

Sunspots

Colder spots on the surface of the Sun



They are formed due to strong magnetic fields.

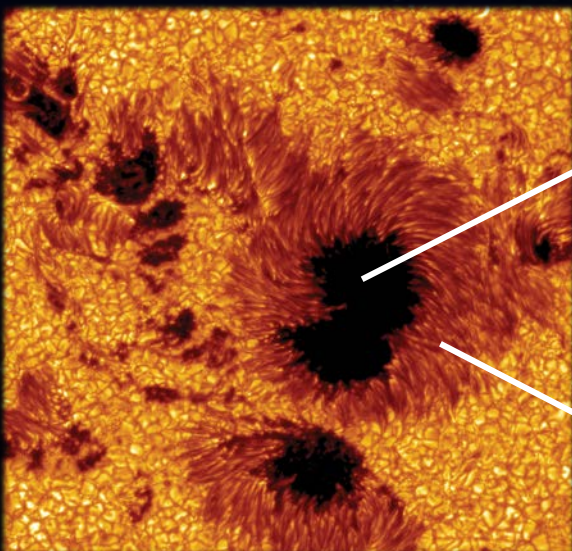


They can last for hours or days - some intense groups can even last for months.

The random movement of the Sun's gases causes ...

TANGLES,
STRETCHES
and **TWISTS**

... in the magnetic fields - which make them stronger in certain places.



Inner dark region is the Umbra
3,000-4,500 K
(2,700-4,200 °C)



Outer orange region is the Penumbra
5,780 K (5,500 °C)



Some sunspots are as big as the Earth, while others are more than ten times the size! Sunspots expand and contract as they move across the surface of the Sun.

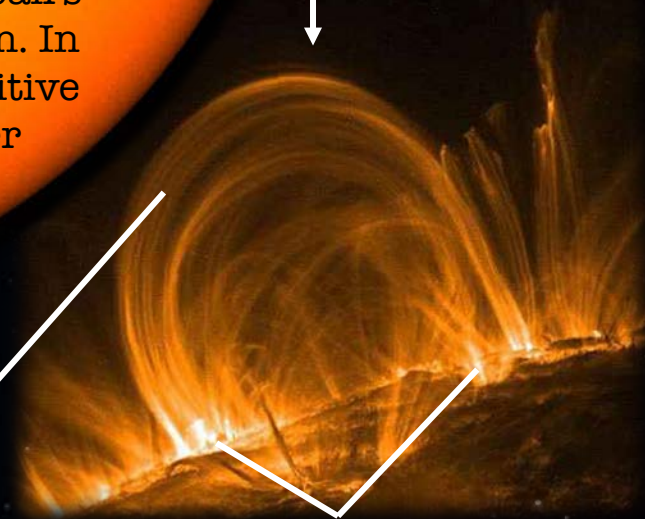


The strength of these magnetic fields prevents some of the heat within the Sun from reaching the surface by suppressing convection.

Magnetic field loops strike through the photosphere.

Interestingly, sunspots often appear in pairs that are aligned in an east-west direction. In a pair, one loop footpoint will have a positive (north) magnetic field while the other will have a negative (south) magnetic field.

Trapped plasma



Loop footpoints

The Sun has an 11-year cycle, where the solar activity varies.

