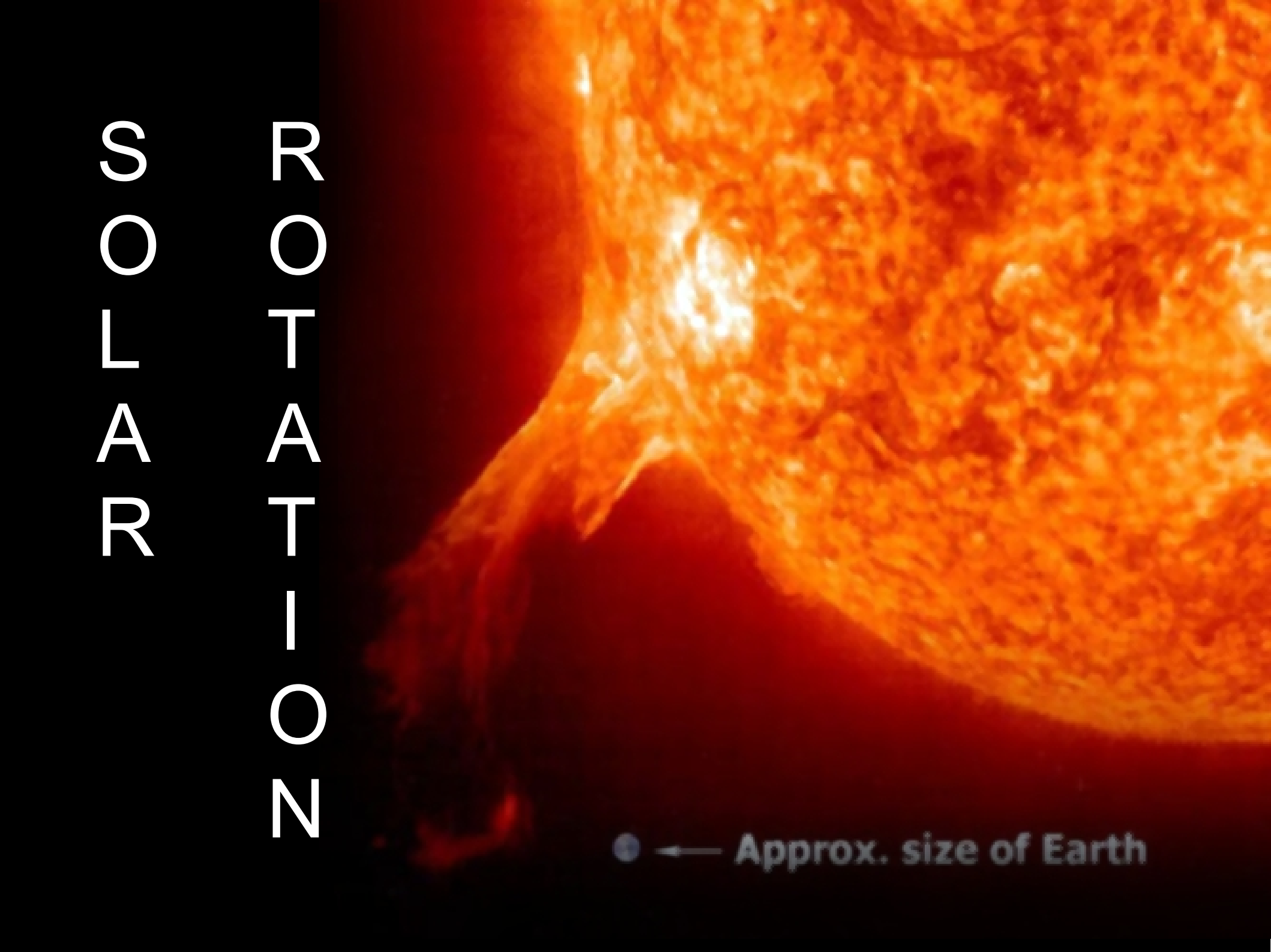
SOLAR ROTATION



Next Lab: #9 Lunar Imaging

Why are we doing this lab?

The Sun is close (astronomically speaking). As such, we use the Sun as a “standard” to compare other stars and other galaxies.

