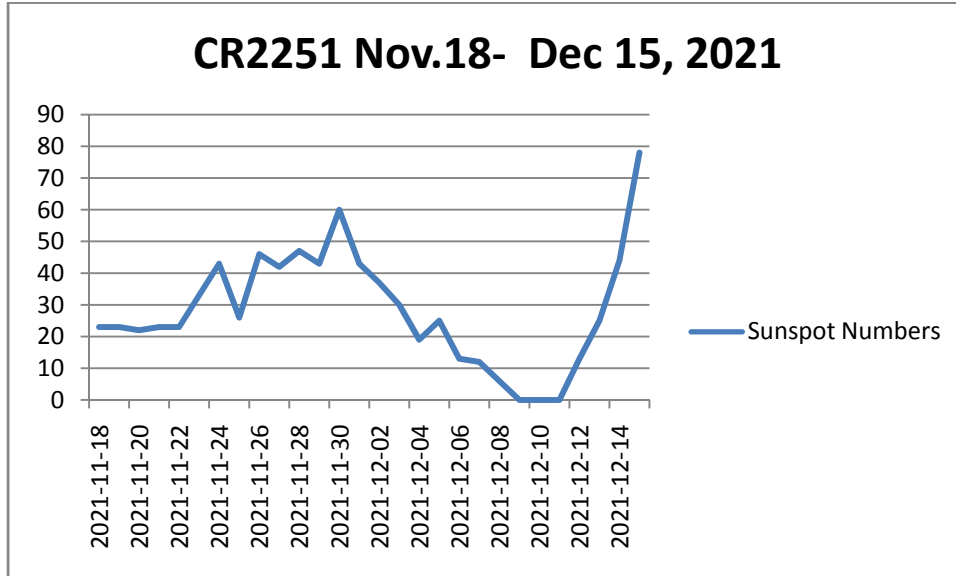


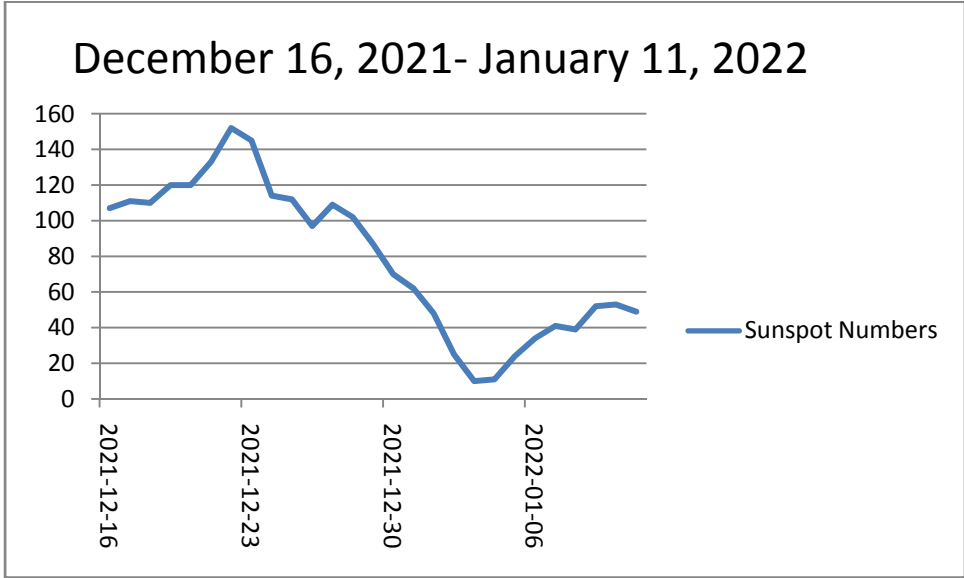
Carrington Rotation Report CR2251-CR2253

