

## Mutation('08/10,'14/10) of aftershock activity of the 2004 off Kii Peninsula E.q., and Stress structure around the Trough

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1.none

(Please refer to the Fig.) Because mantle that heads eastward under Chugoku-district pushes the edge of the subducting slab under Kinki-district, the slab tries to creep up and turn to the right by lateral-fault type(1). Two seamounts in the near south of Nankai Trough concentrate this stress like stake. After the north side of the seamounts was destroyed by the earthquake in 2004, the route that power is transmitted to them changed from "from North" to "from Northwest"(2). The aftershocks which still continue at present should change from digestion of the one which was left without breaking by mainshock into something the pressure from the northwest causes. I studied the changes to time passing.

(short circuit in October,2008)A fluctuation occurred at the beginning of October,2008 (Fig.2,3). There were lots of shocks in front of the seamounts in the plane plan. Those seem to have rushed into the south including space between the seamounts. This space would increase in the pressure. I tied first 6 of October to the occurrence order and got a straight line in front of seamount EM. I call the power concentrating at two seamounts at the northwest-southeast direction the northwest compression force NWF(W),NWF(E). (before the main shock,the north compression force NF(W),NF(E)) The state that shocks formed a bend, stood and reached the limit can be judged by the section. NWF(W),NWF(E) produced the new stress-transfer-face which developed to the lower part.

(short circuit in October,2014)The 2nd time of fluctuation is the beginning of October,2014 (Fig.4,5,6). I attached the date of occurrence to something in October and tied something to march with a line (Fig.4). I assigned the number to something important in the occurrence order. The line(encircled number3-1-5-6) which develops in front of seamount EM and the line(encircled number2-4) issued from seamount WM and tries to cross at right angles at the overhead crossing showed. I call compression force about the latter(encircled number2-4) synthetic compression force SWF(W),SWF(E).

I think NF is 0 and the reaction SF decreases at present and NWF is biggest and the reaction SEF is increased at present. The powers work in two seamounts is SWF, resultant of SF,NWF,SEF(Fig.8). The surrounding ground supports a stake after all. Because the seamount gets reaction by its move from the bottom of the sea, the seamount delays to react upon the sudden change of force.

(below, Fig.7)After short circuit in October,2008(the 2nd, 3rd period) it increases in the pressure between the two seamounts, so the pressure rises more and causes destruction effectively at the direction where SWF(W) pushes seamount WM. This is the background where the stress-transfer-face(line,encircled number2-4) appeared, and SWF(W) and NWF(E) intersected with the overhead crossing (the 3rd period).

There is a comment that stress field in the plate in the focal region crosses at right angles mostly in the convergence (the northwest) direction(6). I think this caught the earthquake generating stress that SWF(W) causes.

(1)MASE/JpGU2014/SSS29-P10 (2)MASE/JpGU2015/SSS30-P01 (4)AIST/Visualization system for subsurface structures/all-Japan hypocenter catalog by the JMA/above M1 (5)JHOD,JCG/Seafloor Topography of the Plate Boundaries (6)JAMSTEC/Nakano,Hori/SSJ2014/A22-07/Tectonic background of the 2004 off the Kii Peninsula earthquakes

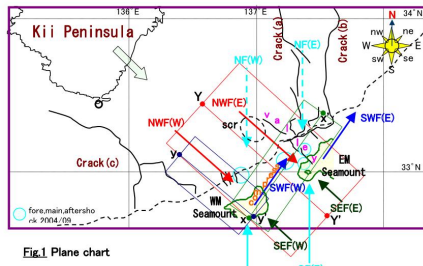


Fig.1 Plane chart

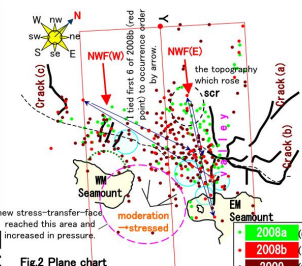


Fig.2 Plane chart ('08-'09)

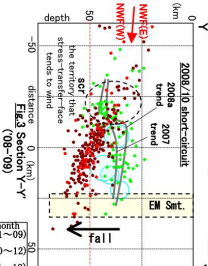


Fig.3 Section Y-Y'

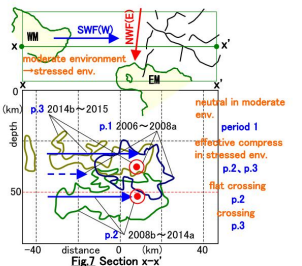


Fig.7 Section X-X'

Stress which operates on Seamount

name	direction	until	size	after	cause of appearance
NF	from the north	2004/09	biggest	0	edge of slave is repelled
SF	from the south	biggest	It decreases		reaction of NF
NWF	from the northwest	0	biggest		edge of slave is repelled
SEF	from the southeast	0	It increases		reaction of NWF
SWF	It's changing	-	It's changing		resultant of SF,NWF,SEF

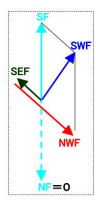


Fig.8

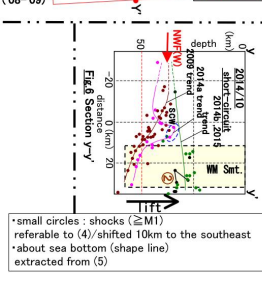


Fig.6 Section Y-Y'

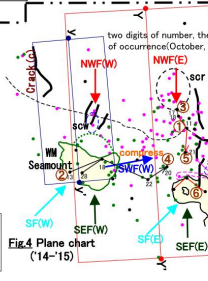


Fig.4 Plane chart ('14-'15)

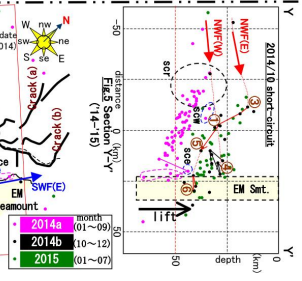


Fig.5 Section Y-Y'

\* small circles : shocks ( $\geq M1$ )  
 \* referable to (4)/shifted 10km to the southeast  
 \* about sea bottom (shape line)