

AOB Seminar

講演者名: ①山本 揚二郎 博士, ②Seckin Citak 博士

所 属: JAMSTEC (海洋研究開発機構)

開催日時: 2017年2月9日(木) 14:00 - 15:30

場 所: 地震・噴火予知研究観測センター 別館 第一会議室

講演題目&要旨①:

トルコ・マルマラ海における海底地震観測

マルマラ海域は、トルコ北部を東西に横切る北アナトリア断層における地震空白域として認識されている。しかし、マルマラ海域における詳細な地震活動、および断層形状とその固着状態は、海域観測網の不足により明らかにされていない。このような背景から、我々は、JICA/JSTによるSATREPSプロジェクトの一環として、2014年からマルマラ海域における海底地震観測を開始した。

海底地震観測により検知された地震の震源決定の結果、堆積層内では地震はほとんど発生していないことが明らかになった。また、Central Basin 中心部を境として、東西で断層の傾斜方向、および地震発生帯の下限深さが変化していることがわかり、断層セグメント境界の位置を示す結果と考えられる。さらに、断層上に微小地震活動の空白域が存在し、その範囲が東西断層セグメントで異なることがわかった。海底地殻変動観測との比較から、この空白域の広さは断層の固着率に関係している可能性が示唆される。

講演題目&要旨②:

Earthquake and Tsunami Disaster Mitigation in the Marmara Region and Disaster Education in Turkey

There have been many destructive earthquakes and tsunamis in the world. The recent events are, 2011 East Japan Earthquake/Tsunami in Japan, 2015 Nepal Earthquake and 2016 Kumamoto Earthquake in Japan, and so on. And very recently a destructive earthquake occurred in Central Italy. In Turkey, the 1999 Izmit Earthquake as the destructive earthquake occurred along the North Anatolian Fault (NAF). The NAF crosses the Sea of Marmara and the only "seismic gap" remains beneath the Sea of Marmara. Istanbul with high population similar to Tokyo in Japan is located around the Sea of Marmara where fatal damages expected to be generated as compound damages including Tsunami and liquefaction, when the next destructive Marmara Earthquake occurs. The seismic risk of Istanbul seems to be under the similar risk condition as Tokyo in case of Nankai Trough earthquake and metropolitan earthquake.

It was considered that Japanese and Turkish researchers can share their own experiences during past damaging earthquakes and can prepare for the future large earthquakes in cooperation with each other. Therefore, in 2013 the two countries, Japan and Turkey made an agreement to start a multidisciplinary research project, MarDiM SATREPS.

The Project runs researches to aim to raise the preparedness for possible large-scale earthquake and Tsunami disasters in Marmara Region and it has four research groups with the following goals.

- 1) The first one is Marmara Earthquake Source region observational research group. This group has 4 sub-groups such as Seismicity, Geodesy, Electromagnetics and Trench analyses. Preliminary results such as seismicity and crustal deformation on the sea floor in Sea of Marmara have already achieved.
- 2) The second group focuses on scenario researches of earthquake occurrence along the North Anatolia Fault and precise tsunami simulation in the Marmara region. Research results from this group are to be the model of earthquake occurrence scenario in Sea of Marmara and the case studies with advanced tsunami simulation for measure cities.
- 3) Aims of the third group are improvements and constructions of seismic characterizations and damage predictions based on observation researches and precise simulations. Research results from this group will be very important for disaster measures.
- 4) The fourth group is promoting disaster educations using research result visuals. The mission of this group is very important for information dissemination and practical and effective disaster education in Turkey.

The research results from all components will be integrated and utilized for disaster mitigation in Marmara region and disaster education in Turkey. Updated research results of the MarDiM SATREPS Project will be presented at the seminar.