[EJ] Eveningポスター発表 | セッション記号 S (固体地球科学) | S-SS 地震学

[S-SS09] 地殻変動

コンビーナ:落 唯史(国立研究開発法人産業技術総合研究所　地質調査総合センター　活断層・火山研究部門)、大園 真子(北海道大学大学院理学研究院附属地震火山研究観測センター)

2018年5月20日(日) 17:15 〜 18:30 ポスター会場 (幕張メッセ国際展示場 7ホール)

地球のダイナミクスに関する研究テーマには，地震・火山・プレート運動といった様々な時空間スケールのものがあるが，地殻変動の情報はどの研究テーマに対しても重要な役割を果たしている．本セッションでは現象の理解を進めることを目的として，地殻変動に関連のある話題を幅広く議論する．実際に観測された地殻変動の解釈や観測機器の開発といった観測面からの研究のみならず，解析手法の開発やシミュレーションなど理論面からの研究も歓迎する．

[SSS09-P12]Investigation of tectonic stress implication in southwest Japan using three-dimensional finite element model

*岩瀬 裕斗[1]、伊藤 武男[1] (1.名古屋大学大学院環境学研究科)

キーワード：西南日本、フィリピン海プレート、応力場、有限要素法

Many earthquakes were occurred in and around Japan where is consist of multiple plates. These plates interact with each other, such as subduction and/or collision zones. Under the complex tectonics, we are deeply concerned with occurring a megathrust earthquake along Nankai Trough in the near future. However, in the Nankai Trough, slow earthquakes including the long-term slow slip event (SSE) and the low frequency tremor (VLF) are also occurring besides the earthquake. We also mention that seismic activity in inland is decreasing before a giant earthquake occurs, and the interaction between the subduction zone and the inland fault is not well understood. Therefore, in this study, we try to understand interaction of plates using three-dimensional finite element method (FEM) considering inhomogeneous underground structure and complicated subduction plate, such as the Philippine Sea plate .

In this study, we make a FE mesh of southwest Japan region using meshing software Cubit ver 13.0. The upper surface of the Philippine Sea plate is based on Hirose et al (2008). To obtain the internal stress and/or deformation, we use FEM software PyLith ver 2.2.1, which is a finite-element code for dynamic and quasistatic simulations of crustal deformation. Using FEM, we try to investigate tectonics implication in southwest Japan from the stress field created by the subduction of the Philippine Sea plate. We also consider to effect of historical large earthquakes along the Nankai Trough. We simulate time evolution of stress field since about 1000 years ago. In this presentation, we will discuss the characteristic features, such as stress shadow of subducting plate, in our simulated result.