

Newsletter Belgian Solar Observers

Results and news for solar observers

Volume 13

Number 150

August 2008

Franky Dubois Poelkapellestraat 39 langemark 8920

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Content Newsletter

Graphics and relative number for this month

Daily Wolfnumbers by the members

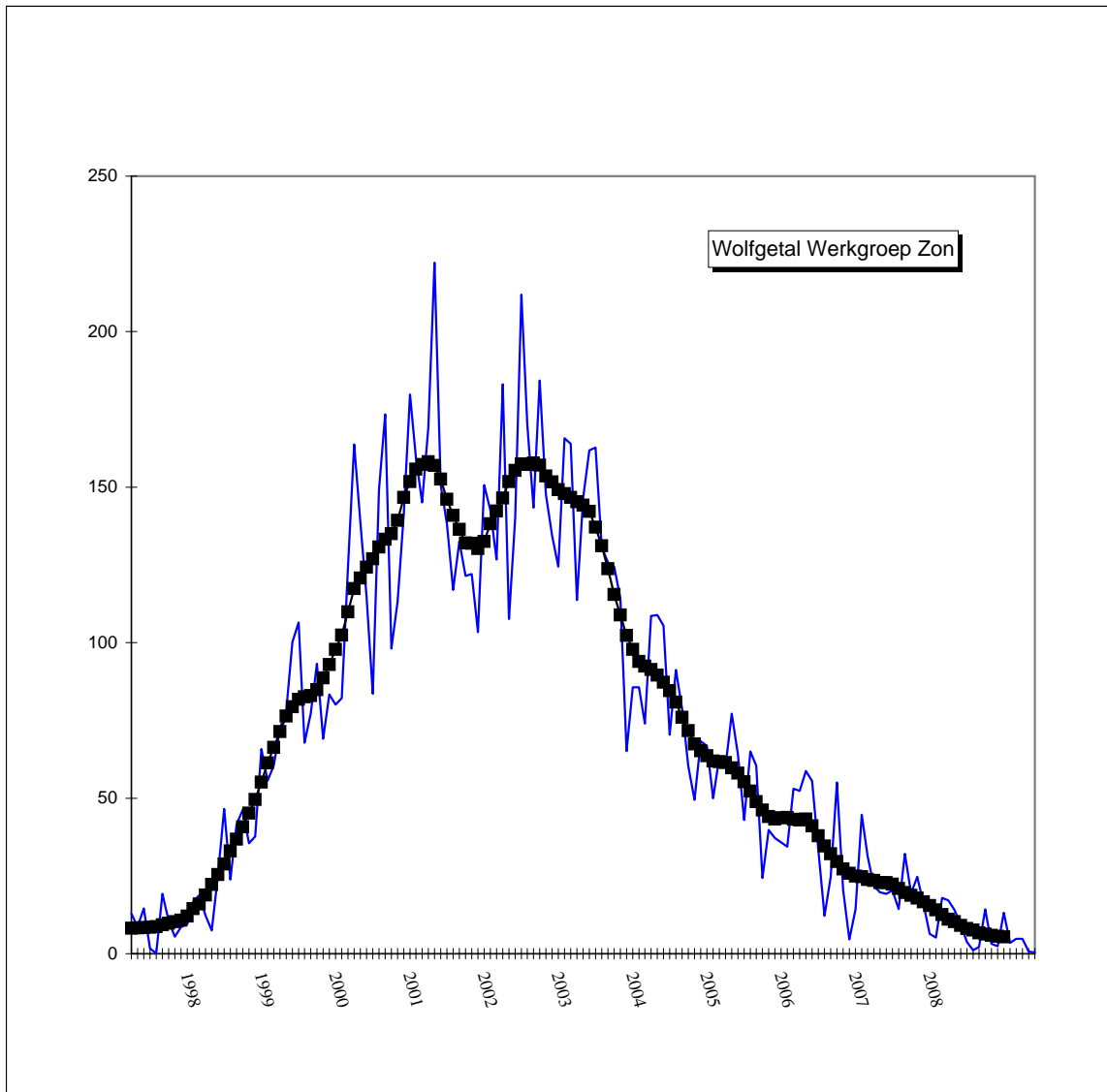
Monthly sunspot report

Polar faculae and CV numbers

Prominence numbers by the members

Monthly prominence report

Photo album and drawings



Mean of August observations

Groups :	N	0,06	Wolfnumb N	0,4	Beck :	0,2
	S	0,00	S	0	CV	0,1
	N+S	0,06	N+S	0,4		
447 observations	28 observers					

Sunspotnumbers VVS Belgium

Month: August 2008

Day	GROUPS			WOLFNUMBER			RE'	CV	OBS
	N	S	N+S	N	S	N+S			
1	0	0	0	0	0	0	0	0	19
2	0	0	0	0	0	0	0	0	14
3	0	0	0	0	0	0	0	0	10
4	0	0	0	0	0	0	0	0	21
5	0	0	0	0	0	0	0	0	16
6	0	0	0	0	0	0	0	0	18
7	0	0	0	0	0	0	0	0	10
8	0	0	0	0	0	0	0	0	14
9	0	0	0	0	0	0	0	0	20
10	0	0	0	0	0	0	0	0	13
11	0	0	0	0	0	0	0	0	14
12	0	0	0	0	0	0	0	0	17
13	0	0	0	0	0	0	0	0	14
14	0	0	0	0	0	0	0	0	22
15	0	0	0	0	0	0	0	0	21
