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SSS28-P09 Room:Convention Hall Time:May 23 18:15-19:30

Model that harmonizes with the rupture process of (Ide et al.2011)–Relation between 3.11 and off-Miyagi-earthquakes–

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I presented the model concerning the cutting plane that expresses the range from the coast to Japan Trench off Miyagi and passes the epicenter of the 3.11 Tohoku-Oki Earthquake. I formed with clay the wedge to a above plate, the subducting plate and the one located below it to a lower. I did the experiment pushing from right and left by the same power after they had been overlapped. The slip of the plate boundary started in the depth, and the Front of Slip rose aiming at the shallow. Afterwards, ”Slip all together” of the entire boundary was generated because the shallow tip peeled off at a dash suddenly. I thought that the model had reproduced the feature off Miyagi and the process to 3.11 in 1,000 years.(above(1)) I also analyzed 42 remarkable past earthquakes in and around (2). I value (3) for the slip distribution and the rupture process of 3.11. I expect that the model will harmonize with (3) and past observation facts.

I clarified A) B) by the experiment afterwards. A)”Slip all together” is that the slip starts from ”Hypocenter” and spreads to both the depth and the shallow. B)The deepest portion of the above plate started crushing the slope of the lower rather than slipping up. I placed a released paper between the plate boundary. Bigness and smallness in that effect influenced the passage of time to ”Slip all together” and the overall amount of slip when ending. The event stagnates or ends imperfectly if the lower plate doesn’t subduct smoothly beneath the above plate in the depth.

I was able to read C) from (3). I set straight line L of 50km or more in length that Onagawa-cho is made a starting point and expands to the south almost and reaches north latitude 38th parallel. C)In the change chart of time of slip velocity(40,60,75sec), the north and the south are excluded, the spread was dammed up once by the line L, and slip seems to have happened in the deepest portion at a dash afterwards(90sec) (3).

A) is the maximum result expected and it harmonizes with (3). B) and C) harmonize. Therefore, it can be said, the straight line that passes the middle point of the line L and the epicenter of 3.11 is ”Center axis” of the compression system off Miyagi.

Though I explained the mechanics of the Earthquakes off Miyagi(EOFM), I interpreted for them to have happened usually because the Standoff before ”Slip all together” had continued long in (1)experiment (2). However, there is the following facts. (a)The Standoff was able to be shortened easily B). (b)Slip in the depth that came off from the hypocenters of EOFM after 1936 was large (3). (c)[1936M7.4][1937M7.1][1978M7.4][2005M7.2][2005M6.6][2010M5.5] approach the epicenter of 3.11 almost in order of generation along ”Center axis” (4)(2).

The row of hypocenters of (c) is not corresponding to the plate interface (2), and the distance has been still left for the hypocenter of 3.11 in addition. However, because a main shock extends within the considerable range and many aftershocks are accompanied usually, they(c) have the possibility of peeling off the boundary forward much and, needless to say, destroying the vicinity of theirself-hypocenter. Aren’t EOFM synonymous with the progress of the Front of Slip ?

(1)[Mase]http://jglobal.jst.go.jp/public/20090422/201202271822634851
(2)[Mase]http://homepage3.nifty.com/hmase/upload120927web.htm
(3)[Ide]http://www.s.u-tokyo.ac.jp/ja/press/2011/12.html
(4)[JMA]http://www.seisvol.kishou.go.jp/eq/gaikyo/monthly