

2014 年度上半期学生海外発表奨励金 成果報告書

氏名 : 張 友君

所属 : 広島大学大学院理学研究科博士課程三年生

会議名称 : 2014 American Geophysical Union (AGU) Fall Meeting

開催場所 : San Francisco, USA

開催期間 : 平成26年12月15日～平成26年12月19日

[出席目的]

The AGU Fall Meeting is the largest Earth and space science meeting in the world. Over this meeting, we can present our recent studies, hear about the latest discoveries and trends, and discuss with the entire Earth and space scientists from the world. In addition, this meeting can also broaden my horizons and strengthen international exchange.

[成果概要]

The 2014 American Geophysical Union (AGU) Fall Meeting was held at San Francisco of American in 15-19 December 2014. The meeting reached an attendance of more than 24000 attendees, showcasing more than 1700 sessions and more than 23000 oral and poster presentations.

I had an oral presentation of “Sound velocities and melting of Fe-Ni-Si system at high pressures under shock loading” in the session of “Iron Workers” United: Integrating the Elastic, Thermal, and Transport Properties of Earth’s Core’ of the ‘Mineral and Rock Physics’ section/focus group. In my presentation, I introduced our measured density and sound velocity of a silicon-rich Fe-Ni system as a model core composition at the Earth’s core conditions by shock wave experiment and direct comparisons between measurements and the observed seismic data of the Earth’s core. Our results indicate that silicon is present as the primary light element in the Earth’s liquid outer core. This is the first experimental confirmation that was not done previously by direct measurements. In addition, on the basis of the silicon-rich core composition, a more reasonable geotherm and the core formation process can be constrained. During the presentation, our study aroused concerns and discussions of some peers. Through communications with relevant experts and professionals, we got some good comments and suggestions for our future work.

I thank the Japan Society of High Pressure Science and Technology for the support fund of the student overseas travel of this year.