16	0	0	0	0	0	0	0	0	18
17	0	0	0	0	0	0	0	0	15
18	0	0	0	0	0	0	0	0	16
19	0	0	0	0	0	0	0	0	15
20	0	0	0	0	0	0	0	0	16
21	1	0	1	6,1	0	6,1	3	1	19
22	1	0	1	6,9	0	6,9	2	1	11
23	0	0	0	0	0	0	0	0	17
24	0	0	0	0	0	0	0	0	12
25	0	0	0	0	0	0	0	0	18
26	0	0	0	0	0	0	0	0	3
27	0	0	0	0	0	0	0	0	1
28	0	0	0	0	0	0	0	0	2
29	0	0	0	0	0	0	0	0	5
30	0	0	0	0	0	0	0	0	18
31	0	0	0	0	0	0	0	0	18
	0,06	0,00	0,06	0,4	0,0	0,4	0,2	0,1	447

Monthly mean: **0,4** Covering: **31/31** Spotless days: **27**
 Observations: **447** Number of observers: **31**

V.V.S. BELGIUM SOLAR SECTION FRANKY DUBOIS

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 Belgium
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Observers:

Devriese ; De Ceuninck ; Janssens ; Publ obs Mira ; Bourgeois ; Macharis
 De Backer; Dubois ; Gysel ; Kleber ; Deman ; Taillieu ; Carels ; Dewaele
 Meeus ; Steen ; KSB ; Gabriel ; Claeyns ; Devriese ; Thooris ; Vanleenhove
 Claes ; Verboven ; Van Loo ; Son ; Coeckelberghs ; Gadyne ; Dekelver ; Feys
 S.Dufoer ; G.Gubbels ; jeugdwerking Astrolab ; J Bavais ; A. De Kerchove

