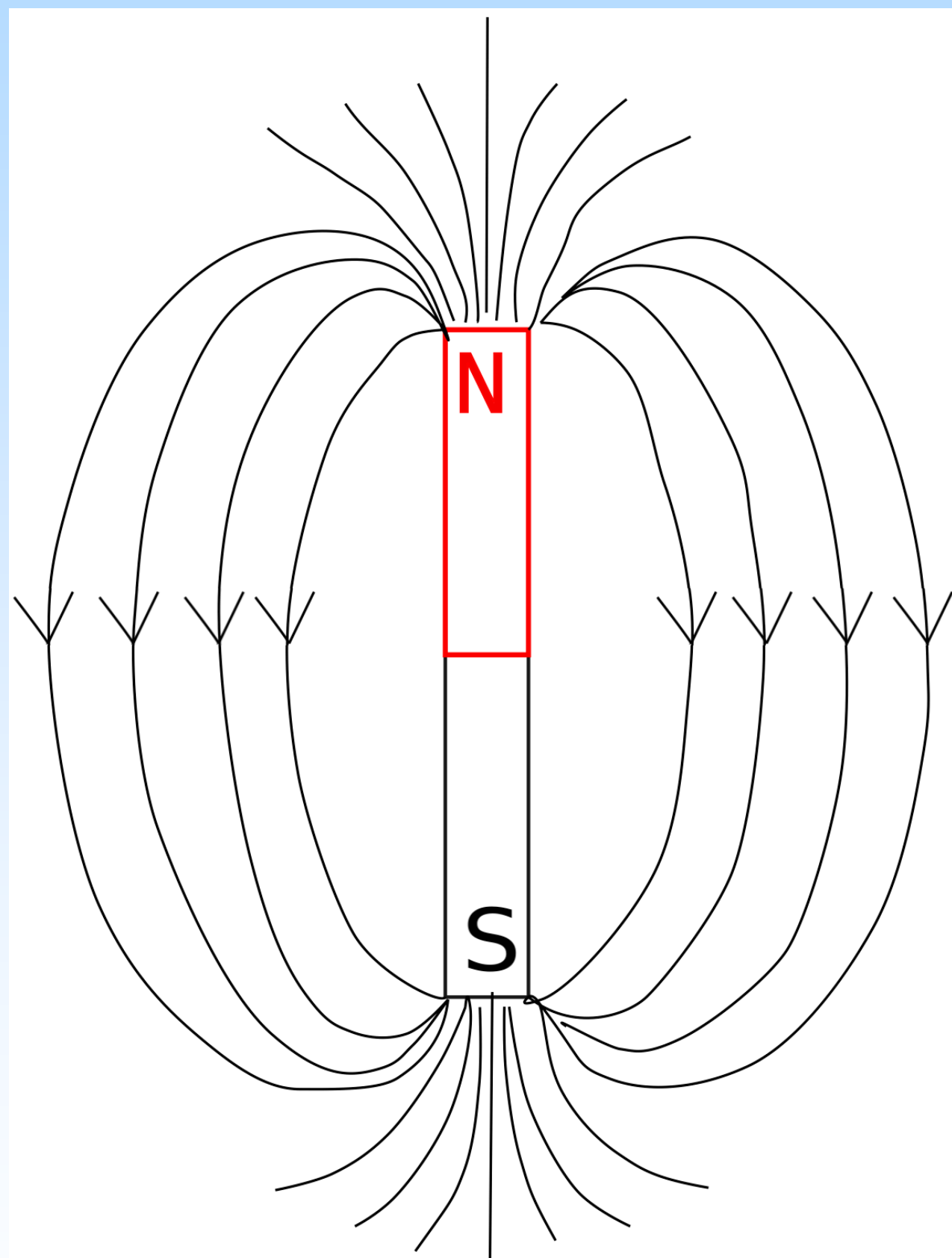


*Magnetism* is responsible for many of the changing features of the Sun.

