

R004-06

Zoom meeting A : 11/4 AM2 (10:45-12:30)

10:45~11:15

An improved apparent polar wander path for southwest Japan: Cenozoic multi-phase rotations with respect to the Asian continent

#Koji Uno¹, Yuta Idehara¹, Daichi Morita¹, Kuniyuki Furukawa²

¹Okayama Univ., ²Aichi Univ.

To construct the Mesozoic apparent polar wander path (APWP) for the inner arc of the southwestern Japanese islands (referred to as southwest Japan) and compare it to that of East Asia, a 110 Ma paleomagnetic pole for southwest Japan was determined. Sedimentary rock samples were collected from 16 sites for paleomagnetic analysis in the Lower Cretaceous Inakura Formation in the central part of southwest Japan. A primary remanent magnetization component, with unblocking temperatures of 670-695 C, was isolated from 11 sites. The primary directions combined with the previously reported ones provide a new mean direction ($D = 79.7$, $I = 47.4$, $a95 = 6.5$, $N = 17$), and a corresponding paleomagnetic pole that is representative of southwest Japan (24.6 N, 203.1 E, $A95 = 6.8$). The Early Cretaceous paleomagnetic pole, together with the Late Cretaceous and Cenozoic poles, constitute a new APWP for southwest Japan. The new APWP illustrates a standstill polar position during 110-70 Ma, suggesting tectonic quiescence of this region. This standstill was followed by two large tracks during the Cenozoic. We interpret these tracks as clockwise tectonic rotations of southwest Japan that occurred twice during the Cenozoic. The earlier tectonic rotation occurred for a tectonic unit positioned below northeast China, the Liaodong and Korean Peninsulas, and southwest Japan (East Tan-Lu Block) during the Paleogene. The later rotation took place only under southwest Japan during the Neogene. Cenozoic multiphase rifting activity in the eastern margin of the Asian continent was responsible for the tectonic rotations that are observed from the paleomagnetic studies.