Prominence number Rp

Belgian solar observers

Month: August 2008

Day	Q	Wedel		H	e	Rp	el. Obs	Stdev	OBS
1	2,7	2,4		3,6	5,2	41,2		10,8	5
2	3,1	2		2,6	6	32		10,2	5
3	3	2		4	6,5	46,5	1	0,7	3
4	3,5	1,8		3,8	6,9	44,9	1	7,8	9
5	3,2	1,9		3,9	5,7	44,7		8,1	7
6	3,7	1,7		4,2	6,3	48,3	2	4,5	8
7	3,5	2		2,7	3,3	30,3	1	13	4
8	3,3	1,8		2,5	3,5	28,5	1	7,8	3
9	3,9	2		3,1	4,7	35,7		9	7
10	3	2,3		2,5	3,5	28,5	2	7,8	5
11	3	2,5		4	7,5	47,5		14,8	2
12	3,5	1,5		4,2	8,2	50,2		4,4	6
13	3,1	2		6,2	10	72	1	9,3	6
14	3	2,2		3,3	6,9	39,9	2	10,3	9
15	3,6	1,9		4,3	6,3	49,3	3	14,7	10
16	3,6	2,5		2,6	5,4	31,4		10,7	8
17	3,3	1,8		3,3	5,7	38,7		6,1	6
18	3,3	1,9		3,2	5,2	37,2		5,5	6
19	3	2,1		2,8	3,3	31,3	2	5,2	6
20	2,8	2,3		2	2,8	22,8	1	11,8	6
21	3,8	1,5		6,3	11,8	74,8	2	15,2	6
22	3,3	2,2		4	5,3	45,3	1	12,1	4
23	3,1	2		3,4	4,3	38,3	2	13,4	9
24	3	2		1	2	12	1	0	3
25	3,2	2,1		3,2	3,8	35,8	1	11,3	7
26	3	2		5	10	60			1
27	3	2		4	6	46			1
28	3	2		3	6	36			1
29	3	2		4	7	47	1		2
30	3,3	1,9		3,9	6,1	45,1	1	8,7	9
31	3,3	1,9		4,8	7	55	2	9,7	7
	3,23	2,01		3,6	5,9	41,8	28	9,0	171

Monthly mean: **41,8** Covering: **31/31**
Observations: **171** Number of observers: **12**

V.V.S. BELGIUM SOLAR SECTION FRANKY DUBOIS

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e-mail : astrosun@skynet.be

Observers:

**Steen ; Dubois ; Meeus ; De Ceuninck ; Coeckelberghs ; Janssens
Hamsch ; Claes ; Gabriel ; Blondeel ; Deman ; G.Gubbels ; T.Spaninks**

Q : Seeing scale SIDC

W : transparency scale of Wedel , see <http://members.chello.be/j.janssens/>

H : number of prominence groups at the limb

e : total of individual prominences at the limb

Rp : $H \cdot 10^e$

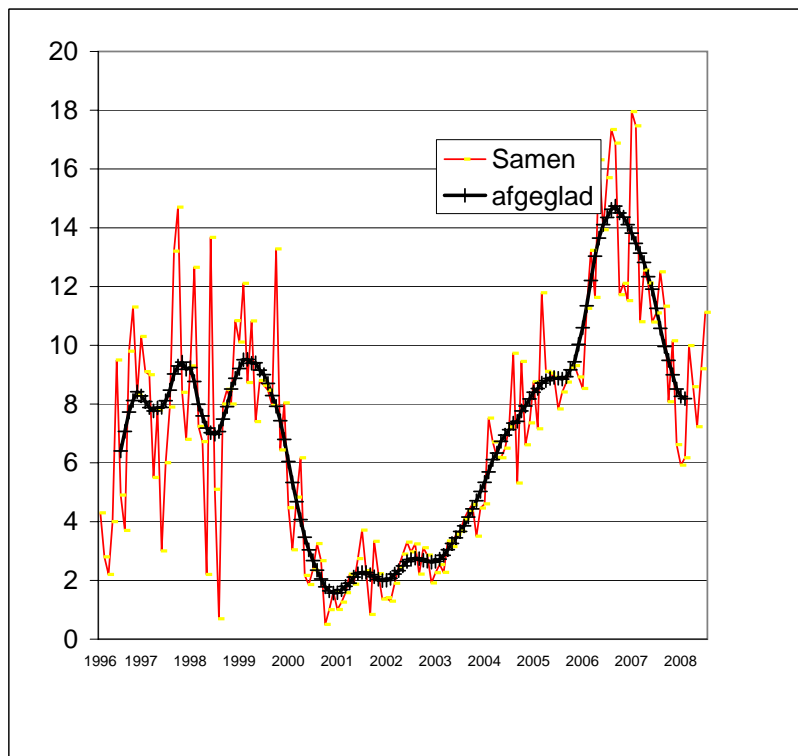
More info at : <http://members.chello.be/j.janssens/>

