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List of Publication by Eiji Ohtani

➢ *Peer-reviewed papers in English*

1974

1. Kumazawa, M., Sawamoto, H., Ohtani E., and Masaki, K., Postspinel phase of forsterite and evolution of the Earth's mantle. Nature, 247, 356-358, 1974.

2. Sawamoto, H., Ohtani E., and Kumazawa, M., High pressure decomposition of γ-Fe2SiO4. Proceedings of the 4th international conference on high pressure, Kyoto, 194-201, 1974.

3. Ohtani E., Sawamoto, S., Masaki, K. and Kumazawa, M., Decomposition of spinel MgAl2O4 at extremely high pressure, Proceedings of the 4th international conference on high pressure, Kyoto, 185-189, 1974.

1975

4. Masaki, K., Sawamoto, H., Ohtani E. and Kumazawa, M., Machida, M., Mizukusa, S., Yamanaka, N., High pressure generation by MASS3I8 type apparatus. Rev. Sci. Instrum., 46, 84-88, 1975.

5. Sawamoto H., Ohtani E., Kumazawa M., High-pressure decomposition of Gamma-Fe2SiO4. Review of Physical Chemistry of Japan, 194-201, 1975.

6. Ohtani E., Sawamoto H., Masaki K., Kumazawa M., Decomposition of spinel MgAl2O4 at extremely high-pressure. Review of Physical Chemistry of Japan, 185-187, 1975.

1976

7. Ohtani E. and Sawamoto, H., Phase relation in the system Fe2SiO4-FeAl2O4 and Co2SiO4-CoAl2O4 at high pressure and high temperature, Mineral. Jour., 8, 226-233, 1976.

1979

8. Suzuki, I., Ohtani E., and Kumazawa, M., Thermal expansion of -Mg2SiO4. Jour. Phys. Earth, 27, 53-61, 1979.

9. Ohtani E., Melting relation of Fe2SiO4 up to about 200 kbar. Jour. Phys. Earth, 27, 189-203, 1979.

1980

10. Suzuki, I., Ohtani E. and Kumazawa, M., Thermal expansion of modified spinel, beta -Mg2SiO4. Jour. Phys. Earth, 28, 273-280, 1980.

1981

11. Ohtani E. and Kumazawa, M., Melting of forsterite up to 15 GPa. Phys. Earth Planet. Inter., 27, 32-38, 1981.

12. Ohtani E., Irifune, T., and Fujino, K., Fusion of pyrope and the rapid crystal growth from

the pyrope melt, Nature, 294, 62-64, 1981.

1982

13. Irifune, T., Ohtani E., and Kumazawa, M., Stability field of knorringite Mg3Cr2Si3O12 at high pressure and its implication to the occurrence of Cr-rich pyrope in the upper mantle. Phys. Earth Planet. Inter., 27, 262-272, 1982.

14. Ohtani E., Kumazawa, M., Kate, T., and Irifune, T., Melting of various silicates at elevated pressures. In high pressure research in Geophysics, eds. S.Akimoto and M.H. Manghnani, Advances in Earth and Planetary Sciences, 12, pp259-270, 1982.

1983

15. Ohtani E., Formation of olivine textures in pallasites and thermal history of pallasites in their parent body. Phys. Earth Planet. Inter., 32, 182-192, 1983.

16. Ohtani E., Melting temperature distribution and fractionation in the lower mantle, Phys. Earth Planet. Inter., 33, 12-25, 1983.

1984

17. Ohtani E., Generation of komatiite magma and gravitational distribution in the deep upper mantle. Earth Planet. Sci. Lett., 67, 261-272, 1984.

18. Kato, T., Ohtani E., and Kumazawa, M., Effect of high pressure on the melting relation of Fe2SiO4-FeSiO3 system. Jour. Phys. Earth, 32, 97-111, 1984.

19. Ohtani E. and Ringwood, A.E., Composition of the core I. Solubility of oxygen in molten iron at high temperatures. Earth Plane. Sci. Lett., 71, 85-93, 1984.

20. Ohtani E., Ringwood, A.E., and Hibberson, W.O., Composition of the core II. Effect of high pressure on solubility of FeO in molten iron. Earth Planet. Sci. Lett., 71, 94-103, 1984.

1985

21. Ohtani E., The primordial terrestrial magma ocean and its implication for the stratification of the mantle. Phys. Earth Planet. Inter., 38, 70-80, 1985.

22. Ohtani E., Taulelle, F. and Angell, C.A., Al3+ coordination changes in liquid aluminosilicates under pressure. Nature, 314, 78-81, 1985.

1986

23. Irifune, T. and Ohtani E., Melting of pyrope Mg3Al2Si3O12 up to 100 kbar: Possibility of a pressure-induced structural change in pyrope melt. Jour. Geophys. Res., 91, 9357-9366, 1986.

24. Ohtani E., Kato, T., and Sawamoto, H., Melting of a model chondritic mantle to 20 GPa. Nature, 322, 352-353, 1986.

1987

25. Ohtani E. and Sawamoto, H., Melting experiment on a model chondritic mantle composition at 25 GPa. Geophys. Res. Lett., 14, 733-736, 1987.

26. Ohtani E., Ultrahigh pressure melting of the chondritic mantle and pyrolite compositions. In High Pressure Research in Mineral Physics, ed. M.H. Manghnani and Y. Syono, pp87-93, TERRAPUB, Tokyo and A.G.U., Washington, D.C., 1987.

27. Ohtani E., Irifune, T, Hibberson, W.O., and Ringwood, A.E., Modified split-sphere guide block for practical operation of a multiple -anvil apparatus. High Temp. High Press., 19, 523-529, 1987.

1988

28. Herzberg, C.T., Feigenson, M., Skuba,C., and Ohtani E., Majorite fractionation recorded in the geochemistry of peridotites from South Africa. Nature, 322, 823-825, 1988.

29. Herzberg, C.T. and Ohtani E., Origin of komatiite at high pressures. Earth Planet. Sci. Lett., 88, 321-329, 1988.

30. Ohtani E., Chemical stratification of the mantle formed by melting in the early stage of the terrestrial evolution. Tectonophys., 154, 201-210, 1988.

1989

31. Ohtani E., Kagawa, N., Shimomura, O., Togaya, M., Suito, K., Onodera, A., Sawamoto, H., Yoneda, A., Tanaka, S., Utsumi, W., Ito, E., Matsumoto, A., Kikegawa, T., High pressure generation by a multiple anvil system with sintered diamond anvils. Rev. Sci. Instrum., 60, 922-925, 1989.

32. MacMillan P.M., Akaogi, M., Ohtani E., Williams, Q., Nieman, R., Sato, R., Cation disorder in garnets along the Mg3Al2Si3O12-Mg4Si4O12 join: an Infrared, Raman and NMR study. Phys. Chem. Mineral., 16, 428-435, 1989.

