

## Summary Carrington Rotation CR2249-CR2250

Kim Hay Assistant Coordinator

Carrington Rotation CR2249 started on September 24th and ran till October 20, 2021. This was a very interesting Rotation period as there were several groups that gave off X Class flares. On September 28th, AR2871 gave a C class flare that spawned a G1 storm. This was followed by AR2882 producing an M1.6 class flare on October 9th.

The sun had 7 Northern groups AR2872, AR2873, AR2880, AR2881, AR2878, AR2882, and AR2883 and 6 Southern groups AR2871, AR2875, AR2876, AR2877, AR2884, and AR2886

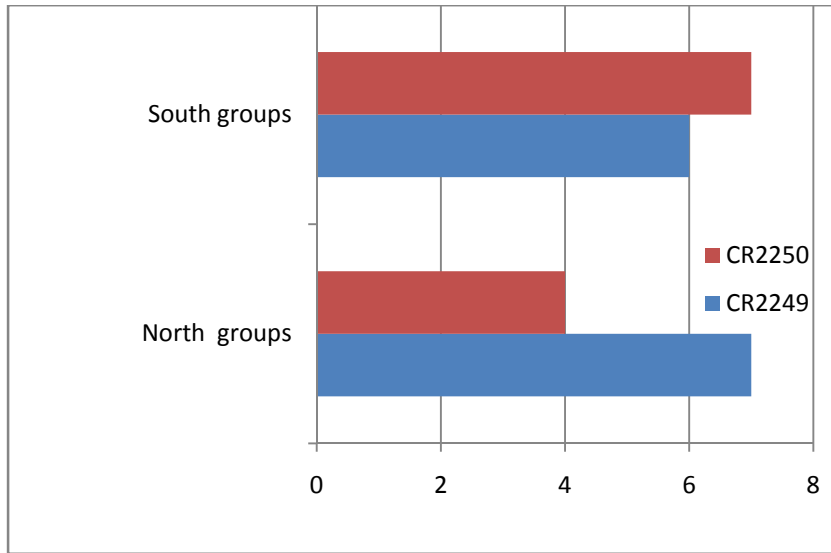
Many aurora were active and seen in Alaska and Northern high latitudes.

There are great images in the gallery of light bridges and prominences, displaying great detail on the Sun's magnetics and plasma movement. AR2871 and AR2880 were very dynamic groups. Solar Cycle 25 has exceeded the official forecast in sunspots as predicted by NOAA with the peak coming late in 2024 instead of mid 2025.

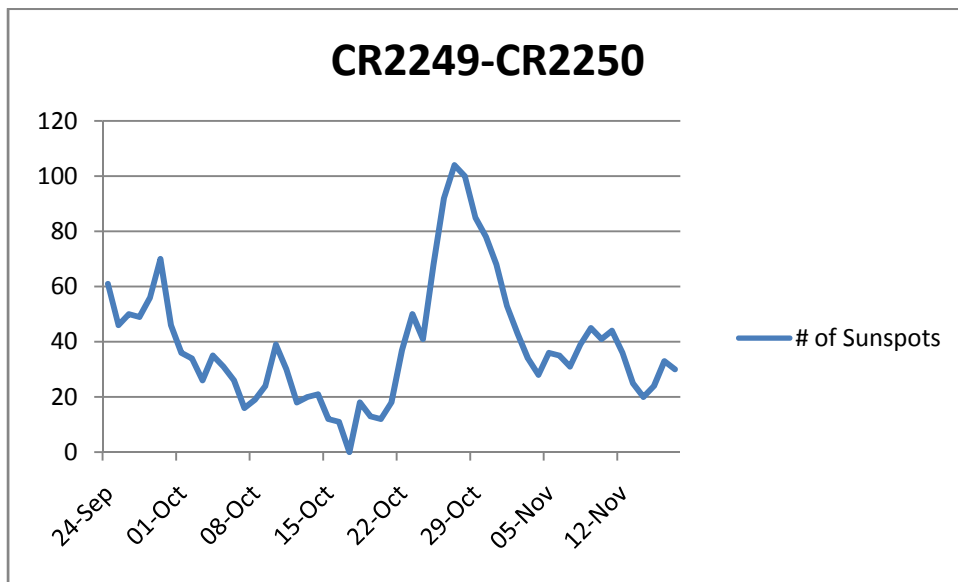
## CR2250

This rotation period ran from October 21 to November 17, 2021. The number of groups in this Rotation showed the North with only 4 (AR2891,AR2892,AR2893,AR2895) and the South with 7 Groups (AR2886, AR2887,AR2888,AR2889,AR2890,AR2894,AR2896). This particular Rotation had some very strange activity. On October 24th, AR2887 was noted to have odd magnetics, exhibiting a single magnetic polarity. Generally a group will have both negative and positive polarity.