Belgian Solar Observers

Polar Faculae

Month: August 2008

Date	Dubois			Steen			Deman			Gabriel			Carels			Janssen			T.Spaninks			G.Gubbels					
	125mm F20			102mm F15			150mmF15			250 mm F20			150mm F8			200mmF10			127mm F15								
	North	South	Q	North	South	Q	North	South	Q	North	South	Q	North	South	Q	North	South	Q	North	South	Q	North	South	Q	North	South	Q
1				5	3	3,0				23	6	3							2	1	4						
2				5	3	3,5				19	5	3				5	3	3,0				5	3	3			
3										23	7	3							1	0	4						
4	4	5	4	4	4	3,5	21	5	3	24	7	3			6	3	3,5	2	0	4	9	3	4				
5				4	2	3,0	19	7	3	24	6	4			6	2	3,5	0	0	4							
6	10	3	3	10	5	4,0	16	5	5	21	8	4			4	2	4,0	2	2	4	8	2	3				
7				8	4	3,5																					
8				9	4	3,5																	2	3	4,5		
9	11	3	4	6	4	3,5				20	7	4			7	4	3,0				3	6	3,5				
10				6	3	3,0															7	1	3,5				
11																		2	0	4	7	0	3				
12	10	3	3	4	2	3,0															10	3	4				
13				9	5	3,0												0	0	4	8	3	3,5				
14	7	6	3	5	3	5,0				19	10	4			12	3	4,0	0	0	4	11	4	3,5				
15	7	3	4	8	3	3,0	18	7	3	23	9	5					2,5	1	1	4	9	2	4				
16				3	2	4,0				19	7	4			11	2	3,0	3	1	4	8	5	4				
17				5	4	3,5															7	4	4				
18																						6	4	3			
19	8	2	4	5	1	3,5									6	3	4	0	1	4							
20				5	2	3,5																	11	4	3,5		
21				7	4	3,5				20	6	4			8	3	4,0				12	5	4				
22				6	3	3,0																					
23	13	5	4	6	2	3,5	16	4	3									2	0	4	12	3	4				
24																		0	0	3							
25	11	3	3	9	4	3,5	15	8	3	18	5	4			5	4	3,5										
26																											
27																											
28																											
29																			1	1	4						
30				6	3	3,5	21	6	4	21	9	4			4	2	3,0	0	0	4	10	3	4				
31				3	2	3,5	17	5	3	20	11	4			7,0	4,0	4,0	0	0	4	8	2	4				
	9,00	3,67		6,00	3,13		17,9	5,9		21,0	7,4		#####	#####		6,75	2,92		1,00	0,44		8,05	3,16				