33. Ohtani E., Kawabe, I., Moriyama, J., and Nagata, Y., Partitioning of elements between majorite garnet and melt and implications for petrogenesis of komatiite, Contrib. Mineral. Petrol., 103, 263-269, 1989.

34. Ohtani E. and Suzuki, K., Structural change of albite (NaAlSi3O8) melt quenched at high pressure: Density and AlK -rayXemission. Jour. Mineral. Petrol. Econ. Geol., 84 385-390, 1989.

35. Ohno, I., Takaichi, K., Endo, Y., Goto, R., Takahashi, A., Ishii, M., Okada, S., Saiki, Y., Ohtani E., Kato, M., Gravity survey in northwestern Shikoku, Japan, and subsurface structure of the Median tectonic line, J. Phys. Earth, 37, 385-400, 1989.

1990

36. Ohtani E. Majorite fractionation and genesis of komatiites in the deep mantle. Precambrian Research, 48, 195-202, 1990.

37. Ohtani E., Kato, T., Moridaira, H., Kamaya, N., Shimomura, O., Kikegawa, T., and Irifune, T., In situ observation of the phase transition of Mg2SiO4 by a double stage multianvil system. Photon Factory, Activity Report, 1990, 8, 351, 1990.

1991

38. Ohtani E., Kagawa, N., and Fujino, K., Stability of majorite (Mg,Fe)SiO3 at high pressures and 1800oC, Earth Planet Sci.Lett., 102, 158-166, 1991.

39. Ohtani E., Kato, T., and Ito, E., Transition metal partitioning between the core and mantle materials at 27 GPa. Geophysical Research Letter, 18, 85-88, 1991.

40. Ohtani E., Ultrahigh pressure melting and chemical heterogeneity in the deep mantle: In F. Merriam eds., Dynamic processes of material transport and transformation in the earth interior: Terra Science Publishing Company, pp309-325, 1991.

41. Irifune, T., Fujino, K., and Ohtani E., A new high pressure form of MgAl2O4. Nature, 349, 409-411, 199

1992

42. Yurimoto, H. and Ohtani E., Element partitioning between majorite and liquid: A secondary ion mass spectrometric study, Geophys. Res. Lett., 19 , 17-20, 1992.

43. Onuma, K., Ikeda, S., Ohtani E., and Kato, T., The system diopside-acmite-nepheline at low oxygen fugacity, Jour. Min. Petrol. Econ. Geol., 87, 123-126, 1992.

44. Ohtani E. and Kamaya, N., The geochemical model of Mars: An estimation from the high pressure experiments. Geophys. Res. Lett., 19, 2239-2242, 1992.

45. Ohtani E., Kato. T., Onuma, K., and Ito, E., Partitioning of elements between core and mantle minerals and early differentiation of the Earth, in High Pressure Research in Earth and Planetary Sciences, edited by Y. Syono and M.H. Manghnani, Terrapub, Tokyo/ Am. Geophys. Union, Washington D.C., pp.341-349, 1992.

46. Kato, T., Ohtani E., Kamaya, N., Shimomura, O., and Kikegawa, T., Double stage multi-anvil system with a sintered diamond anvil for X-ray diffraction experiment at high pressures and temperatures, in High Pressure Research in Earth and Planetary Sciences, edited by Y.Syono and M.H. Manghnani, Terrapub, Tokyo/ Am.Geophys. Union, Washington D.C., pp 33-36, 1992.

47. Irifune, T., Adachi, Y., Fujino, K., Ohtani E., Yoneda, A., and Sawamoto, H., A performance test for WC anvils for multianvil apparatus and phase transformations in some aluminous minerals up to 28 GPa, in High Pressure Research in Earth and Planetary Sciences, edited by Y. Syono and M.H. Manghnani, Terrapub, Tokyo/ Am. Geophys. Union, Washington D.C., pp43-50, 1992.

48. Moriyama, J., Kawabe, I., Fujino, K., and Ohtani E., Experimental study of element partitioning between majorite, olivine, merwinite, diopside and silicate melts at 16 GPa and 2000oC. Geochem. Jour., 26, 357-382, 1992.

1993

49. Karato, S. and Ohtani E., Structure of the Earth interior. Encyclopedia of Applied Physics, 5, 127-148, VCH Publisher Inc., 1993.

50. Ohtani E., Suzuki, A., and Kato, T., Flotation of olivine in the peridotite melt at high pressure. Proceedings of Japan Academy, 96, ser. B, 23-28, 1993.

51. Kamaya, N., Ohtani E., Kato, T., Onuma, K., High pressure phase transitions in a homogeneous model Martian mantle. In Evolution of the Earth and Planets, Geophysical Monograph 74, IUGG volume 14, 1993.

52. Morishima, H., Ohtani E., and Arashi, H., The raman spectroscopic study for MgSiO3 perovskite and majorite solid solutions MgSiO3-Mg3Al2Si3O12. Mineral Jour. 16, 399-406, 1993.

1994

53. Morishima, H., Ohtani E., Kato, T., Shimomura. O., and Kikegawa, T., Thermal expansion of MgSiO3 perovskite at 20.5 GPa. Geophys. Res. Lett., 21, 899-902, 1994.

54. Morishima, H., Kato, T., Suto, M., Ohtnai, E., Urakawa, S., Utsumi, S., Shimomura, O., and Kikegawa, T., The phase boundary between □-and □-Mg2SiO4 determined by in Situ X-ray Observation, Science, 265, 1202-1203, 1994.

1995

55. Ohtani E., Nagata, Y., Suzuki, A., and Kato, T., Melting relations of peridotite and the density crossover in planetary mantles. Chemical Geology, 120, 207-221, 1995.

56. Ohtani E., Shibata, T., Kubo, T., and Kato, T., Stability of hydrous phases in the transition zone and the upper most part of the lower mantle., Geophys. Res, Lett., 22, 2553-2556, 1995.

57. Suzuki, A., Ohtani E., and Kato, T., Flotation of diamond in mantle melt at high pressure. Scinece, 269, 216-218, 1995.

58. Kato, T., Ohtani E., Morishima, H., Yamazaki, D., Suzuki, A., Suto, M., and Kubo, T., In situ X-ray observation of high-pressure phase transitions of MgSiO3 and thermal expansion of MgSiO3 perovskite at 25 GPa by double stage multianvil system., J.Geophys.Research, 100, 20475-20481, 1995.

59. Ohtani E., Yurimoto, H., Segawa,T., and Kato, T., Element partitioning between MgSiO3 perovskite, magma, and molten iron: Constraints for the earliest process of the earth-moon system., in Earth's Central part: Its structure and dynamics, edited by T. Yukutake, pp 287-300, TERRAPUB, Tokyo, 1995.