On October 25th it was noted that there were C class eruptions on the back side of the Sun. A new group coming on the North East limb of the Sun was producing M1.4 flares. In the South, group AR2887 was producing an M1 flare with a plasma wave across the Sun. Aurora sparked on November 5th had observers hearing noise on the power lines emanating from a geomagnetic storm triggered by AR2894. The end of the Rotation period also had the K index at 4 with expected aurora.



A very interesting comparison of the number of Sunspot groups per Rotation. The Sun is getting active, yet still see/sawing back and forth on which hemisphere is most active.



The peak Sunspot number was 104 on October 27.

Observers for CR2249-CR2250

<b>CR2249</b>	<b>CR2250</b>
Monty Leventhal	Monty Leventhal
Guilherme Grassmann	Guilherme Grassmann
Howard Eskildsen	Howard Eskildsen
David Teske	David Teske
Theo Ramakers	Theo Ramakers
Geert Vandenbulcke	Geert Vandenbulcke
Efrain Morales	Efrain Morales
Anthony Broxton	Anthony Broxton
James Kevin Ty	James Kevin Ty
Pat Poitevin	Pat Poitevin
Rik Hill	Rik Hill
Michael Teoh	Vlamiir da Silva Junior
Luigi Morrone	Tom Mangelsdorf
	Michael Teoh
	Paul Andrew

Images and Sketching of White Light , Calcium, H-alpha , and prominences were created for the Rotations

CR2249 had 359 Images submitted to the A.L.P.O. Solar Gallery.

CR2250 had 421 images submitted to the A.L.P.O. Solar Gallery

If you are thinking of submitting your images, and we hope you do, there is a protocol to follow for naming convention.

Please make sure the filename of the image complies with the filename convention for our gallery:

**WinJUPOS-Convention**

“YYYY-MM-DD-HHMM[.T]-Observer[-Image info].” (brackets “[ ]” indicate optional fields)

YYYY {0..9} Year

MM {0..9} Month

DD {0..9} Day

HH {0..9} Hour (UT)

MM {0..9} Minute (UT).

.T {0..9} tenth of minute, the “.” translates to an “\_” in the gallery (Optional)

Observer {Text} Initials

Image info {Text} Additional info (Optional) (NO spaces or special characters other than “\_” or “-”)

The observer info should be in an abbreviated form (e.g. initials of first and last name).

As an example the following file name would be a valid filename: 2018-04-25-0916-JC-Ha-AR2706

(Year 2018, Month 04, Day 25, UT Time 0916, JC abbreviation for observer Jeffrey Carels, Hydrogen Alpha filter, Active Region AR2706)

If the file name does not conform to the standard, the ALPO volunteer will adjust the name and upload the image into the data base ***as time permits***. Sending your image in the requested format ensures a timely publication of your observation into the Solar Section gallery.

Observers who submit drawings should scan their images at a resolution of approx. 96 dpi and save the file as a 8 1/2' x 11" or A4 sized picture.

Finally a word to the type and size of the submitted images. The image file types suitable for the gallery are either *jpg* or *png*. Currently, animated *gif* files are generally not published due to their large file size. The file size should not exceed 300kB. Details are well preserved in images with much smaller file sizes through the use of compression (quality) settings when creating your copy to submit to the gallery.

**Mail your solar images to [solar@alpo-astronomy.org](mailto:solar@alpo-astronomy.org)**

References

<https://www.spaceweatherlive.com> Real-time auroral and solar activity

<https://spaceweather.com>

SILSO Monthly Table of the Total and Hemispheric Sunspot Numbers  
[http://www.sidc.be/products/ri\\_hemispheric](http://www.sidc.be/products/ri_hemispheric)

A.L.P.O Solar Gallery and Home page [alpo-astronomy.org](http://alpo-astronomy.org)