Different Relative Sunspotnumbers

Month : August 2008

CV										Pettisindex SN				Intersol IS			Becknumber																		
Date	F.Dubois	O.Steen	L.Meeus	J.Carels	J.Janssens	G.Gubbels	H.De Backer	S.Durfoer	Mean	G.Gubbels	F.Dubois	O.Steen	J.Carels	F.Dubois	J.Carels	G.Gubbels	F.Dubois	O.Steen	L.Meeus	P.J. Dekelver	J.Carels	G.Gubbels	S.Durfoer	D.Van Hessche	A.T.Son	J.Bourgeois	H.Coeckelberghs	De Backer	Pbl Obs Mira	J.Claes	F.Feys	Mean	Date		
1	0	0	0	0		0	0		0,0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
2	0	0	0	0	0	0	0		0,0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
3	0	0	0	0	0	0	0		0,0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	
4	0	0	0	0	0	0	0		0,0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	
5	0	0	0	0	0	0	0		0,0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	
6	0	0	0	0	0	0	0		0,0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	
7	0	0	0	0	0	0	0		0,0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	
8	0	0	0	0	0	0	0		0,0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	
9	0	0	0	0	0	0	0		0,0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	
10	0	0	0	0	0	0	0		0,0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	
11	0	0	0	0	0	0	0		0,0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	
12	0	0	0	0	0	0	0		0,0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	
13	0	0	0	0	0	0	0		0,0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	
14	0	0	0	0	0	0	0		0,0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	
15	0	0	0	0	0	0	0		0,0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	
16	0	0	0	0	0	0	0		0,0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	
17	0	0	0	0	0	0	0		0,0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	
18	0	0	0	0	0	0	0		0,0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	
19	0	0	0	0	0	0	0		0,0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	
20	0	0	0	0	0	0	0		0,0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	
21	2	0	2	2	0	1	0	0	0,9	1	2	0	2	3	3	1	8	0	8	8	4	4	0	0	0	0	0	0	0	0	0	3	21		
22	1	0	0	1	0	0	1		0,6	1	0	1	1	1	1	0	4	0	0	4	4	4	0	0	0	0	0	0	0	0	0	2	22		
23	0	0	0	0	0	0	0		0,0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23		
24	0	0	0	0	0	0	0		0,0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	
25	0	0	0	0	0	0	0		0,0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25	
26	0	0	0	0	0	0	0		0,0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26	
27									#DEEL/0!					0	0	0																	####	27	
28									#DEEL/0!					0	0	0																	0	28	
29	0	0	0	0	0	0	0		0,0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	29	
30	0	0	0	0	0	0	0		0,0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30
31	0	0	0	0	0	0	0		0,0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31
##	0,1	0,0	0,1	0,1	0,0	0,1	0,0	0,1	#DEEL/0!	0,1	0,1	0,0	0,1	0,1	0,2	0,1	0,46	0,0	0,4	0,0	0,5	0,2	0	0	0	0	0,0	0,0	0,0	0,0	0,0	####			

SIDC Weekly bulletin on Solar and Geomagnetic activity WEEK 398 from 2008 Aug 11

SOLAR ACTIVITY

Solar activity was extremely low during the whole week, with no flaring activity nor any signs of active regions.

GEOMAGNETIC ACTIVITY

Geomagnetic activity was very quiet during the whole week. A coronal hole, spotted on the disk, did not actually become geoeffective within the week covered by this report.

SIDC Weekly bulletin on Solar and Geomagnetic activity WEEK 399 from 2008 Aug 18

SOLAR ACTIVITY

Solar activity was quiet during the whole week. Only one sunspot group, Catania number 84 (no NOAA number has been attributed) was visible (on August 21-22). It was small and did not produce any flaring activity.

GEOMAGNETIC ACTIVITY

In the beginning of the week the Earth was situated inside the fast solar wind flow from an equatorial coronal hole. Disturbed geomagnetic conditions up to the K = 4 level (Dourbes, IZMIRAN) and K = 5 (NOAA) were registered on August 18. The solar wind speed then decreased and, starting from August 20, the Earth was inside the slow solar wind flow. The interplanetary magnetic field magnitude did not exceed average values (4-5 nT), so the geomagnetic conditions were quiet throughout the rest of the week.

SIDC Weekly bulletin on Solar and Geomagnetic activity WEEK 400 from 2008 Aug 25

SOLAR ACTIVITY

Solar activity was extremely low during the whole week, with no flaring activity nor any signs of active regions or sunspots.