by Kim Hay, Associate Solar Section Coordinator

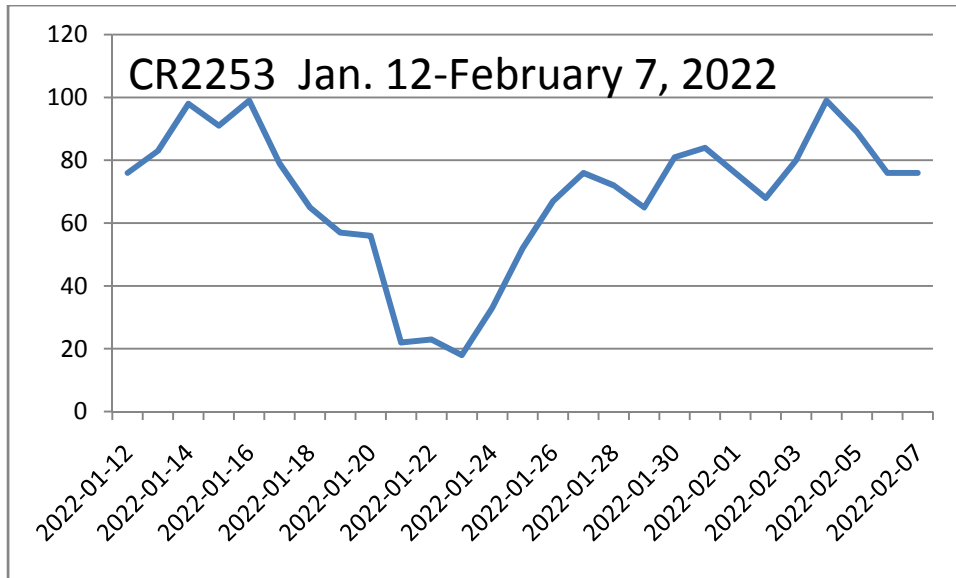
This period of Rotations covers CR2251 Nov 18 - Dec 15, 2021, CR2252 Dec 16, 2021 to January 11, 2022, and CR2253 January 12 - February 7, 2022.



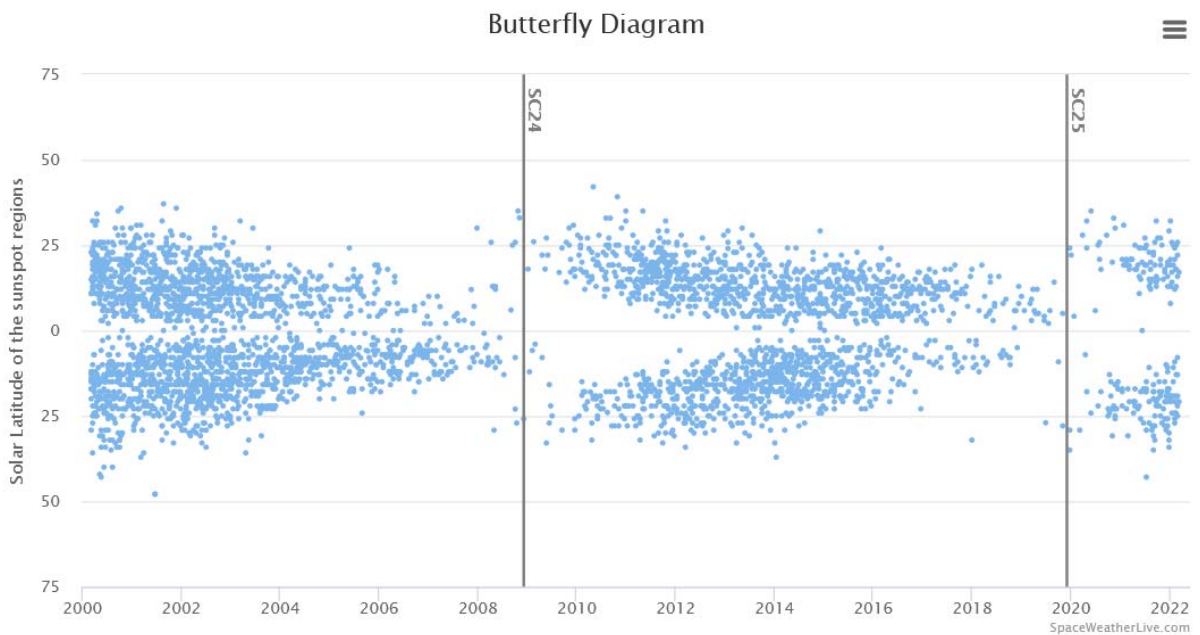
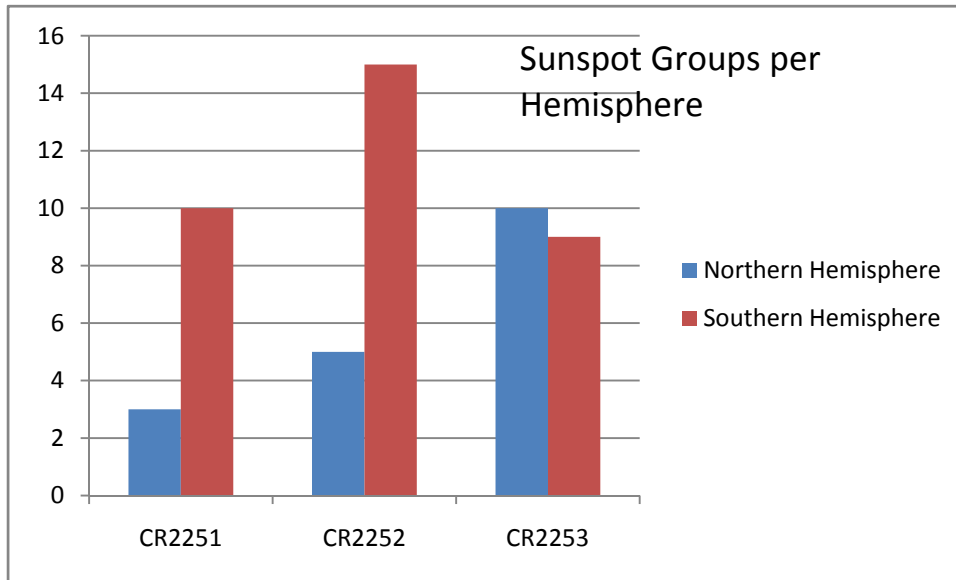
Hemisphere	Sunspot Groups	Total Number of Groups
North	AR2897 AR2901 AR2902	3
South	AR2894 AR2896 AR2898 AR2899 AR2900 AR2903 AR2904 AR2905 AR2906 AR2907	10