60. Geller, R.J., Hirahara, K., Ishida, M., Nakanishi, I. and Ohtani E., editors, Special issue, Seismology in Japan Part 1 and 2, Jour. Phys. Earth vol.43, p171-532, 1995.

1996

61. Sato K., Onuma K., Ohtani E. and Kato T., Synthesis of high-TiO2 pyrope-grossular garnet at 10 GPa. J. Mineral. Petrol. Econ. Geology, 91, 455-458, 1996.

62. Ohtani E., Mibe, K. and Kato, T., Origin of Crtonic peridotite and komatiite: Evidence for melting in the wet Archean mantle. Proc. Japan Acad., 72, Ser.B, 113-117, 1996.

63. Ohtani E. and Yurimoto, H., Element partitioning between metallic liquid, magnesiowustite, and silicate liquid at 20 GPa and 2500oC: A secondary ion mass spectroscopic study. Geophys. Res, Lett., 23, 1993-1996, 1996.

64. Kato, T., Ohtani E., Ito, Y. and Onuma, K., Element partitioning between silicate perovskites and calcic ultrabasic melt. Phys. Earth Planet. Inter., 96, 201-207, 1996.

65. Yamazaki, D. Kato, T., Ohtani E., and Toriumi, M., Grain growth kinetics of MgSiO3 perovskite and MgO periclase under lower mantle conditions, Science 274, 2052-2054, 1996.

1997

66. Ohtani E., Yurimoto, H., Seto, S., Element partitioning between metallic liquid, silicate liquid, and lower mantle minerals: Implications for the core formation of the Earth. Phys. Earth Planet. Inter., Phys. Earth Planet. Inter., 100, 97-114, 1997.

67. Ohtani E., Mizobata, H., Kudoh, Y., Nagase, T., Arashi, H., Yurimoto, H. and Miyagi, I., A new hydrous silicate, a water reservoir, in the upper part of the lower mantle. Geophys. Res, Lett., 24, 1047-1050, 1997.

68. Kudoh, Y., Nagase, T., Mizobata, H. and Ohtani E., Structure and crystal chemistry of phase G, a new hydrous magnesium silicate synthesized at 22 GPa and 1050°C, Geophys. Res. Lett., 24, 1051-1054, 1997.

69. Courtial, P., Ohtani E., Dingwell, D.B., High-temperature densities of some mantle melts. Geochim. Cosmochim. Acta, 61, 3111-3119, 1997.

70. Kudoh, Y., Nagase, T., Mizobata, H., Ohtani E., Sasaki, S., Tanaka, M., Possible sites for hydrogen in a new hydrous magnesium silicate phase G synthesized at 22 GPa and 1050°C, Proceedings for AIRAPT16, Kyoto August 24-29, 1997.

1998

71. Ohtani E., Suzuki, A. and Kato, T., Flotation of olivine and diamond in mantle melt at high pressure: Implications for fractionation in the deep mantle and ultradeep origin of diamond, in Properties of Earth and Planetary Materials at High Pressure and Temperature, Geophys. Monogr. Ser., vol. 101, edited by M. H. Manghnani and T. Yagi, pp. 227-239, AGU, Washington, D. C., 1998.

72. Kubo, T., Ohtani E., Kato, T., Morishima, H., Yamazaki, D., Suzuki, A., Mibe, K., Kikegawa, T. and Shimomura, O., An in situ X ray diffraction study of the α- β transformation kinetics of Mg2SiO4, Geophys. Res. Lett., 25, 695-698, 1998.

73. Asahara, Y., Ohtani E. and Suzuki, A., Melting relations of hydrous and dry mantle compositions and the genesis of komatiites, Geophys. Res. Lett., 25, 2201-2204, 1998.

74. Kubo, T., Ohtani E., Kato, T., Shinmei, T. and Fujino, K., Effects of water on the α-β transformation kinetics in San Carlos olivine, Science, 281, 85-87, 1998.

75. Kubo, T., Ohtani E., Kato, T., Shinmei, T., Fujino, K., Experimental investigation of the alpha-beta transformation of San Carlos olivine single crystal. Phys. Chem. Minerals, 26, 1-6, 1998.

76. Ohtani E., Kudoh, Y., Naito, H., Arashi, H., Stability of dense hydrous magnesium silicate phase G in the transition zone and the lower mantle. Mineral. J., 20, 163-169, 1998.

77. Kudoh, Y., Nagase, T., Mizobata, H., Ohtani E., Sasaki, S., Tanaka, M., Possible sites of hydrogen in a new hydrous magnesium silicate phase G synthesized at 22 GPa and 1050C. Rev. High Pressure Sci. Technol., 7, 134-136, 1998.

78. Kato, T., Makata, H., Ohtani E., Onuma, K., Melting experiments on the forsterite-pyrope system at 8 GPa and 13.5 GPa, Phys. Earth Planet. Interiors 107, 97-102, 1998.

79. Ohtani E., Moriwaki, K., Kato, T., and Onuma, K., Melting and crystal-liquid partitioning in the system Mg2SiO4-Fe2SiO4 to 25 GPa, Phys. Earth Planet. Interiors, 107, 75-82, 1998.

80. Suzuki, A., Ohtani E., Kato, T., Density and thermal expansion of a peridotite melt at high pressure. Phys. Earth Planet. Inter., 107, 53-61, 1998.

81. Ohtani E., Mizobata, H., Kudoh, Y., Nagase, T., Arashi, H., Yurimoto, H. and Miyagi, I., Comment on "A new hydrous silicate, a water reservoir, in the upper part of the lower mantle" reply. Geophys. Resarch Lett., 25, 981-982, 1998.

82. Gessmann, C.K., Ohtani E. and Rubie, D.C., Element partitioning between magnesiowustite and silicate melt as a function of melt composition and temperature at high pressure, Rev. High Pressure Sci. Technol., 7, 66-68, 1998.

83. Kato T., Morishima H., Ohtani E., Suzuki A., In situ X-ray observation of the phase transitions from α to γ and from γ to perovskite + periclase in Mg2SiO4. Review of high pressure science and technology, 7, 119-121, 1998.

84. Kubo T., Ohtani E., Kato T., Morishima H., Yamazaki D., Suzuki A., Mibe K., Kikegawa T., An in situ X ray diffraction study of the alpha-beta transgormation kinetics of Mg2SiO4. Geophysical Research Letters, 25, 5, 695-698, 1998.

1999

85. Morishima, H., Ohtani E., Kato, T., Kubo, T., Suzuki, A., Kikegawa, T. and Shimomura, O., High pressure and temperature equation of state of a majorite solid solution in the system Mg4Si4O12-Mg3Al2Si3O12. Phys. Chem. Mineral., 27, 3-10, 1999.