GEOMAGNETIC ACTIVITY

The Earth was inside the slow solar wind flow. Geomagnetic conditions were quiet throughout the week, with an all-quiet alert in place during the full week.

SIDC Weekly bulletin on Solar and Geomagnetic activity WEEK 401 from 2008 Sep 01

SOLAR ACTIVITY

No flares were measured. The X-ray background radiation stayed even below GOES10 measurement levels. A recurrent horizontal Y-shaped coronal hole with a small part in front of it, transited the solar disk.

GEOMAGNETIC ACTIVITY

A co-rotating interaction region with a compressed magnetic field and compressed plasma density arrived on Sep 03. It was probably linked with the first part of the coronal hole mentioned in the section 'solar activity'. The solar wind speed reached a first maximum of 600 km/s on Sep 04. The estimated NOAA Kp index became two times 6 and

three times 4 on this day. After this peak, the solar wind speed started to decrease slowly. The second part of the coronal hole made the solar wind accelerate to values slightly above 600 km/s. Although the spatial extend of the Y-shaped coronal hole, no geomagnetic disturbances were measured after Sep 04.

SIDC Weekly bulletin on Solar and Geomagnetic activity WEEK 402 from 2008 Sep 08

SOLAR ACTIVITY

Solar activity was extremely low during the whole week.

GEOMAGNETIC ACTIVITY

Geomagnetic activity was quiet during the whole week, except on late Sunday 14th, where local (Dourbes) and planetary K indices briefly reached unsettled levels due to the influence of a coronal hole.

SIDC-NEWS: DEFINITIVE INTERNATIONAL AND HEMISPHERIC SUNSPOT # NUMBERS from the SIDC (RWC-Belgium)

SIDC DEFINITIVE INTERNATIONAL AND HEMISPHERIC SUNSPOT NUMBERS FOR 2008

Date	JANUARY			FEBRUARY			MARCH		
	Ri	Rn	Rs	Ri	Rn	Rs	Ri	Rn	Rs
1	7	0	7	11	0	11	0	0	0
2	7	0	7	9	0	9	0	0	0
3	7	0	7	9	0	9	7	0	7
4	10	0	10	8	0	8	0	0	0
5	8	8	0	0	0	0	0	0	0
6	11	6	5	0	0	0	8	0	8
7	11	0	11	0	0	0	0	0	0
8	9	0	9	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0
10	8	0	8	0	0	0	9	0	9
11	8	0	8	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	7	0	7
16	0	0	0	0	0	0	7	0	7
17	0	0	0	0	0	0	7	0	7
18	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	19	0	19
25	0	0	0	8	0	8	32	0	32
26	0	0	0	8	0	8	36	0	36
27	0	0	0	8	0	8	35	0	35
28	0	0	0	0	0	0	34	0	34
29	0	0	0	0	0	0	30	0	30
30	8	0	8				31	0	31
31	8	0	8				25	0	25

MEAN : 3.3 0.5 2.8 2.1 0.0 2.1 9.3 0.0 9.3

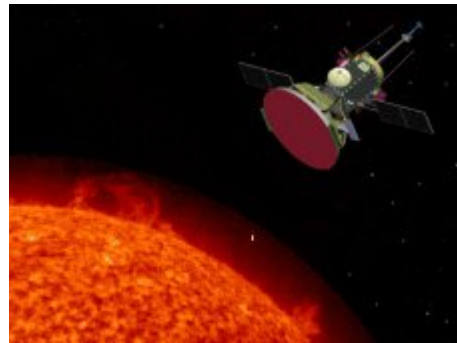
NASA Plans to Visit the Sun

06.10.2008

June 10, 2008: For more than 400 years, astronomers have studied the sun from afar. Now NASA has decided to go there.

"We are going to visit a living, breathing star for the first time," says program scientist Lika Guhathakurta of NASA Headquarters. "This is an unexplored region of the solar system and the possibilities for discovery are off the charts."

