

STEPS Students Report

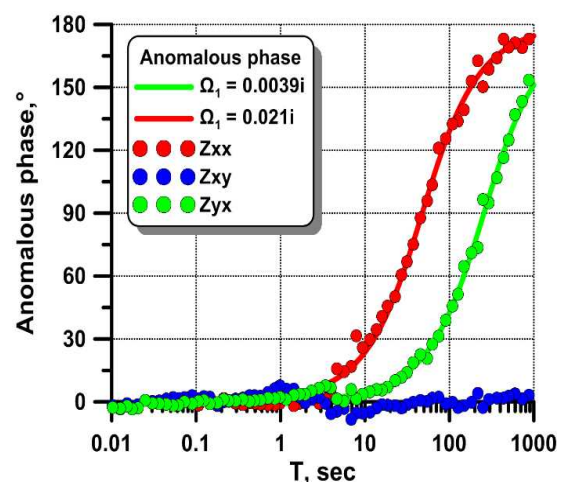
Nikita Zorin (D4)
Faculty of Geology, MSU

As a participant of the STEPS exchange program I have spent one month from 10/05/2017 to 10/06/2017 in Tokyo, where I had the honor to work in prof. Hisashi Utada's lab at the Earthquake Research Institute. Utada-san kindly provided me with a workplace and electromagnetic data to work with, introduced to other researchers and scientists related to my field of knowledge (including those from Japan Agency for Marine-Earth Science and Technology and other geophysical institutions), and stayed in touch throughout the whole period of my internship. We decided to choose the topic "Dispersion relations in magnetotelluric transfer functions" as the main one, and in the last week of my stay in Tokyo I had an extended 1-hour seminar on that subject including the discussion of the latest obtained results. Apart of that I took part in all weekly lab meetings where got acquainted with the current activities of other scientists, and, in my turn, gave a short presentation on my PhD thesis "Magnetotelluric method of induced polarization measurements", which I am supposed to defend next year at Moscow State University (Department of Physics).



Prof. Hisashi Utada sitting at the seminar

During my stay in Tokyo I have significantly improved the overall understanding of non-minimum-phase magnetotelluric (MT) responses and successfully applied the newly developed theory to the real on-land and sea-bottom measurements provided by Japanese researchers (sea data could be hardly found in our country due to very low development level of Russian marine MT). This result is already rather interesting and certainly deserves to be published in a reputed geophysical journal. However, in my opinion, there is still a lot to be done on the subject prior to publishing, so we decided with prof. Utada to continue the collaboration after my PhD defense in 2018.



Comparison of the field MT data with theoretical

I would like to express gratitude to the organizing committee and other STEPS officers who

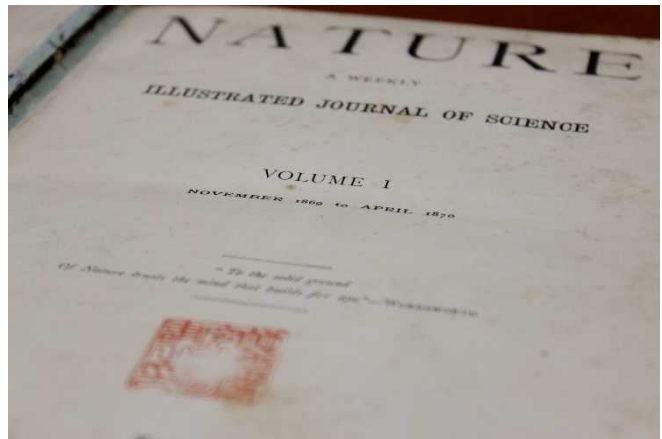


On the way through Nezu

made my stay in Tokyo absolutely trouble-free and delightful. I was accommodated in a quiet guest house in Tabata, only 2.5 km from the Yayoi Campus of Tokyo University, and my everyday route to the Earthquake Research Institute and back turned out to be a fascinating stroll across the famous Yanaka Ginza, Nezu Shrine and countless other small shrines, temples, narrow streets and authentic wooden buildings of the

“old Tokyo” in Yanesen area.

Apart of working in the lab I had enough time to go in for sports in the Gotenshita Memorial Arena, delve through the archives of the ERI Library, hang out on numerous Tokyo spring festivals (Kanda Matsuri, Sanja Matsuri, 90th Todai Gogatsusai, etc.), dangle around in parks, museums, shops and flea markets, and in all other ways discover the city, which, I dare hope, will host me again one day.



“Nature” journal, Volume 1 (1870). ERI Library

With deep gratefulness to the STEPS program and their international mission, Nikita Zorin.