86. Kimura, M., Goresey, A. El, Suzuki, A. and Ohtani E., Heavily shocked Antarctic H-chondrites: Petrology and shock history. Antarctic Meteorites XXIV , vol. 24, 67, 1999.

2000

87. Mori, S., Ohtani E. and Suzuki, A., Viscosity of the albite melt to 7 GPa at 2000K. Earth Planet. Sci. Lett., 175, 87-92, 2000.

88. Ohtani E., Mizobata, H. and Yurimoto, H., Stability of dense hydrous magnesium silicate phases in the systems Mg2SiO4-H2O and MgSiO3-H2O at pressures up to 27 GPa: Phys. Chem. Minerals, 27: 533-544, 2000.

89. Kubo, T., Ohtani E., Kato, T., Urakawa, S., Suzuki, A., Kanbe, Y., Funakoshi, K., Utsumi, W., and Fujino, K., Formation of metastable assemblages and mechanisms of the grain-size reduction in the postspinel transformation in Mg2SiO4, Gophys. Research Lett., 227, 807-810, 2000.

90. Kudoh, Y., Kuribayashi, T., Mizobata, H. and Ohtani E., Structure and cation disorder of hydrous ringwoodite, -Mg1.89Si0.98H0.30O4, Phys. Chem. Minerals, 27, 474-479, 2000.

91. Suzuki, A., Ohtani E., Morishima, H., Kubo, T., Kanbe, Y., Kondo, T., Okada, T., Terasaki, H. and Kikegawa, T., In situ determination of the phase boundary between wadslyite and ringwoodite in Mg2SiO4, Geophys. Res. Lett., 27, 803-806, 2000.

92. Suzuki, A., Ohtani E. and Kamada, T., A new hydrous phase δ-AlOOH synthesized at 21 GPa and 1000°C, Phys. Chem. Mineral, 27, 689-693, 2000.

93. Abe, Y., Ohtani E., Okuchi, T., Righter, K. and Drake, M., Water in the early Earth, In Origin of of the Earth and Moon, edited by R.M. Canup, K. Righter, Arizona Univ. Press., pp 413-434, 2000.

94. Yamazaki, D., Kato, T., Yurimoto, H., Ohtani E. and Toriumi, M., Silicon self-diffusion in MgSiO3 perovskite at 25 GPa, Phys. Earth and Planetary Inter., 119, 299-309, 2000.

95. Hamahata, Y., Ohtani E. and Kawamura, K., Molecular dynamics simulation of the elasticity of MgSiO3 perovskite and the temperature anomaly in the lower mantle, Jour. Mineral. Petrol. Sciences, 95, 236-244, 2000.

2001

96. Ohtani E. and Maeda, M., Density of Basaltic Melt at High Pressure and Stability of the Melt at the Base of the Lower Mantle, Earth and Planetary Science Letters, 193, 69-75, 2001.

97. Ohtani E., Litasov, K.D., Suzuki, A. and Kondo, T., Stability field of new hydrous phase, δ-AlOOH, with implications for water transport into the deep mantle. Geophys. Res. Lett., 28, 3991-3993, 2001.

98. Ohtani E., Toma, M., Litasov, K., Kubo, T. and Suzuki, A., Stability of dense hydrous magnesium silicate phases and water storage capacity in the transition zone and lower mantle. Phys. Earth Planet. Inter., 124, 105-117, 2001.

99. Suzuki, A., Ohtani E., Kondo, T., Kuribayashi, T., Niimura, N., Kurihara, K. and Chatake, T., Neutron diffraction study of hydrous phase G: hydrogen in the lower mantle hydrous silicate, phase G. Geophys. Res. Lett., 28, 3987-3990, 2001.

100. Asahara, Y. and Ohtani E., Melting relations of the hydrous primitive mantle in the CMAS-H2O system at high pressures and temperatures, and implications for generation of komatiites. Phys. Earth Planet. Inter., 125, 31-44, 2001.

101. Litasov, K.D, Ohtani E. and Taniguchi, H., Melting relation of hydrous pyrolite in CaO-MgO-Al2O3-SiO2--H2O system at the transition zone pressures. Geophys. Res. Lett., 28, 1303-1306, 2001.

102. Litasov K.D, Ohtani E. and Taniguchi, H., Phase diagram of pyrolite in the system CaO-MgO-Al2O3-H2O at a pressure up to 25 Gpa..Dokl. Earth Sci, 379, 5, 543-545, 2001.

103. Litasov, K.D, Ohtani E. and Dobretsov, N.L., Stability of hydrous phases in the earth's mantle.Dokl. Earth Sci., 3784, 456-459, 2001.

2002

104. Suzuki, A., Ohtani E., Funakoshi, K., Terasaki, H and Kubo, T., Viscosity of albite melt at high pressure and high temperature, Phys. Chem. Minerals, 29, 159-165, 2002.

105. Kubo, T., Ohtani E., Kato, T., Urakawa, S, Suzuki, A., Kanbe, Y., Funakoshi, K., Utsumi, W., Kikegawa, T and Fujino, K., Mechanisms and kinetics of the post-spinel transformation in Mg_2SiO_4, Phys. Earth Planet. Inter., 129, 153-171, 2002.

106. Kubo, T., Ohtani E., Kondo, T., Kato, T., Toma, M., Hosoya, T., Sano, A., Kikegawa, T., and Nagase, T., Metastable garnet in oceanic crust at the top of the lower mantle, Nature, 420, 803, 2002.

107. Vanpeteghem, C.B., Ohtani E., and Kondo, T., Equation of state of the hydrous phase δ-AlOOH at room temperature up to 22.5 GPa, Geophys. Res. Lett., 29, No.7, doi/10.1029/2001GL014224, 2002.

108. Litasov, K.D and Ohtani E, Phase relations and melt compositions in CMAS-pyrolite-H_2O system up to 25 GPa, Phys. Earth Planet. Inter., 134, 105-127. 2002.

2003

109. Ohtani E., Toma, M, Kubo, T., Kondo, T., and Kikegawa, T., In situ X-ray observation of decomposition of super hydrous phase B at high pressure and temperature. Geophys. Res. Lett., 30 No.2, 1029, doi:10.1029/2002GL015549, 2003.

110. Suzuki, A. and Ohtani E., Density of peridotite melts at high pressure, Phys. Chem. Minerals., 30: 449-456, doi 10.1007/s00269-003-0322-6, 2003.

111. Vanpeteghem, C. B., Ohtani E., Kondo, T. and Takemura, K., Compressibility of phase Egg AlSiO3OH: equation of state and role of water at high pressure, American Mineralogist , 88, 1408-1411, 2003.