Hemisphere	Sunspot Groups	Total Number of Groups
North	AR2910 AR2911 AR2915 AR2918 AR2921	5
South	AR2905 AR2906 AR2907 AR2908 AR2909 AR2912 AR2913 AR2916 AR2917 AR2919 AR2920 AR2922 AR2924 AR2925 AR2927	15



Hemisphere	Sunspot Groups	Total Number of Groups
North	AR2926 AR2929 AR2930 AR2931 AR2932 AR2935 AR2936 AR2938 AR2940 AR2941	10
South	AR2924 AR2925 AR2927 AR2928 AR2933 AR2934 AR2937 AR2939 AR2942	9



This is the Butterfly diagram showing Solar Cycle 23, 24, and now 25. Looking at the start of Cycle 25, it appears close to Cycle 24. However, there seems to be some chaos and the sunspot numbers reported by SILSO shows that Cycle 25 is more active than first predicted by NOAA. While still early in Cycle 25, we are now predicted to hit the peak in July 2024. This is my interpretation of the data.

<https://www.spaceweatherlive.com/en/solar-activity/solar-cycle.html>

Below is a chart by Observers per Rotation Period and types of Observations . Images are posted to the Solar A.L.P.O Image Gallery at <http://www.alpo-astronomy.org/gallery3/index.php/Solar-Observations-Archive>