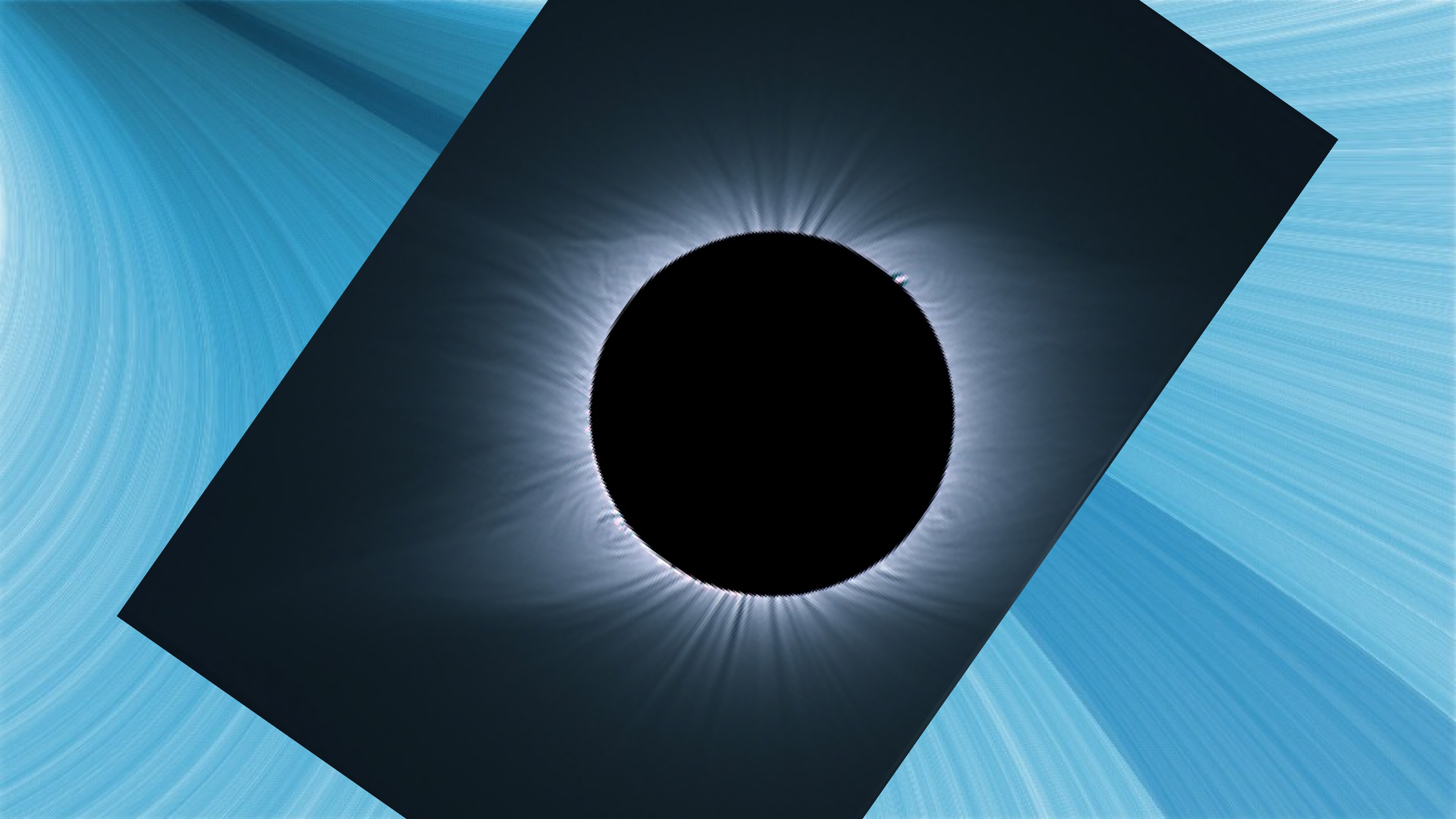


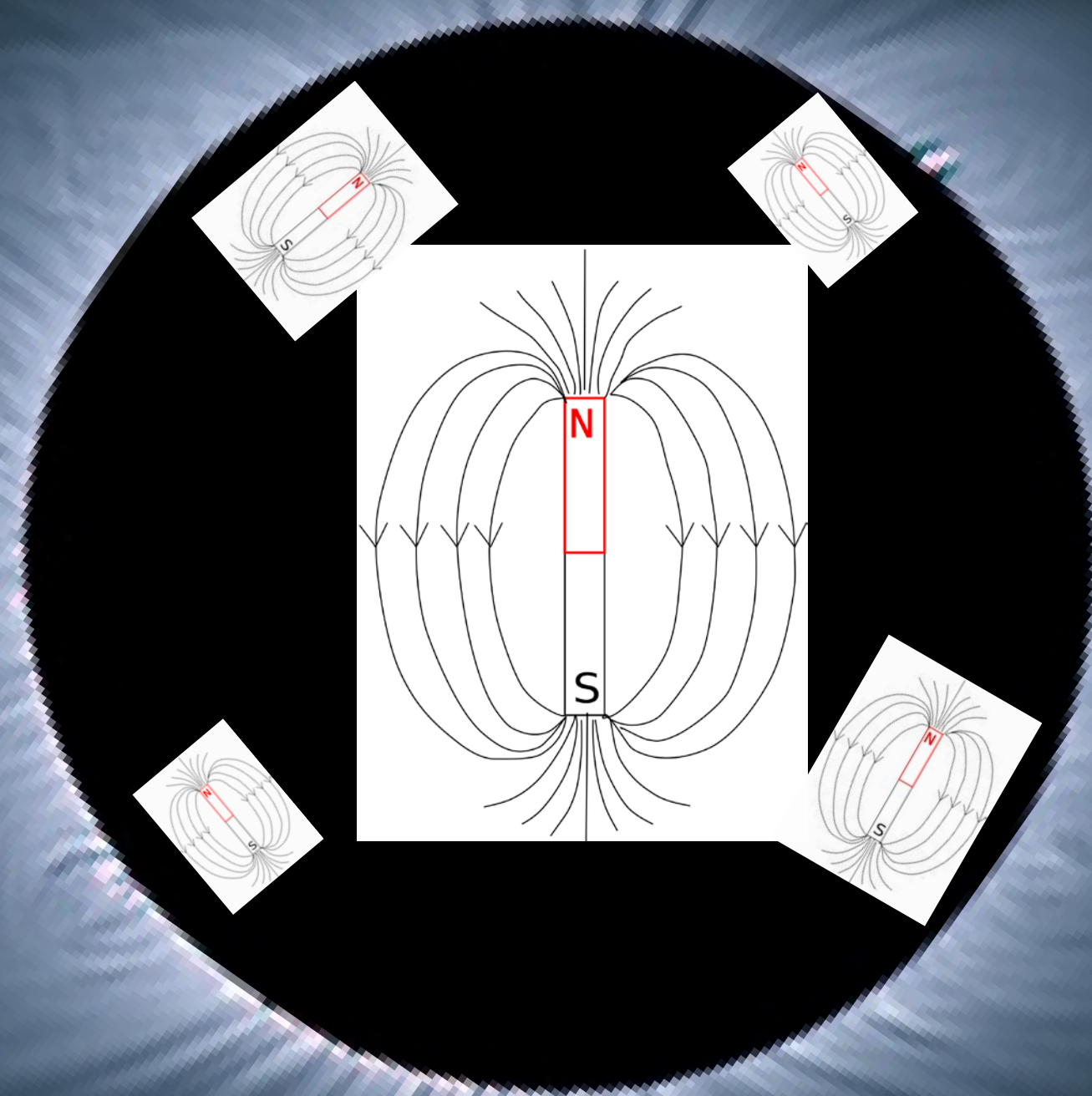


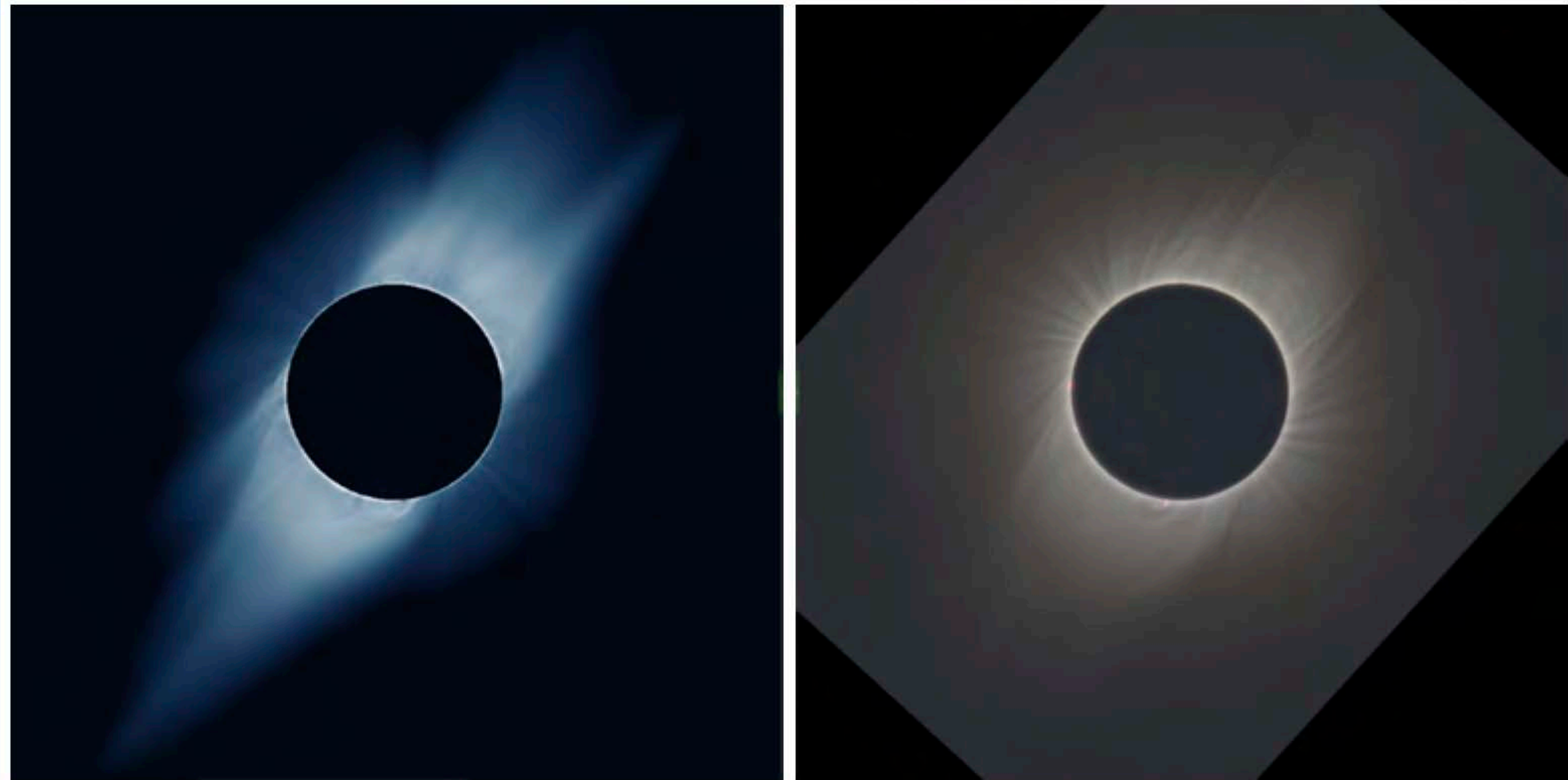








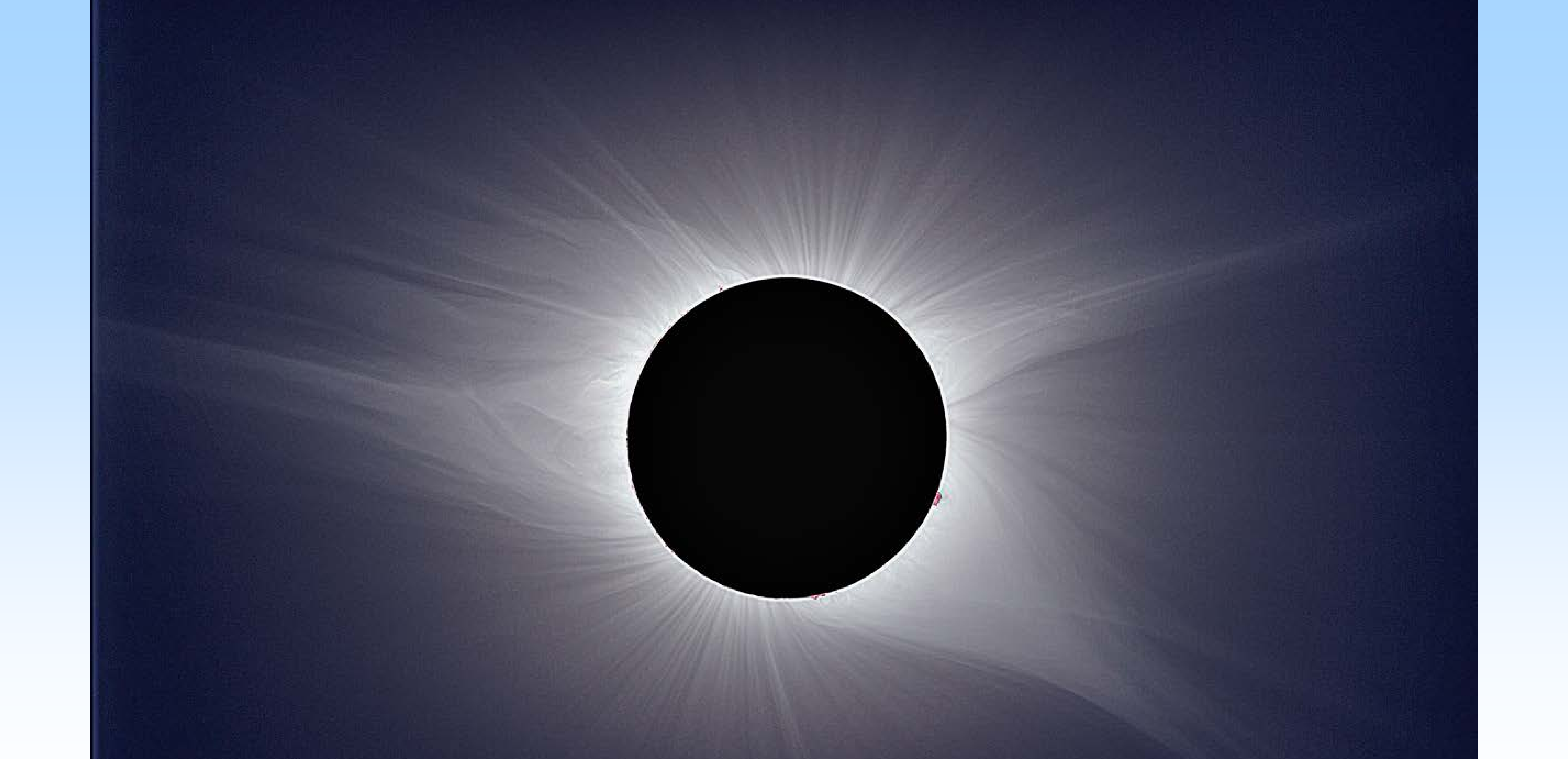




**Figure 15.** A comparison of our ground-based observations with data taken at Cerro Tololo (*right*), with pre-eclipse prediction produced by Predictive Sciences (*left*).

(From Pasachoff et al. 2020.)

2017 August 21, Lewisville, ID



Alphonse Sterling, 21 August 2017  
Lewisville, Idaho, USA  
Takahashi FSQ106ed, f/5  
Canon EOS700D, ISO 100; 1/1000, 1/500  
1/250, 1/125, 1/60, 1/30, 1/15, 1/8, 1/4s

# Southern Skies



PM11:01 JUL/ 2/2019



PM11:14 JUL/ 2/2019