112. Litasov, K. and Ohtani E., Hydrous solidus of CMAS-pyrolite and melting of mantle plumes at the bottom of the upper mantle. Geophys. Res. Lett., 30, No.22, 2143, 10.1029/2003GL018318, 2003.

113. Litasov, K. and Ohtani E., Hydrous lower mantle: The water source for wet plumes, 8th International Kimberlite Conference long abstract, 2003.

114. Litasov, K., Ohtani E., Langenhorst, F., Yurimoto, H., Kubo, T., Kondo, T., Water solubility in Mg-perovskites and water storage capacity in the lower mantle. Earth Planet. Sci. Lett., 211: 189-203, 2003.

115. Litasov, K., and Ohtani E., Stability of various hydrous phases in CMAS-pyrolite-H2O system up to 25 GPa. Phys. Chem. Mineral., 30: 147-156, 2003.

116. Reid, J.E., Poe, B.T., Rubie, D.C., Suzuki, A., Ohtani E., Funakoshi, K., Terasaki, H. and Okada, T., The viscosity of CaMgSi2O6 liquid at pressures up to 13 GPa., Phys. Earth Planet. Inter., 139, 45-54, 2003.

117. Kimura M., Chen M., Yoshida T., El Goresy A. and Ohtani E., Back-transformation of high-pressure phases in a shock melt vein of an H-chondrite during atmospheric passage:

Implications for the survival of high-pressure phases after decompression, Earth Planet. Sci. Lett., 217, 141-150, 2003.

118. Vanpeterghem, C.B., Ohtani E., Litasov, K.D., Kondo, T., Watanuki, T., Isshiki, M. and Takemura, K., The Compressibility of hexagonal Al-rich NAL phase: similarities and differences with calcium ferrite-type (CF) phase with implications for the lower mantle., Phys. Earth Planet. Inter. 138, 223-230, 2003.

2004

119. Ohtani E., Litasov, K.D., Hosoya, T., Kubo, T. and Kondo, T., Water Transport into the Deep Mantle and Formation of a Hydrous Transition Zone, Phys. Earth Planet. Inter., 143-44, 255-269, 2004.

120. Hirao, N., Kondo, T., Ohtani E., Takemura, K. and Kikegawa, K., Compression of iron hydride to 80 GPa and hydrogen in the Earth's inner core, Geophys. Res. Lett., 31, Np.6, L00616. doi:10.1029/2003GL019380, 2004.

121. Kubo, T., Ohtani E. and Funakoshi, K., Nucleation and growth kinetics of the α-β transformation in Mg2SiO4 determined by in-situ X-ray observations, Amer. Mineral., 89, 285-293, 2004.

122. Kubo, T., Shimojuku, A. and Ohtani E., Mg-Fe interdiffusion rates in wadsleyite and the diffusivity jump at the 410-km discontinuity, Phys Chem Minerals, 31, 456-464.

123. Hirao, N., Ohtani E., Kondo, T. and Kikegwa, T., Equation of state of iron-silicon alloys to megabar pressure, Phys. Chem, Minerals, 31, 329-336, 2004 .

124. Sano, A., Ohtani E., Kubo, T. and Funakoshi, K., In situ X-ray observation of decomposition of hydrous aluminum silicate AlSiO3OH and aluminum oxide hydroxide d-AlOOH at high pressure and temperature. Phys. Chem. Solids., 65, 1547-1554, 2004.

125. Rubie, D.C., Duffy, T.S. and Ohtani E., New developments in high pressure minerals physics and applicaitions to the earth's interior, Phys. Earth Planet. Inter., 143-44, 1-3, 2004.

126. Ohtani E., Kimura, Y., Kimura, M., Takata, T., Kondo, T. and Kubo, T., Formation of high-pressure minerals in shocked L6 chondrite Yamata 791384: constraints on shock conditions on shock conditions and parent body size, Earth Planet. Sci. Lett., 227, 505-515, 2004.

127. Shimojuku, A., Kubo, T., Ohtani E. and Yurimoto, H., Silicon self-diffusion in wadsleyte: Implications for rheology of the mantle transition zone and subducting plates, Geophys. Res. Lett., 31, Np.6, L13606. doi:10.1029/2004GL020002, 2004.

128. Kudoh, Y., Kuribayashi, T., Suzuki, A., Ohtani E. and Kamada, T., Space group and hydrogen sites of δ-AlOOH and implications for a hypothetical high-pressure form of Mg(OH)2, Phys. Chem. Minerals, 31, 360-364, 2004.

129. Kondo, T., Ohtani E., Hirao, N., Yagi, T. and Kikegwa, T., Phase transitions of (Mg, Fe)O at megabar pressures, Phys. Earth Planet. Inter., 143-144, 201-213, 2004.

130. Litasov, K.D. and Ohtani E., Relationship between Al-bearing phases NAL and CF in the lower mantle. Rusian Geology and Geophysics, 45, no.11, 1313-1325, 2004.

131. Ohtani E., In situ X-ray observation of minerals and melts using Kawai-type multianvil apparatus combined with synchrotron radiation, and its applications to Mineral Physics, High Pressure Research, 24, 531-550, 2004.

132. Litasov, K.D., Ohtani E., Suzuki, A., Kawazoe, T., Funakoshi, K., Absence of density crossover between basalt and peridotite in the cold slabs passing through 660 km discontinuity, Geophys. Res. Lett., 31, L24607, doi:10.1029/2004GL21306, 2004.

133. Urakawa S., Ando R., Ohtani E., Katayama Y., Application of x-ray absorption method to density measurement of iron-bering sodium disilicate glass under pressure. Lithos, 73, 1-2, S113-S113, 2004.

134. Kimura M., Chen M., Yoshida T., El Goresy A., Ohtani E., Back-transformation of high-pressure phases in a shock melt vein of an H-chondrite during atmospheric passage: Implications for the survival of high-pressure phases after decompression. Earth and Planetary Science Letters, 217, 1-2, 141-150, 2004.

135. Litasov KD., Ohtani E., Effect of water on subduction of oceanic crust into lower mantle. Geologiya I Geofizika, 45, 12, 1427-1433, 2004.

2005

136. Ohtani E., Water in the Mantle. Elements, 1, 25-30, 2005.

137. Ohtani E., Suzuki, A., Ando, R., Urakawa, S., Funakoshi, K. and Katayama, Y., Viscosity and Density measurements of melts and glasses at high pressure and temperature by using the multianvil apparatus and Synchrotron X-ray Radiation, In Advance in high pressure technology for geophysical application, edited by J. Chen et al. Elsevier Publ., 195-209, 2005.

138. Ohtani E., Recent progress in experimental mineral physics: Role of water in mantle dyanimics, American Geophysical Union Monograph, Geophysical Monograph 160 (Title of Publication: Earth's Deep Mantle: Structure, Composition, and Evolution.), 321-334, 2005.

