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Curriculum Vitae

Itaru OHIRA

Ph.D. candidate

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Education

2015 Apr – Present: Ph.D. student, Earth Science, Tohoku University

2013 Mar: M.S. Earth Science, Tohoku University

2011 Mar: B.S. Earth Material Science, Tohoku University

Employment

2016 Apr – 2018 Mar: JSPS Predoctorial Research Fellowships for Young Scientists (DC2)

2015 Apr – 2018 Mar: Predoctorial Fellowships Division for Interdisciplinary Advanced Research and Education, Tohoku University

2012 Oct – 2013 Feb: Teaching assistant: Practice for Earth and Planetary material science, Tohoku University

2012 Apr – 2012 Sep: Teaching assistant: Experiments of Earth science, Tohoku University

2011 Sep – 2012 Feb: Teaching assistant: Experiments of natural science, Tohoku University

2011 Sep – 2012 Feb: Teaching assistant: Practice for Earth and Planetary material science, Tohoku University

Award

Outstanding Student Presentation Award, JpGU-AGU Joint Meeting 2017 (Makuhari, Japan)

Societies

American Geophysical Union

Japan Geoscience Union

The Japan Society of High Pressure Science and Technology

List of Publications

< Peer reviewed papers >

3) T. Kawazoe, **I. Ohira**, T. Ishii, T, Boffa Ballaran, C, McCammon, A. Suzuki, E, Ohtani "Single crystal synthesis of δ-(Al,Fe)OOH" *American Mineralogist*, **9**, 2017 (in press)
2) **I. Ohira**, M. Murakami, S. Kohara, K. Ohara, E. Ohtani "Ultrahigh-pressure acoustic wave velocities of SiO_2- Al_2O_3 glasses up to 200 GPa" *Progress in Earth and Planetary Science*, **3**, 18, 2016
1) **I. Ohira**, E. Ohtani, T. Sakai, M. Miyahara, Y. Ohishi, N. Hirao, M. Nishijima "Stability of a hydrous δ-phase, AlOOH–$MgSiO_2(OH)_2$, and a mechanism for water transport into the base of lower mantle" *Earth and Planetary Science Letters*, **401**, 12-17, 2014

< Book Chapter >

1) E. Ohtani, Y. Amaike, S. Kamada, **I. Ohira**, I. Mashino "Stability of hydrous minerals and water reservoirs in the deep Earth's interior" In H. Terasaki and R. Fischer (Eds.) *Deep Earth: Physics and Chemistry of the Lower Mantle and Core*. Geophysical Monograph series 217, American geophysical Union, Wiley, pp 265-275, 2016

< Selected Presentations in the international conferences >

[Oral]

3) **I. Ohira**, T. Kawazoe, T. Ishii, T. Boffa Ballaran, C. McCammon, A. Suzuki, E. Ohtani "Single crystal synthesis of δ-(Al,Fe)OOH using multi-anvil apparatus" *Japan Geoscience Union - American Geophysical Union Joint Meeting 2017*, **SMP44-04**, Makuhari, Japan, 5/20-25, 2017
2) L, Zhang, H. Yuan, Y. Meng, **I. Ohira**, E. Ohtani, H.-K. Mao "Crystal Chemistry of a Hydrous Phase [AlOOH- $MgSiO_2(OH)_2$] in the Deep Lower Mantle: A Multigrain Approach" *Goldschmidt Conference 2016*, **04c 16:15-16:30**, Yokohama, Japan, 6/26-7/1, 2016
1) **I. Ohira**, M. Murakami, E. Ohtani "Acoustic wave velocity measurements of SiO_2-Al_2O_3 glasses up to 200 GPa" *Japan Geoscience Union Meeting 2015*, **SIT06-23**, Makuhari, Japan, 5/24-28, 2015

[Poster]

3) **I. Ohira**, E. Ohtani, S. Kamada, N. Hirao, A. Suzuki "Water transport to the lowermost mantle driven by δ-AlOOH - Phase H ($MgSiO_4H_2$) solid solution" *American Geophysical Union Fall Meeting 2016*, **DI31B-2646**, San Francisco, United States, 12/11-16, 2016

2) **I. Ohira**, E. Ohtani, S. Kamada, N. Hirao, A. Suzuki "Experimental approach for the stability fields of hydrous minerals in the Earth's lower mantle" *The 54th European High Pressure*

Research Group (EHPRG) International Meeting on High Pressure Science and Technology, **P19.9**, Bayreuth, Germany, 9/4-9 2016

1) **I. Ohira**, E. Ohtani, T. Sakai, M. Miyahara, N. Hirao, Y. Ohishi, M. Nishijima "Reaction of aluminous perovskite and water at high pressure and temperature and water transport into the lower mantle" *American Geophysical Union Fall Meeting 2012*, **D13D-2449**, San Francisco, United States, 12/2-7, 2012

Research Grants

1) 2016 Apr – 2018 Mar: "Grant-in-Aid for JSPS Fellows"
Funding Agency: Japan Society for the Promotion of Science (JSPS)
Project number: 16J04690
Title: The behavior of hydrogen in the Earth and Planetary interior
Role: PI
Budget Amount: 2,300,000 JPY

2) 2015 Apr – 2018 Mar: "Grant-in-Aid from DIARE"
Funding Agency: Division for Interdisciplinary Advanced Research and Education (DIARE), Tohoku University
Title: The hydrogen cycle in the Earth and Planetary interior
Role: PI
Budget Amount: 1,350,000 JPY (2015)

Skills

Laser-heated diamond anvil cell (LHDAC)
Synchrotron x-ray diffraction measurement combined with LHDAC (BL10XU, SPring-8)
Brillouin scattering spectroscopy combined with DAC
Nuclear resonance inelastic x-ray scattering measurements (3-ID-B, APS)
Synchrotron Mössbauer spectroscopy (3-ID-B, APS)
Raman scattering spectroscopy
FT-IR spectroscopy
Focused ion beam (FIB) system
Field emission-scanning electron microscope with an energy dispersive x-ray spectroscopy (FE-SEM/EDS)