

The reason the activity in the solar surface has a cycle of 11 years

Hirofumi Mase[1]

[1] none

<http://homepage3.nifty.com/hmase/>

If various kinds of data which NAO/JAXA offers, and my latest result are synthesized, a brief conclusion without inconsistency will be drawn.

1. Two Temperature Rotation Disk is formed with the low-temperature object which rose from the lower layer to the photosphere of the sun.

2. It makes N pole or S pole. It is because circular current occurs inevitably around the low-temperature object.

3. Since the current which faces each other is the same direction, N pole and S pole are mutually pulled on the field, and it becomes a pair. The synthetic current of the direction of the line where two poles touch is an identity.

4. Many small-scale pairs are working in the everywhere on the photosphere.

5. A large-scale thing is the pair of sunspot among pairs, and both do not have structural great difference.

6. All of these pairs generate current first actively, and they form the magnetic field as a result.

7. Only the structure on the photosphere can explain almost phenomena, such as cycles of 11 years of the activity, and an inversion of the magnetic field of solar.

Probably, the actual condition of rotation of the sun which is differential rotation will be as follows. What rose from the lower layer on the surface spreads on the surface, and the surface becomes narrow, it becomes impossible to bear, and subduction has occurred at the weak place, i.e., the Two-poles area. It is the shear of the direction of east and west as a motion on the surface. The equator serves as an axis of symmetry and the gap has the ingredient which turned to Polar Regions automatically.

In the Southern Hemisphere, the two poles of pair go also to south gradually, a top pole maintaining the state where it inclined to south, and going to west. When the current of overall flows into the west from the east (it is considered as type1), in the Southern Hemisphere, N is a head (west side). It is because the synthetic current which a pair forms serves as a forward direction for northwests. In the Northern Hemisphere, S is a head. When the current flows into the east from the west (it is considered as type2), arrangement of N and S becomes reverse.

Direction of the whole current, i.e., the magnetic field, is determined by the sum of the current by the existing countless pair. However, the environment of the current of the circumference of each pair actually affects it.

Although the type1 state reaches through a transition stage, it is not absolute stability. Since it becomes so narrow that it becomes high latitude, direction of a pair changes, or a pair approaches mutually and becomes easy to dissolve.

And the pair with reverse arrangement of two poles and the isolated single pole arise. In the Southern Hemisphere, the current facing southeast is produced, S single pole can be drawn near to the west side, and N single pole the east side.

These are condensed and enlarged and the current facing southeast becomes mighty. That is, it is generating of a sunspot. Shortly, this current greatly disturbs the circumference and continues stimulating the conversion of a pair. In this way, generating of sunspots chains towards low latitude. The range which pairs converted spreads in connection with it.