There are lots of things to compare with stars: size, temperature, composition, rotation rate. For this lab, you're going to measure the rotation rate of the Sun!

Basic Solar Facts

Size: ~110 x Earth

Type: G2 V (intermediate)

Temperature: ~ 5500 K

Distance: 150,000,000 km

Not So Basic Solar Facts

The Sun is a very dynamic place...

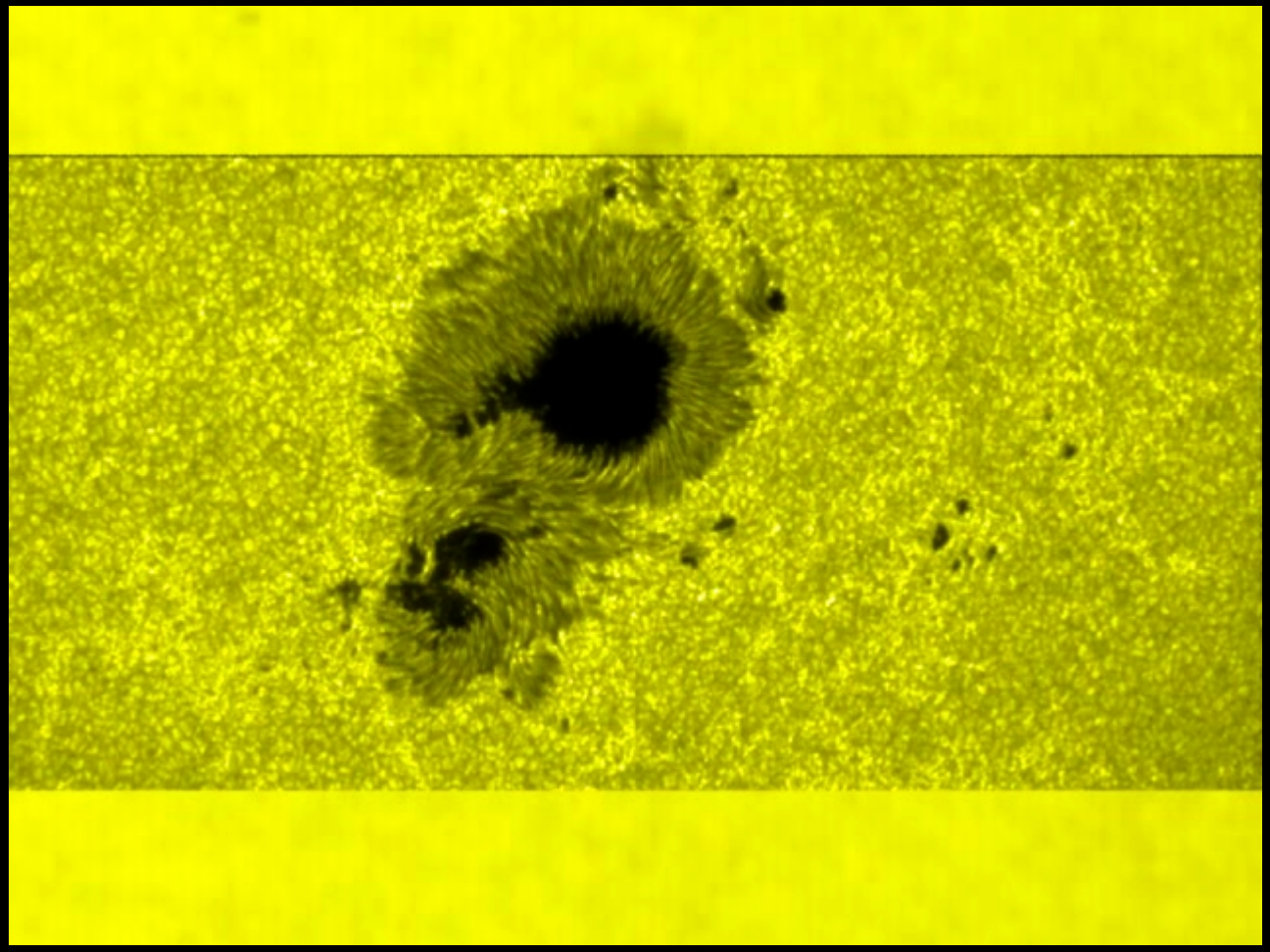
SDO video: http://www.youtube.com/watch?v=U_MKL_fjDLo