Right: An artist's concept of Solar Probe Plus. [[more](#)]

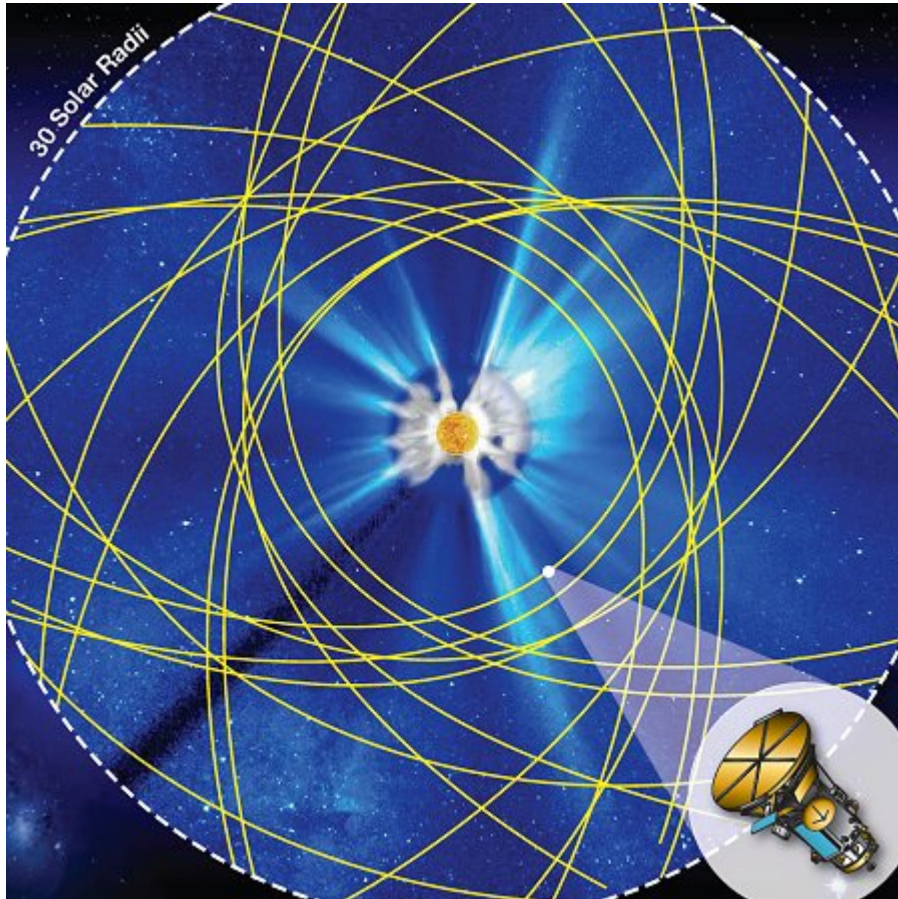


The name of the mission is Solar Probe+ (pronounced "Solar Probe plus"). It's a heat-resistant spacecraft designed to plunge deep into the sun's atmosphere where it can sample solar wind and magnetism first hand. Launch could happen as early as 2015. By the time the mission ends 7 years later, planners believe Solar Probe+ will solve two great mysteries of astrophysics and make many new discoveries along the way.

The probe is still in its early design phase, called "pre-phase A" at NASA headquarters, says Guhathakurta. "We have a lot of work to do, but it's very exciting."

Johns Hopkins' Applied Physics Lab (APL) will design and build the spacecraft for NASA. APL already has experience sending probes toward the sun. APL's MESSENGER spacecraft completed its first flyby of the planet Mercury in January 2008 and many of the same heat-resistant technologies will fortify Solar Probe+. (Note: The mission is called SolarProbe *plus* because it builds on an earlier 2005 APL design called Solar Probe.)