139. Ohtani E., Hirao, N., Kondo, T. Ito, M. and Kikegawa, T., Iron-water reaction at high pressure and temperature, and hydrogen transport into the core. Phys. Chem. Minerals, 78, 77-82, 2005.

140. Litasov, K.D. and Ohtani E., Phase relation in hydrous MORB at 18-28 GPa: Implications for heterogeneity of the lower mantle. Phys. Earth Planet. Inter., 150, 239-263, 2005.

141. A. Suzuki, E Ohtani, H. Terasaki, K. Funakoshi: Viscosity of silicate melt in diopside-jadeite system at high pressure, Phys. Chem. Mineral, Phys. Chem. Minerals, 32, 2, 140-145, 2005.

142. Kobayashi, Y., Kondo, T., Ohtani E., Hirao, N., Miyajima, N., Yagi, T., Kikegawa, T., Fe-Mg partitioning between (Mg, Fe) SiO3 post- perovskite, perovskite, and magnesiowüstite in the Earth's lower mantle. Geophys. Res. Lett., 32, doi:10.1029/2005GL023257, 2005.

143. Asahara,Y., Ohtani E., Kondo, T., Kubo, T., Miyajima, N., Nagase, T., Fujino, K., Yagi, T. and Kikegawa, T., Formation of metastable cubic-perovskite in high-pressure phase transformation of Ca(Mg, Fe, Al)Si2O6. American Mineralogist, 90, 457-462, 2005.

144. Hosoya, T., Kubo, T., Ohtani E., Sano, A. and Funakoshi, K, Water controls the fields of metastable olivine in cold subducting slabs, Geophys. Res. Lett., 32, L17305, doi:10.1029/2005GL023398, 2005.

145. M. Kimura, M.K.Weisberg, Y. Lin, A. Suzuki, E Ohtani, and R. Okazaki. Thermal history of the enstatite chondrites from silica polymorphs. Meteoritics & Planetary Science 40, Nr 6, 855–868, 2005.

146. Konstantin D. Litasov, Eiji Ohtani, Asami Sano, and Akio Suzuki, Wet subduction versus cold subduction, Geophys. Res. Lett., VOL. 32, L13312, doi:10.1029/2005GL022921, 2005.

147. Lakshtanov, DL, Vanpeteghem, CB., Jackson, JM., Bass, JD., Shen, GY., Prakapenka, VB; Litasov, K., Ohtani E., The equation of state of Al,H-bearing SiO2 stishovite to 58 GPa., Phys. Chem. Minerals, 32, 466-470, 2005.

148. Litasov KD., Ohtani E., Sano A., Suzuki A., Funakoshi K., In situ x-ray diffraction study of post-spinel transformation in a peridotite mantle: Implication for the 660-km discontinuity. Earth and Planetary Science Letters, 238, 311-328, 2005.

2006

149. Sakamaki, T., Suzuki, A., Ohtani E., Stability of hydrous melt at the base of the Earth's upper mantle. Nature, Vol.439, 192-194, 2006.

150. Eiji Ohtani, Yukiko Kimura, Makoto Kimura, Tomoaki Kubo, and Toshiko Takata High-pressure minerals in shocked L6-chondrites: Constraints on impact conditions, Shock Waves, 52, DOI 10.1007/s00193 -006-0047-9, 2006.

151. Hae, R., Ohtani E., Kubo, T., Koyama,T., Utada, H., Hydrogen diffusivity in wadsleyite and water distribution in the mantle transition zone, Earth Planet. Sci. Lett, 243, 141-148.

152. Litasov K.D., Ohtani E., and Sano, A., Iinfluence of water on major phase transitions in the earth's mantle, Monograph, Earth's Deep Water Cycle, Geophysical Monograph Series 168, 95-112, 10.1029/168GM08, AGU, 2006, 2006.

153. Hirao,N., Ohtani E., Kondo, T., Kuba, Suzuki, T., Kikegawa, T., Partitioning of potassium between iron and silicate at the core–mantle boundary, Geophys. Res. Lett., 33, L08303, doi: 10.1029/2005GL025324, 2006.

154. Kawazoe T. and Ohtani E., Reaction between liquid iron and (Mg,Fe)SiO_3-perovskite and solubilities of Si and O in molten iron at 27 GPa, Phys. Chem. Minerals, DOI 10.1007/s00269-006-0071-4, 2006.

155. Sano A., Ohtani E., Litasov K., Kubo T., Hosoya T., Funakoshi K. and Kikegawa T., In situ X-ray diffraction study of the effect of water on the garnet–perovskite transformation in MORB and implications for the penetration of oceanic crust into the lower mantle, Physics of the Earth and Planetary Interiors, 159, 1-2, 118-126, 2006.

156. Sakai T., Kondo T., Ohtani E., Terasaki H., Endo N., Kuba T., Suzuki T. and Kikegawa T., Interaction between iron and post-perovskite at core-mantle boundary and core signature in plume source region. Geophys. Res. Lett, 33, doi: 10.1029/2006GL026868, 2006.

157. Ohtani E., and Litasov K,. Effect of Water on Mantle Phase Transitions, Rev. Mineral. Geochemistry, vol.62, Chapter 17, 397-420, 2006.

158. Vanpeteghem, C. B. Angel, Ross, N.L. Jacobsen, S.D. Dobson, D.P. Litasov K.D. and Ohtani E., Al, Fe substitution in the $MgSiO_3$ perovskite structure: A single-crystal X-ray diffraction study. Phys. Earth Planet. Inter, Vol. 155, 96-103, 2006.

159. Koyama T., Shimizu H., Utada H., Ichiki M., Ohtani E. and Hae R., Water contents in the mantle transition zone beneath the north Pacific derived from the electrical conductivity anomaly, Monograph, Earth's Deep Water Cycle, Geophysical Monograph Series 168, 171-179, 10.1029/168GM13, AGU, 2006.

160. Tsuno K., Ohtani E., Terasaki H., Immiscible two-liquid regions in the Fe–O–S system at high pressure: Implications for planetary cores. Physics of the Earth and Planetary Interiors, 160, 75-85, 2006.

161. Terasaki H., Suzuki A., Ohtani E., Effect of pressure on viscosity of Fe-S and Fe-C liquids up to 16GPa. Geophys. Res. Lett, Vol. 33, L22307,doi: 10.1029/2006GL027147, 2006.

162. K. Komatsu, T. Kuribayashi, A. Sano, Ohtani E, and Y. Kudoh, Redetermination of high-pressure modification of AlOOH. Acta Crystallographyica Section E, 62, I216-I218, Part11, 2006.