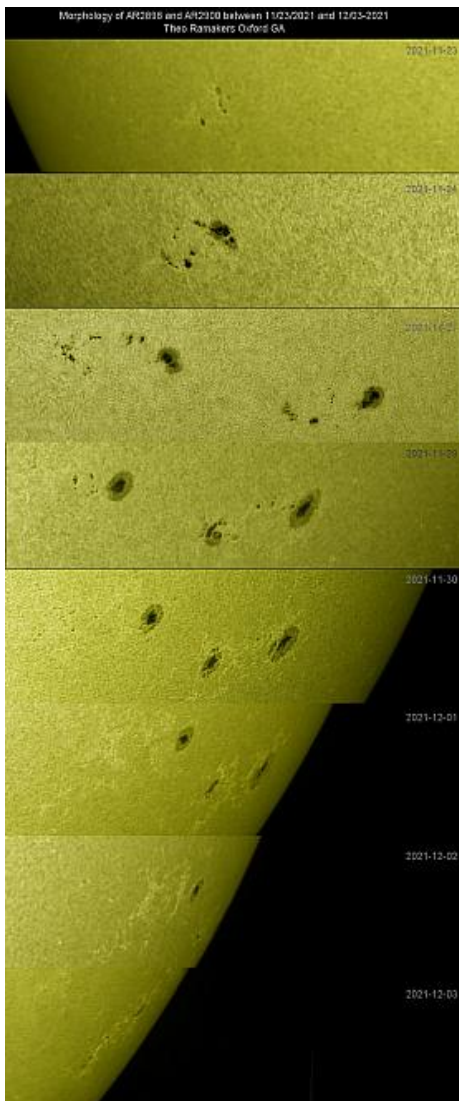
Name	WL	HaWL	Ha	CaK	CaKWL	Observers in CR number
Tony Broxton	X					CR2251 CR2252 CR2253
David Teske	X	X	X			CR2251 CR2252 CR2253
Efrain Morales			X			CR2253
Frank Mellilo	X	X	X			CR2252 CR2253
Gerd Vanderbulcke	X					CR2252 CR2253
Guilherme Grassmann				X		CR2251 CR2252 CR2253
Howard Eskildsen	X		X	X		CR2251 CR2252 CR2253
James Kevin Ty	X		X	X		CR2251 CR2252 CR2253
Kim Hay	X		X			CR2252 CR2253
Michael Teoh	X		X			CR2252 CR2253
Monty Leventhal		X	X			CR2251 CR2252 CR2253
Patrick Poitevin			X			CR2251 CR2252 CR2253
Rik Hill					X	CR2251 CR2252 CR2253
Theo Ramakers	X		X	X		CR2251 CR2252 CR2253
Vlamiir da Silva Junior			X			CR2252 CR2253
Jeffrey Carels						CR2252

Total Number of Images per Rotation Period

338- CR2251	459- CR2252	587- CR2253
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Based on the number of observations that are being submitted our Sun is becoming more active. There have been many B and C flares with CME's that have been in the Earth's path. These have produced very active auroras in the Northern Hemisphere and even caused radio blackouts over the UK.

Below are some images from the more active Regions in the reported Carrington Rotations.



Above image by Guilherme Grassmann of AR2898 & AR2900 CR2251

Morphology of AR2898 and AR2900 by Theo Ramakers (11-23-21 to 12-03-21) CR2251

Congratulations go out to Theo Ramakers who posted his 2000th blog post on his Charlie Elliot Astronomy Site on November 07, 2021.

