SPACE WEATHER
Current conditions
Solar wind
speed: 373.6 km/sec
density: 0.3 protons/cm³

X-ray Solar Flares
6-hr max: A0 1735 UT May04
24-hr: A0 1735 UT May04

Daily Sun: 03 May 09
The sun is blank—no sunspots.

Sunspot number: 0

NEW: Spotless Days
Current Stretch: 3 days
2009 total: 105 days (85%) Since 2004: 616 days
Typical Solar Min: 485 days

Far side of the Sun:
April 27, 2009

Planetary K-index
Now: Kp = 1 quiet
24-hr max: Kp = 2 quiet

WHAT'S UP IN SPACE
May 4, 2009

AURORA ALERT: Did you sleep through the Northern Lights? Next time get a wake-up call: Spaceweather PHONE.

SOUTHERN METEOR SHOWER: Earth is entering a stream of dusty debris from Halley's Comet, the source of the annual eta Aquarid meteor shower. Forecasters expect the shower to peak on Wednesday morning, May 6th, with as many as 85 meteors per hour over the southern hemisphere. Rates in the northern hemisphere will be less, 20 to 30 per hour. The best time to look is during the dark moonless hour before local sunrise. [details and sky maps]

SPACE STATION FLARE: Watching the International Space Station (ISS) is more exciting than it used to be. Why? Because now the station flares. Martin Gembec witnessed one of the luminous outbursts on May 2nd during a star party at Litice castle in the Czech Republic. "We were watching a bright flyby of the space station when the ISS surprised us with a big flare in the Milky Way." (continued below)

“At maximum, the ISS reached magnitude -8," he estimates. That's more than 25 times brighter than Venus or 400 times brighter than Sirius, the brightest star in the sky. "I photographed the flare using my Canon 30D and an all-sky mirror."

The ISS flares when sunlight glints off the station's enormous solar arrays. A telescopic view recorded by French amateur astronomer Nicolas Biver on April 28th shows the process in action. A new pair of arrays installed by shuttle astronauts in March has boosted the station's "glint power" and increased the likelihood of flares.

Check the Simple Satellite Tracker to find out when the ISS might be flaring over your home town.

Cool links:
archives
May 4
2009
view

Smarter Solar
The Efficient and Elegant Way To Eliminate Your Electric Bill!
www.SunPowerCorp.com

http://spaceweather.com/
**Current Auroral Oval:**

![Current Auroral Oval](image)

Switch to: Europe, USA, New Zealand, Antarctica

Credit: NOAA/POES

What is the auroral oval?

**Interplanetary Mag. Field**

- $B_{\text{total}}$: 2.7 nT
- $B_z$: 1.4 nT north

*[More data]*

Updated: Today at 1737 UT

**Coronal Holes:**

A solar wind stream flowing from the indicated coronal hole should reach Earth on May 6th or 7th.

Credit: Hinode X-ray Telescope

**LUNAR X-MOVIE:**

On Friday night, May 1st, a luminous X appeared on the Moon. "We saw it easily through our 5-inch telescope," report Enzo De Bernardini and Rodolfo Ferraiuolo of San Rafael, Argentina. Using a digital camera attached to the telescope's eyepiece, they made a movie of the X emerging from the shadows:

![Lunar X-Movie](image)

Click to view the movie

What is this "Lunar X"? Once a month when the sun rises over Crater Werner in the Moon's southern hemisphere, sunlight floods the region's high terrain and makes a luminous criss-cross shape. "Observing the X has little or no scientific value. It is a trick of the light. But the effect is striking, and it is exciting to rediscover each month," writes David Chapman in "A Fleeting Vision near Crater Werner" (Journal of the Royal Astronomical Society of Canada, Vol. 101, Issue 2, p.51).

The next apparition: May 31, 2009. Mark your calendar with an X

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**April 2009 Aurora Gallery**


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**Explore the Sunspot Cycle**

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**Near-Earth Asteroids**

Potentially Hazardous Asteroids (PHAs) are space rocks larger than approximately 100m that can come closer to Earth than 0.05 AU. None of the known PHAs is on a collision course with our planet, although astronomers are finding new ones all the time.

On May 4, 2009 there were 1054 potentially hazardous asteroids.

**May 2009 Earth-asteroid encounters:**

<table>
<thead>
<tr>
<th>Asteroid</th>
<th>Date(UT)</th>
<th>Miss Distance</th>
<th>Mag.</th>
<th>Size</th>
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<tbody>
<tr>
<td>2009 JA</td>
<td>May 4</td>
<td>7.5 LD</td>
<td>18</td>
<td>37 m</td>
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<tr>
<td>2006 FG3</td>
<td>May 6</td>
<td>60.7 LD</td>
<td>17</td>
<td>1.1 km</td>
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<td>2001 SG286</td>
<td>May 17</td>
<td>11.5 LD</td>
<td>16</td>
<td>280 m</td>
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</table>

*Notes: LD means "Lunar Distance." 1 LD = 384,401 km, the distance between Earth and the Moon. 1 LD also equals 0.00256 AU. MAG is the visual magnitude of the asteroid on the date of closest approach.*

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**Geomagnetic Storms:**

Probabilities for significant disturbances in Earth's magnetic field are given for three activity levels: active, minor storm, severe storm

Updated: Today at 1737 UT

**NOAA Forecasts**

Updated at: 2009 May 03 2201 UTC

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<th>FLARE</th>
<th>0-24 hr</th>
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**Mid-latitudes**

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http://spaceweather.com/
Essential Links

**NOAA Space Weather Prediction Center**
The official U.S. government space weather bureau

**Atmospheric Optics**
The first place to look for information about sundogs, pillars, rainbows and related phenomena.

**Solar and Heliospheric Observatory**
Realtime and archival images of the Sun from SOHO.

**STEREO**
3D views of the sun from NASA's Solar and Terrestrial Relations Observatory

**Daily Sunspot Summaries**
from the NOAA Space Environment Center

**Current Solar Images**
from the National Solar Data Analysis Center

**Science Central**

more links...

5/4/2009  SpaceWeather.com -- News and information...

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High latitudes

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