SDO website: http://sdo.gsfc.nasa.gov/

SOHO website: http://sohowww.nascom.nasa.gov/

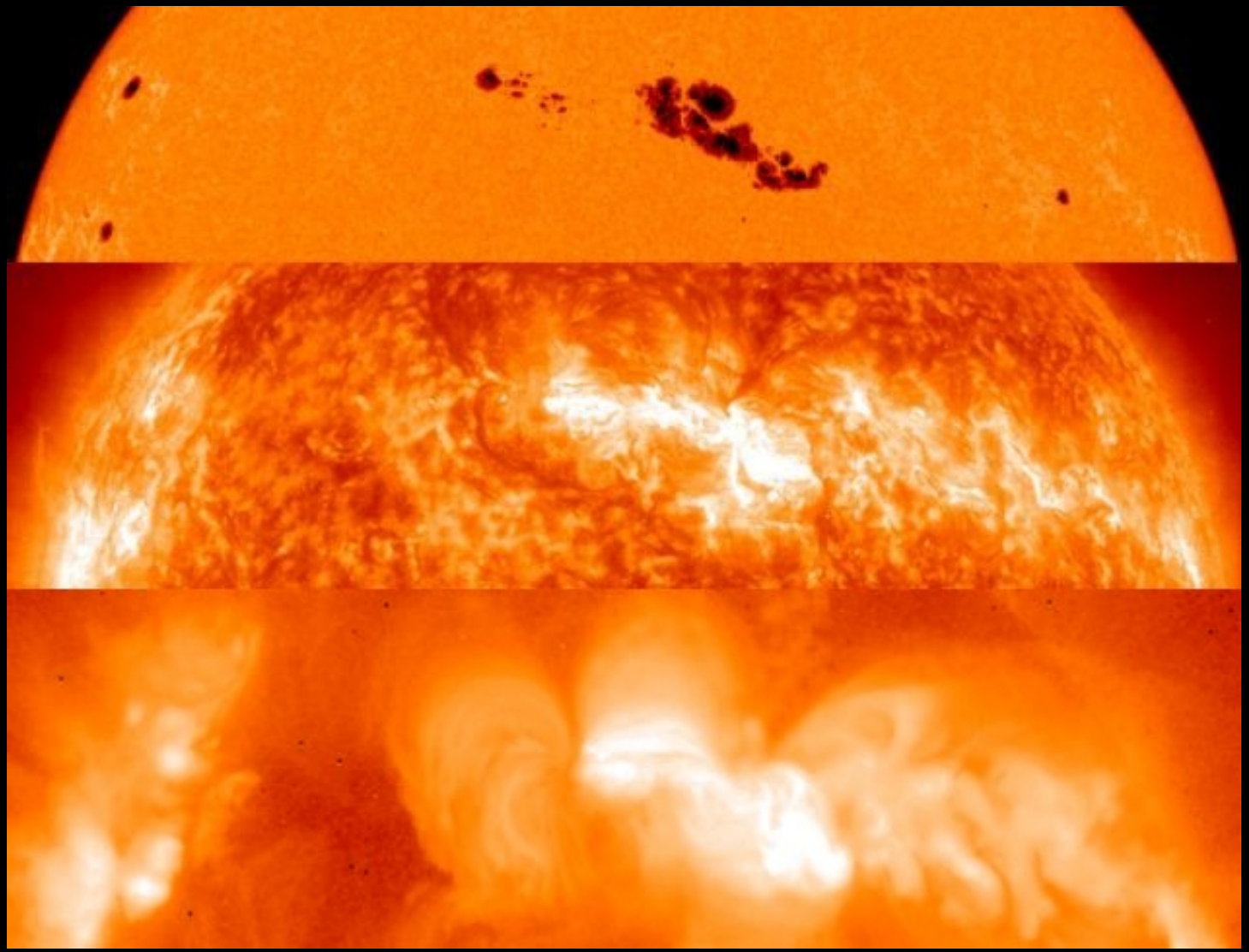