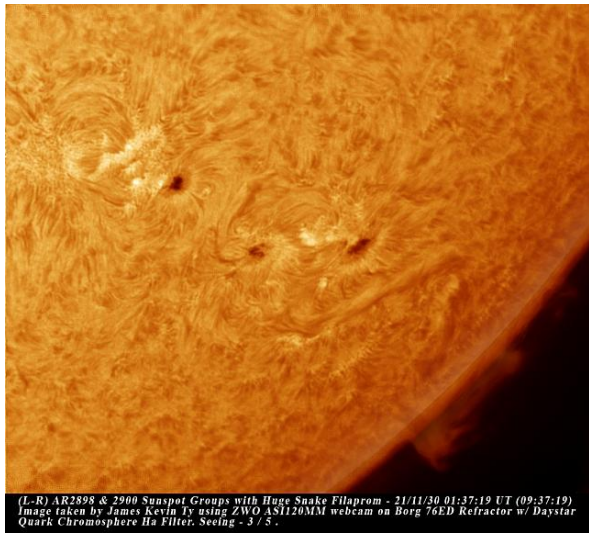


Image by Kevin James Ty in H-alpha on
 AR2898 & AR2900 both in CR2251

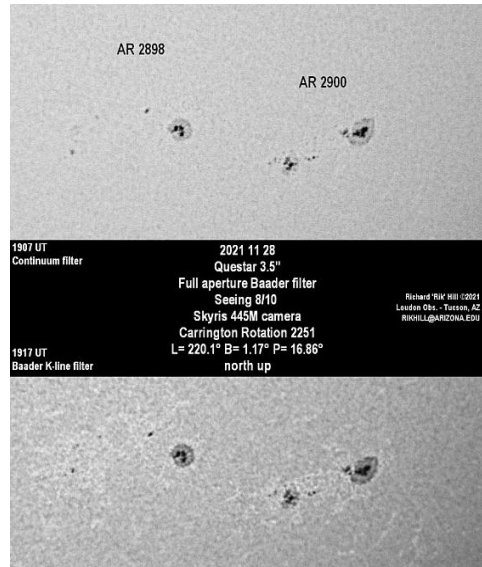
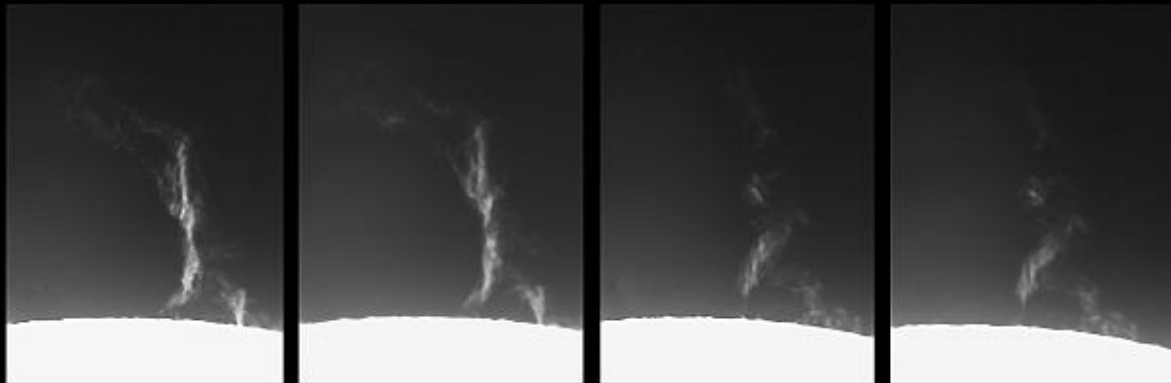


