

Focal mechanisms prove the right-turn of slab beneath Kii Peninsula

MASE, Hirofumi^{1*}

¹none

(Please refer to the figure. Names of the slab, topography of seabed, etc are naming only of here.)

Curve cr is the leading edge where the seismic activity disappears (1). I interpret it as the substantial edge of the slab. Mantle that heads eastward(the red arrow) in the Chugoku region pushes the edge of the slope that inclines to the northwest, of the Nankai slab. Therefore, the edge always receives the right-turn-force (2). Earthquakes occur on the surface of the slab and in it. I want to prove the right-turn by those focal mechanisms and to clarify details of the right-turn-force.

I thankfully used the monthly report(3)(4) of The Meteorological Agency for the focal mechanisms.

If fault type of the earthquake is typical, mechanics in the vicinity can be clearly understood. If it is thrust-type or normal-type, the direction of pressure or tension is understood respectively. However, judgment is required because settling-force with small material in exactly under or pushing-up-power from exactly under dresses thrust-type or normal-type respectively. On the other hand, it is necessary to judge whether the first power is pressure or tension about the lateral-type.

I grouped the earthquakes into A, B, C, D, E and F by enclosing them in the short dashed line.

The green arrow in A is average tension axis in the vicinity. I understand this area is the state of expansion because it ties and stops the Nankai slab of heading-eastward-tendency.

The gray arrows in B and C are average tension axes of normal-type in the vicinity. Tension element of the direction of gyration-radius of the red arrow might be the cause of normal-type. The southern part of B receives the power of the purple arrow (from the southwest) as the reaction that the leverage point receives.

The yellow arrow in B, C, D and E is the average pressure axis in the vicinity. The yellow arrow in C seems to incline outside circular arc 2, and to have collided with E group, like the direction of the red arrow. Though the yellow arrow on circular arc 4 in D and E inclines internally than the tangent, other yellow arrows harmonize with the circular arc.

Because power to induce the overall right-turn of the Nankai slab exists widely in each place as mentioned above, it becomes grounds of the right-turn.

Though the part that rubs against the Tokai slab cannot do a smooth turn without along circular arc 5, I think that the Crack(b) reflects externals of the Nankai slab. Destruction by impossible turn occurred between, in south and north, from the Trough to Lake Hamana, in east and west, from circular arc 5 to circular arc 4. The stagnated material will form mountains.

Though there are a lot of normal-type ones in F group, the tension-axial-directions are various. I think that earthquakes that occurred because mantle pushed up(5) the Tokai slab from the under exist considerably among these.

- (1)KIMURA(2001)/https://www.jstage.jst.go.jp/article/jgeography1889/110/4/110_4_581/_article/-char/ja/
- (2)MASE(2014)/JpGU2014/SSS29-P10
- (3)JMA/Monthly Report/January 2004/(P8)
- (4)JMA/Monthly Report/October 2004/(P16)
- (5)MASE(2012)/JpGU2012/SCG67-P06