At closest approach, Solar Probe+ will be 7 million km or 9 solar radii from the sun. There, the spacecraft's carbon-composite heat shield must withstand temperatures greater than 1400° C and survive blasts of radiation at levels not experienced by any previous spacecraft. Naturally, the probe is solar powered; it will get its electricity from liquid-cooled solar panels that can retract behind the heat-shield when sunlight becomes too intense. From these near distances, the Sun will appear 23 times wider than it does in the skies of Earth.



Above: A simulated view of the Sun illustrating the trajectory of Solar Probe+ during its multiple near-Sun passes. [[Larger image](#)]

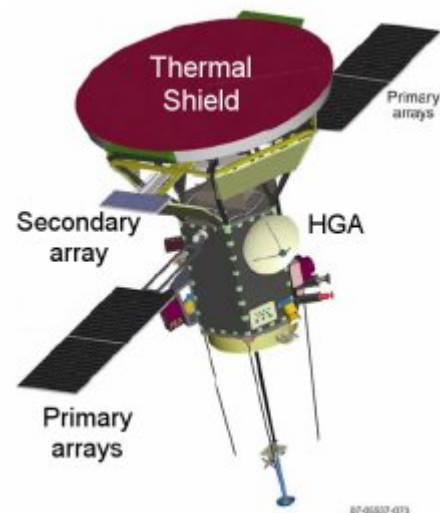
The two mysteries prompting this mission are the high temperature of the sun's corona and the puzzling acceleration of the solar wind:

Mystery #1—the corona: If you stuck a thermometer in the surface of the sun, it would read about 6000° C. Intuition says the temperature should drop as you back away; instead, it rises. The sun's outer atmosphere, the corona, registers more than a million degrees Celsius, hundreds of times hotter than the star below. This high temperature remains a mystery more than 60 years after it was first measured.

Mystery #2—the solar wind: The sun spews a hot, mil particles throughout the solar system. Planets, comets, Curiously, there is no organized wind close to the sun's planets there blows a veritable gale. Somewhere in bet gives the solar wind its great velocity. The question is,

"To solve these mysteries, Solar Probe+ will actually er Guhathakurta. "That's where the action is."

The payload consists mainly of instruments designed to sense the environment right around the spacecraft—*e.g.*, a magnetometer, a plasma wave sensor, a dust detector, electron and ion analyzers and so on. "In-situ measurements will tell us what we need to know to unravel the physics of coronal heating and solar wind acceleration." she says.



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Right: The re-designed Solar Probe+ spacecraft. [[more](#)]

Solar Probe+'s lone remote sensing instrument is the Hemispheric Imager. The "HI" for short is a telescope that will make 3D images of the sun's corona similar to medical CAT scans. The technique, called coronal tomography, is a fundamentally new approach to solar imaging and is only possible because the photography is performed from a moving platform close to the sun, flying through coronal clouds and streamers and imaging them as it flies by and through them.

With a likely launch in May 2015, Solar Probe+ will begin its prime mission near the end of Solar Cycle 24 and finish near the predicted maximum of Solar Cycle 25 in 2022. This would allow the spacecraft to sample the corona and solar wind at many different phases of the solar cycle. It also guarantees that Solar Probe+ will experience a good number of solar storms near the end of its mission. While perilous, this is according to plan: Researchers suspect that many of the most dangerous particles produced by solar storms are energized in the corona—just where Solar Probe+ will be. Solar Probe+ may be able to observe the process in action and show researchers how to forecast Solar Energetic Particle (SEP) events that threaten the health and safety of astronauts.

Solar Probe+'s repeated plunges into the corona will be accomplished by means of Venus flybys. The spacecraft will swing by Venus seven times in six years to bend the probe's trajectory deeper and deeper into the sun's atmosphere. Bonus: Although Venus is not a primary target of the mission, astronomers may learn new things about the planet when the heavily-instrumented probe swings by.

"Solar Probe+ is an extraordinary mission of exploration, discovery and deep understanding," says Guhathakurta. "We can't wait to get started."