Image by Rik Hill in Continuum and Baader k-line filter

SW Eruptive Prominence Sequence *December 31, 2021*



06:39:35 UT

06:46:21 UT

07:16:35 UT

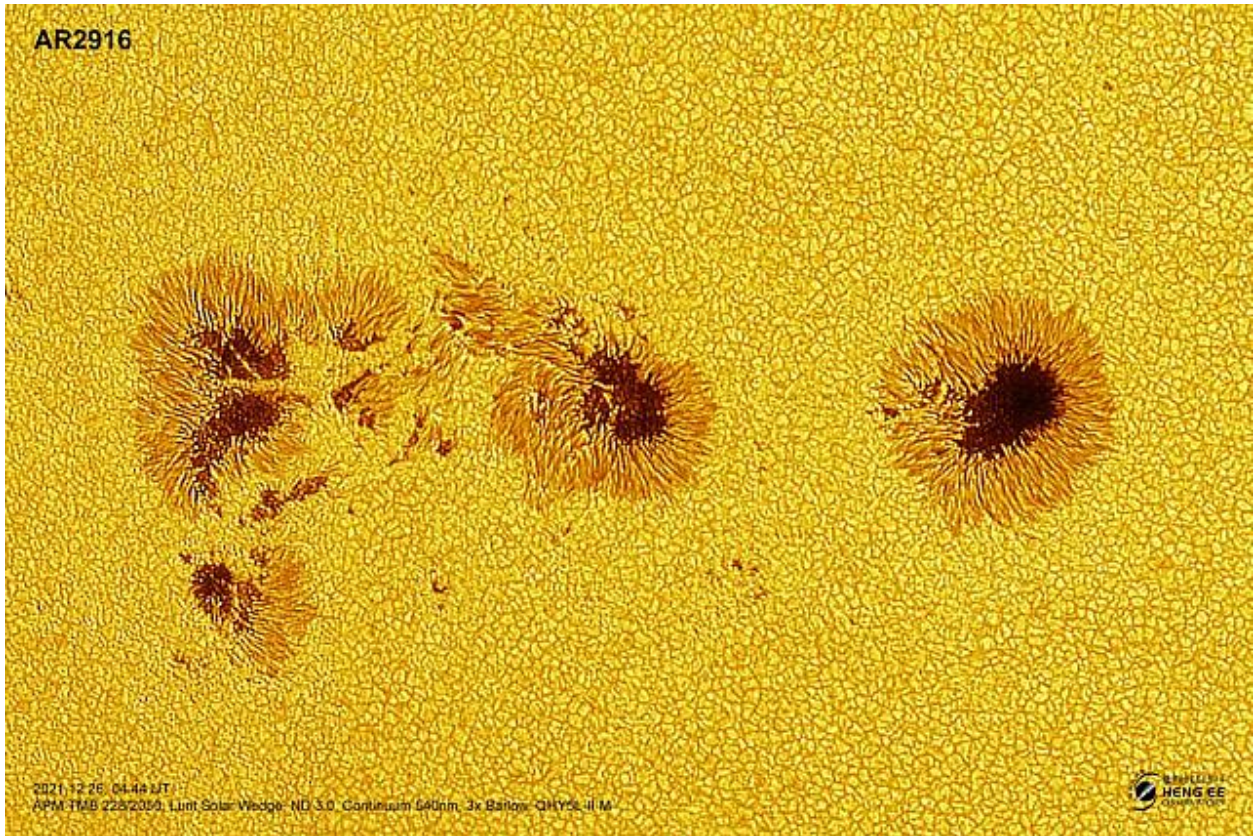
07:19:27 UT

Images taken by James Kevin Ty from Manila , Philippines using ZWO ASI120MM webcam on Borg 76ED Refractor with Daystar Quark Chromosphere Ha Filter. Seeing - 3 / 5 .

Image by Kevin James Ty on an active Prominence Sequence CR2252

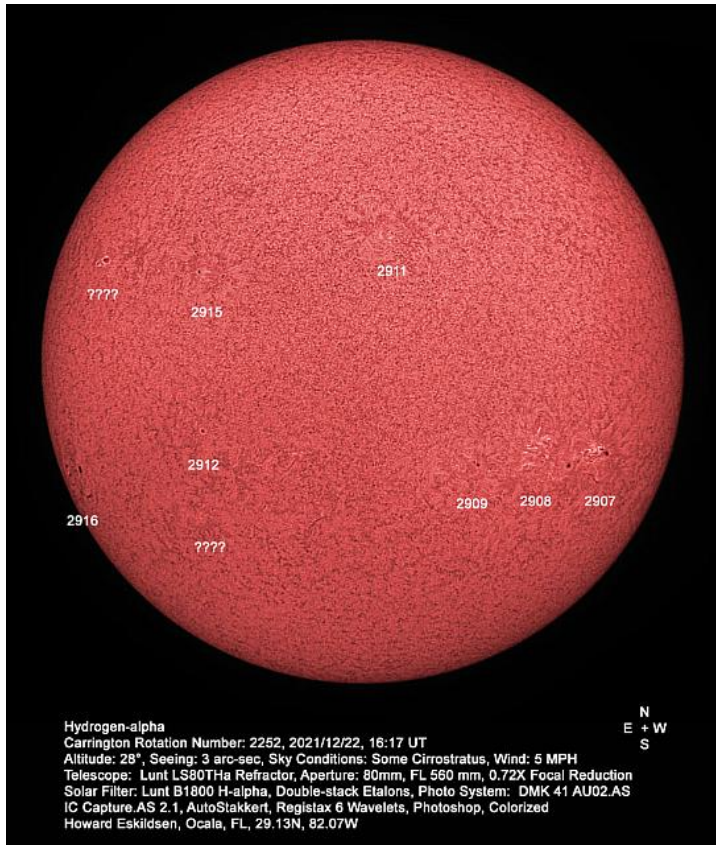
Image by Michael Teoh on Active Region and group AR2916. This is a nice image of the breakup of AR2916 with Light Bridges. CR2252

AR2916



2021-12-26 04:44 UT
APM FMB 2282054, Lint Solar Wedge, ND 3.0, Continuum 640nm, 3x Barlow, QHY56-III M