Solar Surface

Solar Surface



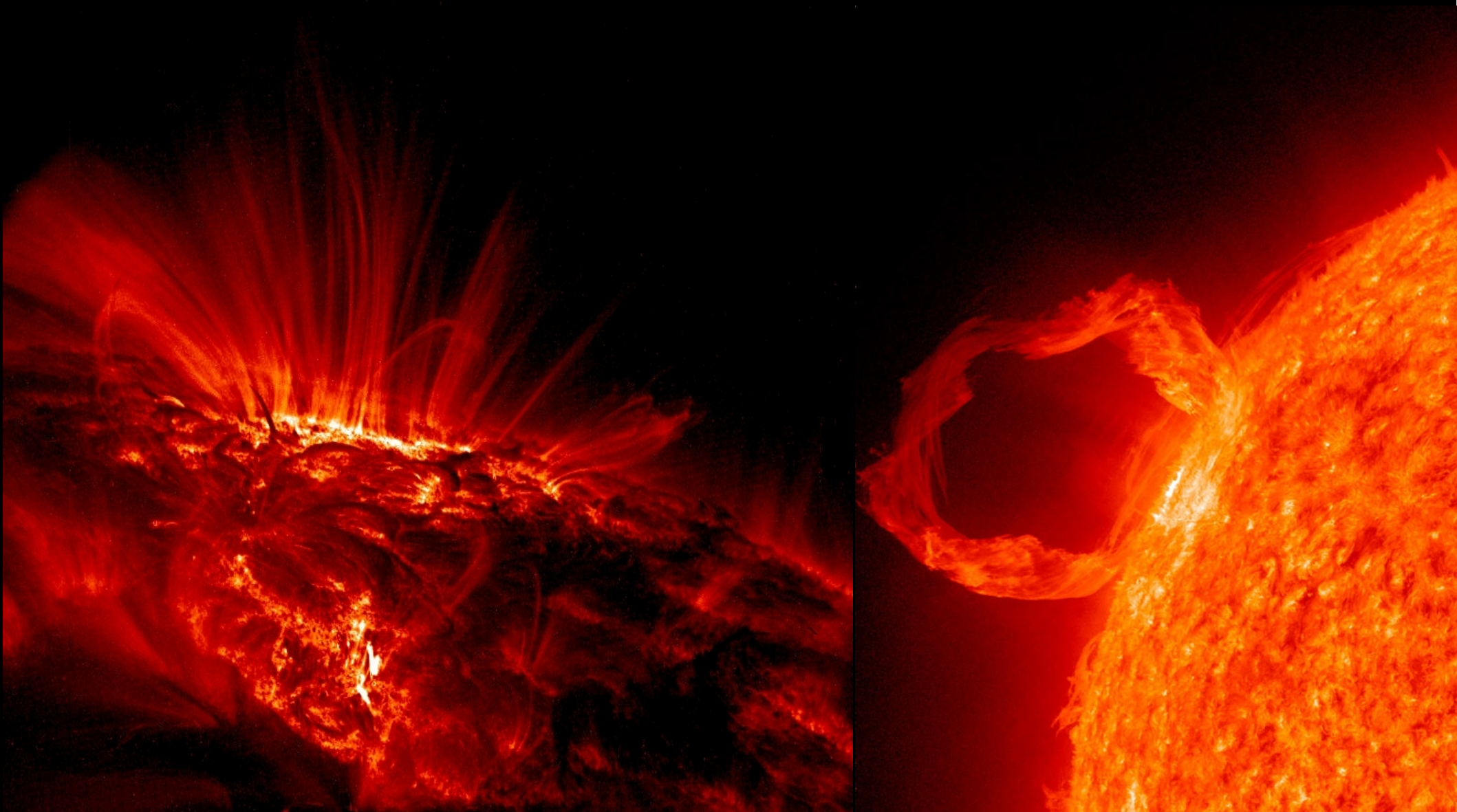
Sunspots

Cooler magnetic pockets on the sun (sites of activity)



