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SCG66-P04 Room:Convention Hall Time:May 24 16:15-17:30

Modeling of the high strain zone along the eastern Japan Sea margin.

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If the temperature of a subducting plate is low, high temperature areas are generated on and under it. They tighten the subducting plate from both sides by pulling against mutually. A plate convergence zone forms and maintains the temperature structure. And the opposite can be said too. I have insisted on this (1)(2). I will call the subducting plate B, and upper and lower high temperature areas ”A” and C respectively. Mantle ”A” of high temperature is pushed from the far west by companion and pulled by C downward in the eastern. Because ”A” is pressed against B, ”A” tries to climb B along its slope. It climbs until equiponderating to the resultant force of gravity and pressure from the upper side and the east. Afterwards, because it stagnates sidles up up, the land is formed. There are many features in our Islands. (a)Is the Tohoku and the Japan Sea why typical arc and basin? (b)Why do active volcanoes exist even to the west in Hokuriku-North Kanto and does the land project too?(37deg.N-36deg.N) (c)Why can the Chugoku lie, and why doesn’t it become a basin in the vicinity of 35deg.N? I explained these mysteries (3).

I think about the high strain zone along the eastern Japan Sea margin. Though by pulling against mutually ”A” heads eastward and C to which B is put heads westward, I showed that a neutral line in surface appeared on the west side of Japan Trench because the heading eastward element was counterbalanced in the wedge part (1). However, the neutral line is only an appearance if strain because of shrinking has been distributed to the whole area. If strain concentrates on the narrow scope, it’s a high strain zone. The deformation by mutually pulling against happens chiefly in uppermost mantle. It is important to clarify the difference between that and surface deformation for the understanding of geographical features and earthquakes. It is difficult to make the whole image of A,B,C a model and to reproduce it by experiment. It becomes possible by the simplification only for the part where ”A” starts climbing the slope of B.

The model is composed of the container(300H520W30D) with contents and front side of transparency. In it, the slider with a slope does the slide horizontally on the bottom from right to left so that it may raise the brown rice kernel(”A”) by scooping. The curve of the slope must become walled steep slope in which it suddenly stood up to express the congestion of ”A” though the main is loose. If the slope does the slide to left(west), ”A” heads eastward relatively, climbs the loose slope, knocks against the steep slope, sidles up up, and forms mountain. A basin is beyond the limits of the west side of this device. The east from center of land is beyond the limits of the east side. The matter that ”A” climbs the slope and competes of congestion, in a word, ”From offshore in Japan Sea To center of Tohoku” is approximately expressible.

To know the movement of the surface of ”A”, it only has to put one chain beforehand. Result of the slider’s doing slide, on the surface of ”A”, the left half became a loose slope and the right half became a slope in mountain to the top though it was horizontal first. The chain has shrunk most in the foot in the mountain. Remarkable shrinkage has been generated between sea and mountain in a word. This result harmonizes with the existence of the high strain zone along the eastern Japan Sea margin.

(1)[Mase]http://www2.jpgu.org/meeting/2007/program/pdf/S149/S149-005.pdf
(2)[Mase]http://www2.jpgu.org/meeting/2012/html5/PDF/S-CG67/SCG67-P06.pdf
(3)[Mase]http://homepage3.nifty.com/hmase/upload120509web.htm

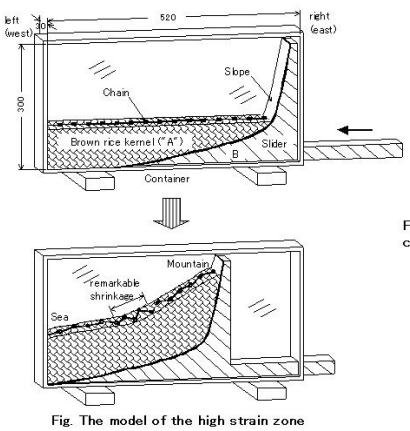

Fig. The model of the high strain zone

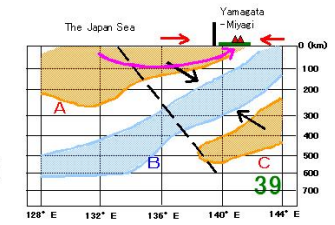

Fig. The temperature structure cross section cutting 39deg.N (3)