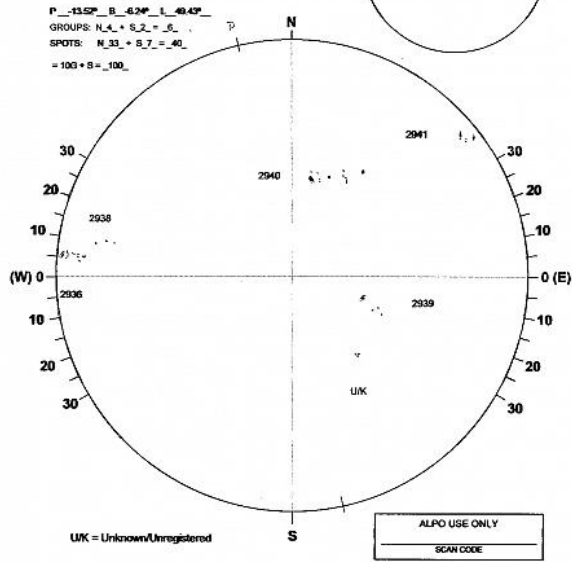
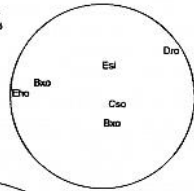
A very active Sun showing 6 groups in the South and 3 in the North. Image by Howard Eskildsen. CR2252



Image by Frank. J. Mellilo in White Light of AR2939 & AR2941 CR2253

A.L.P.O. Solar Section

OBSERVER Mr. TONY BROXTON
 ADDRESS Beechler, Coats Green, Carnwall, PL15 7LY, England
 DATE/TIME 2022-02-04 10:00 UT
 SEEING 3-4 Secs CLOUDS 60% WIND W 10mph
 APERTURE 127 mm FOCAL LENGTH 1600 mm TYPE Ed-Cas
 EYEPIECE 15 mm FILTRATION BAADER ASTROFILM
 OBSERVATION: DISSECT
 ROTATION CR2253



Sketch by Anthony Broxton showing the groups and their corresponding Zurich Sunspot Classifications. CR2253