Sunspots

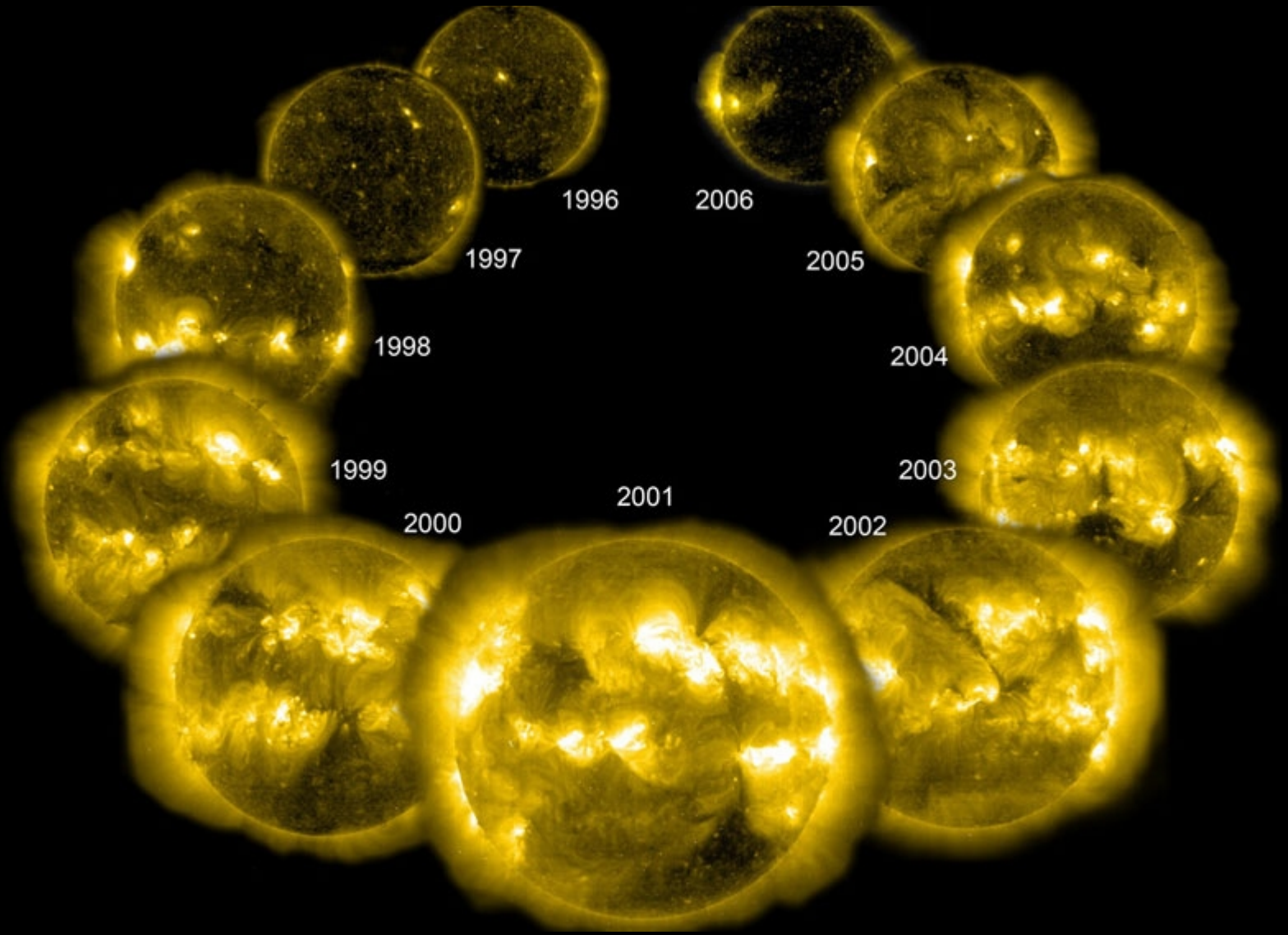
Cooler magnetic pockets on the sun (sites of activity)



Sunspots

Cooler magnetic pockets on the sun (sites of activity)

Solar Cycle



Sunspot Motion

Since the Sun rotates, sunspots on the surface will appear to move across the surface of the Sun.

For this Lab

- you will trace sunspot positions over 4-5 days
- you will make a “3D” model of the Sun to determine how far the sunspots moved
- you will calculate how fast the Sun must be spinning based on the sunspot motion

Sunspots

Note: this video will help with Question 3.