2007

163. Allwardt R. T., Stebbins F. J., Terasaki H., Du L., Frost J. D., Withers C. A., Hirschmann M. M., Suzuki A., Ohtani E, Effect of structural transitions on prosperities of high-pressure silicate melts: ^{27}Al NMR, glass densities, and melt viscosities. American Mineralogist, vol. 92, 1093-1104, 2007.

164. Lakshtanov L. D., Litasov D. K., Stanislav V. S., Holger H., Li J., Ohtani E, Bass J., Effect of Al^{3+} and H^{+} on the elastic properties of stishovite. American Mineralogist, vol. 92, 1026-1030, 2007.

165. Lakshtanov L. D., Sinogeikin V. S., Litasov D. K., Prakapenka B. V., Hellwig H., Wang J., Sanches-Valle C., Perrillat J., Chen B., Somayazulu M., Li J., Ohtani E, Bass J., The post-stishovite phase transition in hydrous alumina-bearing SiO2 in the lower mantle of the earth. PNAS, vol. 104 13588-13590, 2007.

166. Tsuno K., Terasaki H., Ohtani E, Suzuki A., Asahara Y., Nishida K., Sakamaki T., Funakoshi K., Kikegawa T., In-situ observation and determination of liquid immiscibility in the Fe-O-S melt at 3 GPa using a synchrotron X-ray radiographic technique. Geophysical Research Letters, vol. 34, L17303, doi:10.1029/2007GL030750, 2007.

167. Litasov D. K., Ohtani E, Kagi H., Jacobsen D. S., Temperature dependence and mechanism of hydrogen incorporation in olivine at 12.5-14.0 GPa. Geophysical Research Letters, vol. 34, L16314, doi:10.1029-2007GL030737, 2007.

168. Litasov K.D., Ohtani E, Ghosh S., Nishihara Y., Suzuki A., Funakoshi K., Thermal equation of state of superhydrous phase B to 27GPa and 1373K. Physics of the Earth and Planetary Interiors, 164(3), P142-160, 2007.

169. Enomoto S., Ohtani E, Inoue K., Suzuki A., Neutrino geophysics with KamLAND and future prospects. Earth and Planetary Science Letters 258(1-2), 147-159, 2007.

170. Komatsu K., Sano A., Momma K., Ohtani E, Kudoh Y., Crystal structures of high-pressure phases in the alumina-water system:II. Powder X-ray diffraction study of a new dense aluminum deuteroxide, delta-Al(OD)(3). Zeitschrift fur Kristallographie 222(1): 13-22, 2007.

171. Litasov K.D., Ohtani E, Suzuki A., Funakoshi K, The compressibility of Fe- and Al-bearing phase D to 30GPa. Physics and Chemistry of Minerals: 159-167, 2007.

172. Litasov D. K., Kagi H., Shatskiy A., Ohtani E, Lakshtanov D., Bass J., Ito E., High hydrogen solubility in Al-rich stishovite and water transport in the lower mantle. Earth and Planet. Sci. Lett., 202, (3-4) doi:10.1016/j.epsl, 620-634, 2007.

173. Shiraishi R., Ohtani E, Raman spectroscopic study of a granitite xenolith from Malaita, Southwest Pacific. Journal of Mineralogical and Petrological Science, Vol. 102, 337-345, doi:10.2465/jmps.060327b, 2007.

174. Vanpeteghem C., Sano A., Komatsu L., Ohtani E, Suzuki A., , Neutron diffraction study of aluminous hydroxide d-AlOOH. Physics and Chemistry Minerals, vol. 34, doi: 10.1007/s00269-007-0180-8, 657-661, 2007.

175. Ghosh S., Ohtani E, Litasov D. K., Suzuki A., Sakamaki T., Stability of carbonated magmas at the case of the Earth's upper mantle. Geophysical research letters, 34, L22312, doi:10.1029/2007GL031349, 2007.

176. Kudoh Y., Kuribayashi T., Litasov D. K., Ohtani E, Cation vacancies and possible hydrogen atom positions in Fe-bearing hydrous forsterite, Mg1.85Fe0.14SiO.99H0.06O4, synthesized at 13.5 GPa and 1400 degrees C. Journal of Mineralogical and Petrological Science, 102(5), 306-310, 2007.

177. Kudoh Y., Kuribayashi T., Mizobata H., Ohtani E, Sasaki S., Tanaka M., Pressure dependence of u parameter in ringwoodite up to 7.9 GPa, Journal of Mineralogical and Petrological Sciences, 102(1), 8-11, 2007.

178. Tsuno K., Ohtani E, Terasaki H., Immiscible two-liquid regions in the Fe-O-S system at high pressure: Implications for planetary cores. Physics of the Earth and Planetary interiors, 160(1), 75-85, 2007.

2008

179. Ohtani E, and Sakai T., Recent advances in the study of mantle phase transitions. Physics of the Earth and Planetary Interiors 170, 240–247, 2008.

180. Sano A., Ohtani E, Kondo T., Hirao N., Sakai T., Sata N., Ohishi Y., Kikegawa T., Aluminous hydrous mineral delta-AOOH as a carrier of hydrogen into the core-mantle boundary. Geophysical Research Letters, 35(3), L03303, doi:10.1029/2007GL031718, 2008.

181. Miyahara, M., Sakai, T., Ohtani E, Kobayashi, Y., Kamada, S., Kondo, T., Nagase, T., Yoo, JH, Nishijima, M., Vashaei, Z., Application of FIB system to ultra-high-pressure Earth science. J. Mineral. Petrol., Sci., 103(2), 88-93, 2008.

182. Tsuchiya, J., Tsuchiya, T., Sano, A., and Ohtani E, First principles prediction of the new high pressure phase of InOOH. J. Mineral. Petrol. Sci., 103(2), 116-120, 2008.

183. Sano A., Yagi T., Okada T., Gotou H., Ohtani E, Tsuchiya J., Kikegawa T., X-ray diffraction study of high pressure transition in InOOH. J. Mineral. Petrol. Sci., 103(2), 152-155, 2008.

184. Nishida K., Terasaki H., Ohtani E, Suzuki A., The effect of sulfur content on density of the liquid Fe-S at high pressure. Phys. Chem. Minerals, doi 10.1007/s00269-008-0236-4, 2008.

185. Asanuma, H., Ohtani E, T. Sakai, H. Terasaki, S. Kamada, N. Hirao, N. Sata, Y. Ohishi, Phase relations of Fe-Si alloy up to core conditions: Implications for the Earth inner core, Geophysical Research Letters, **35**, doi:10.1029/2008GL033863, 2008.

186. Terasaki, H., S. Urakawa, K. Funakoshi, Y. Wang, Y. Shibazaki, T. Sanehira, Y. Ueda, Ohtani E, Interfacial Tension Measurement of Ni-S Liquid Using High Pressure X-ray Micro-Tomography. High Pressure Research, 28, 3, 327.334, 2008.