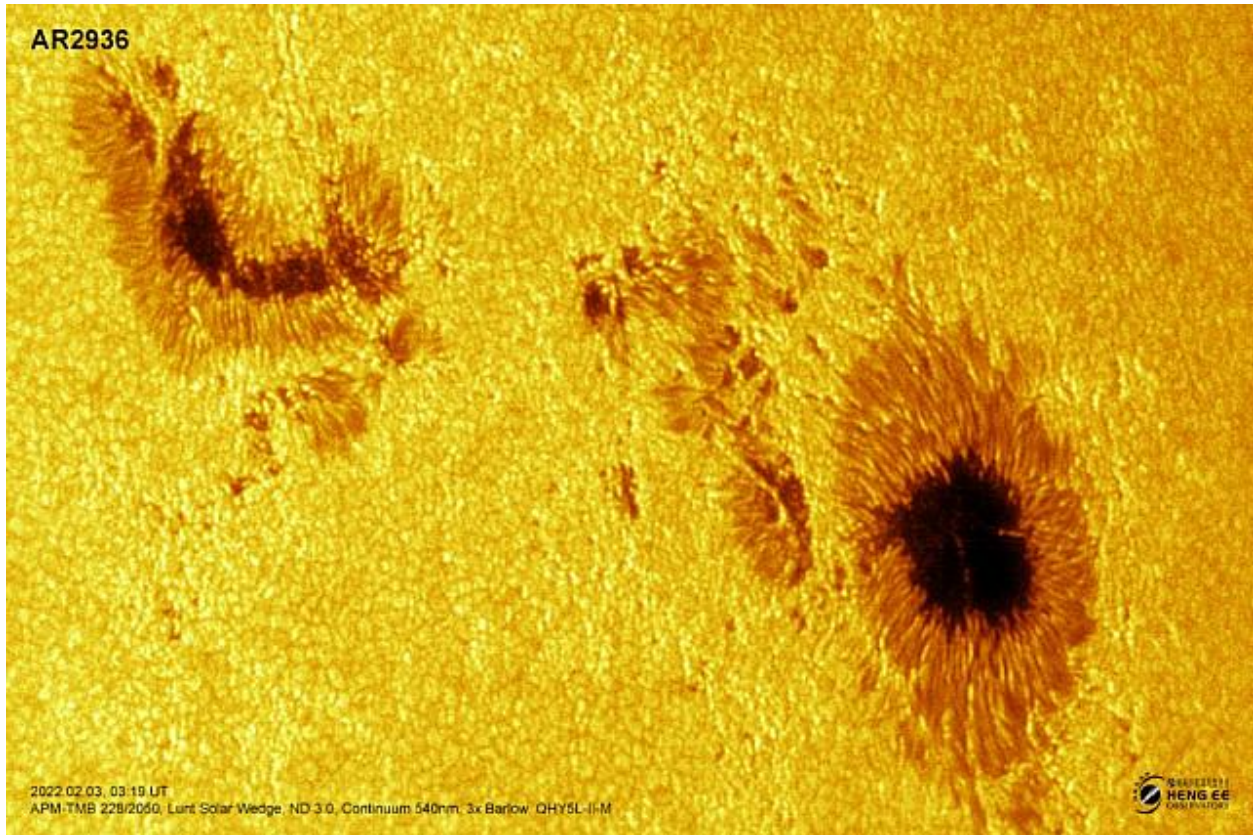


Image by Michael Teoh of AR2936 in CR2253

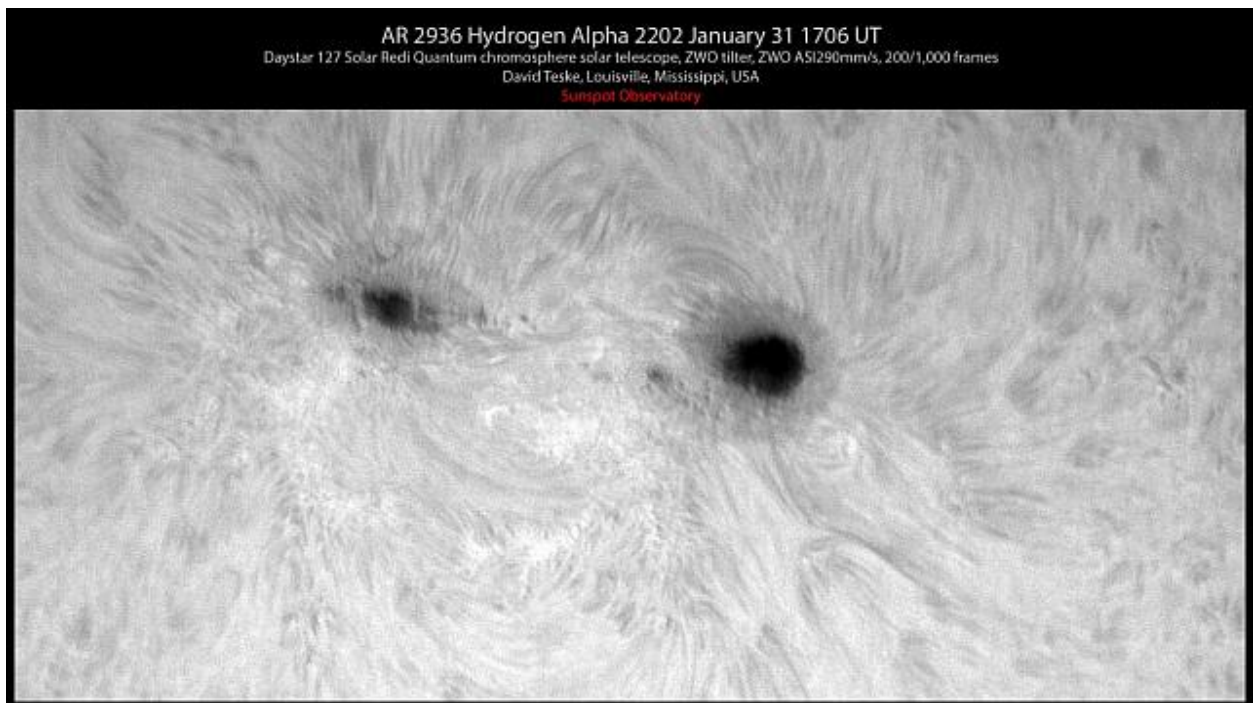


Image by David Teske in H-alpha AR2936 CR2253