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## ●活動極大期に静かな太陽

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現在は太陽活動極大期とあって、数週間前には多くの黒点が認められたが、ここに来て大幅に減少。ほぼ全く見えなくなった。

太陽物理学者、トニー・フィリップス氏によると、これは観測史上最も弱い太陽活動極大期で、おそらくここ100年でも最も弱いものになるとのこと。黒点が全く認められない日があったことは奇妙ではあるが、極めて奇妙とまでは言えないという。

また、ゴダード宇宙飛行センターの太陽系物理学者、アレック・ヤング氏は、太陽に関しては詳しく観測できるようになったのはここ50年位のことであり、何が通常で、何が異常かを判断するのは難しいと語っている。

(参考) 本件報道記事

### **Our sun has gone quiet. Almost too quiet.**

A few weeks ago it was teeming with sunspots, as you would expect since we are supposed to be in the middle of solar maximum -- the time in the sun's 11-year cycle when it is the most active.

But now, there is hardly a sunspot in sight. If you look closely at the image above, taken on July 18 by NASA's Solar Dynamics Observatory, you will see a tiny smidge of brown just right of center where a small sunspot appears to be developing. But just one day before, there truly was nothing. It was a totally spotless day.

So what's going on here? Is the "All Quiet Event" as solar physicist Tony Phillips dubbed it, a big deal or not?

"It is weird, but it's not super weird," said Phillips, who writes about solar activity on his website SpaceWeather.com. "To have a spotless day during solar maximum is odd, but then again, this solar maximum we are in has been very wimpy."

Phillips notes this is the weakest solar maximum to have been observed in the space age, and it is shaking out to be the weakest one in the past 100 years, so

the spotless day was not so out of left field.

"It all underlines that solar physicists really don't know what the heck is happening on the sun," Phillips said. "We just don't know how to predict the sun, that is the take away message of this event."

You just can't predict the sun. - Tony Phillips, founder of SpaceWeather.com

Sunspots are interesting to solar observers because they are the region of the sun where solar activity such as solar flares (giant flashes of light) and coronal mass ejections (when material from the sun goes shooting off into space) originate.

They are caused by highly concentrated magnetic fields that are slightly cooler than the surrounding surface of the sun, which is why they appear dark to us. Those intense magnetic fields can get twisted up and tangled, which causes a lot of energy to build up. Solar flares and coronal mass ejections occur when that energy is released in a very explosive way.

Alex Young, a heliophysicist at Goddard Space Flight Center, said it is hard to say what is and isn't unusual when it comes to the sun.

"We've only been observing the sun in lots of detail in the last 50 years," he said. "That's not that long considering it's been around for 4.5 billion years."

And it's not like astronomers have never seen the sun this quiet before. Three years ago, on Aug. 14, 2011, it was completely free of sunspots. And, as Phillips points out, that year turned out to have relatively high solar activity overall with several X-class flares. So in that case, the spotless sun was just a "temporary intermission," as he writes on his website.

Whether this quiet period will be similarly short-lived or if it will last longer remains to be seen.

"You just can't predict the sun," Phillips said.

Source: Los Angeles Times, 2014/07/18

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