187. Hirao N., Ohtani E, Kondo T., Sakai T., Kikegawa T., Hollandite II phase in KAlSi3O8 as a potential host mineral of potassium in the Earth's lower mantle. Physics of the Earth and Planetary Interiors, 166(1-2), 97-104, 2008.

188. Miyahara M., El Goresy A., Ohtani E, Nagase T., NIshijima M., Vashaei Z., Ferrior T., Gillet P., Dubrovinsky L., Simionovici A., Evidence for fractional crystallization of wadsleyite and ringwoodite from olivine melts in chondrules entrained in shock-melt veins. PNAS, vol. 105, 25, 8542-8547, 2008.

189. Litasov, K.D., Fei, Y., Ohtani E, Kuribayashi, T., Funakoshi, K., Thermal equation of state of magnesite to 32GPa and 2073K. Phys. Earth Planet. Inter., 168, 191–203, 2008.

190. Murakami, M., , Sinogeikin V. S., Litasov K., Ohtani E, Bass D. J., Single-crystal elasticity of iron-bearing majorite to 26 GPa: Implications for seismic velocity structure of the mantle transitions zone. Earth and Planetary Science Letters, 274, 339-345, 2008.

191. Shiraishi R., Ohtani E, Kanagawa K., Shimojuku A., Zhao D., Crystallographic preferred orientation of akimotoite and seismic anisotropy of Tonga slab. Nature, 455, doi:10.1038/nature07301, 2008.

192. Kubo, T., Ohtani E, Kato, T., Kondo, T., Hosoya, T., Sano, A., Kikegawa, T., Kinetics of the post-garnet transformation: Implications for density and rheology of subducting slabs. Physics of the Earth and Planetary Interiors 170, 181–192, 2008.

193. Sano-Furukawa A., Komatsu K., Vanpeteghem CB., Ohtani E., Neutron diffraction study of delta-AlOOD at high pressure and its implication for symmetrization of the hydrogen bond. American Mineralogist, 93, 10, 1558-1567, 2008.

2009

194. Tsuno K., Ohtani E., Eutectic temperatures and melting relations in the Fe-O-S system at high pressures and temperatures. Physics and Chemistry of Minerals, 36, 1, 9-17, 2009.

195. H. Terasaki, S. Urakawa, K. Funakoshi, N. Nishiyama, Y. Wang, K. Nishida, T. Sakamaki, A. Suzuki, Ohtani E, In situ measurement of interfacial tension of Fe–S and Fe–P liquids under high pressure using X-ray radiography and tomography techniques. Physics of the Earth and Planetary Interiors, 174, 1-4, 220-226, 2009.

196. Ohtani E, Melting relations and the equation of state of magmas at high pressure: application to geodynamics, Chemical Geology, 265, 3-4, 279-288, 2009.

197. D. Zhao, Ohtani E, Deep slab subduction and dehydration and their geodynamic consequences: Evidence from seismology and mineral physics, Gondwana Research Volume 16, Issues 3-4, Pages 401-413, 2009.

198. Ohtani E, D. Zhao, The role of water in the deep upper mantle and transition zone: dehydration of stagnant slabs and its effects on the big mantle wedge, Russ Geol Geophys., No 11-12, 2009, Russian Geology and Geophysics, 50, 12, 1073-1078, 2009.

199. Sean R. Shieh, Thomas S. Duffy, Zhenxian Liu, Ohtani E., High-pressure infrared spectroscopy of the dense hydrous magnesium silicates phase D and phase E. Physics of the Earth and Planetary Interiors, 175, 3-4, 106-114, 2009.

200. H. Hayashi, Ohtani E, H. Terasaki, Y. Ito, The partitioning of Pt–Re–Os between solid and liquid metal in the Fe–Ni–S system at high pressure: Implications for inner core fractionation, Geochimica et Cosmochimica Acta 73, 4836–4842, 2009.

201. K. D. Litasov, Ohtani E, Solidus and phase relations of carbonated peridotite in the system $CaO–Al_2O_3–MgO–SiO_2–Na_2O–CO_2$ to the lower mantle depths, Physics of the Earth and Planetary Interiors, 177, 1-2, 46-58, doi:10.1016/j.pepi.2009.07.008, 2009.

202. A. Shimojuku, .T. Kubo, Ohtani E, T. Nakamura, R. Okazaki, R. Dohmen, S. Chakraborty, Si and O diffusion in $(Mg,Fe)_2SiO_4$ wadsleyite and ringwoodite and its implications for the rheology of the mantle transition zone, Earth and Planetary Science Letters, 284, 1-2, 103-112, 2009.

203. M. Miyahara, A. El Goresy, Ohtani E, M. Kimura, S. Ozawa, T. Nagase, M. Nishijima, Fractional crystallization of olivine melt inclusion in shock-induced chondritic melt vein, Physics of the Earth and Planetary Interiors, 177, 3-4, 116-121, 2009.

204. Kasai H., Kawauchi T., Fukai Y., Zhang XW., Kishimoto S., Kikegawa T., Ohtani E., Okano T., Measurement of diffusion process of iron atoms under high pressure of hydrogen by time-domain analysis of nuclear resonant scattering of X-rays. Applied Surface Science, 256, 4, 984-986, 2009.

205. Ghosh, S., Ohtani E, K. Litasov, H. Terasaki, Solidus of Carbonated Peridotite and petrogenesis of Magnesio-carbonatite in the Earth's Upper Mantle and Transition Zone, Chemical Geology, 262, 17-28, 2009.

206. T. Sakamaki, Ohtani E,, S. Urakawa, A. Suzuki and Y. Katayama, Measurement of hydrous peridotite magma density at high pressure using the X-ray absorption method, Earth Planet. Science Lett. 287, 3-4, 293-297, 2009.

207. Y. Shibazaki, Ohtani E, H. Terasaki, A. Suzuki, K. Funakoshi, Hydrogen partitioning between Iron and Ringwoodite: Implications for water transport into the Martian core, Earth Planet. Science Lett. 287, 3-4, 463-470, 2009.

208. Kimura.M., Mikouchi T., Suzuki A., Miyahara M., Ohtani E., El Goresy A., Kushiroite, CaAlAlSiO6: A new mineral of the pyroxene group from the ALH 85085 CH chondrite, and its genetic significance in refractory inclusions. American Mineralogist, 94, 10, 1479-1482, 2009.

209. Litasov KD., Shatskiy A., Pal'yanov YN., Sokol AG., Katsura T., Ohtani E., Hydrogen incorporation into forsterite in Mg2SiO4-K2Mg(CO3)(2)-H2O and Mg2SiO4-H2O-C at 7.5-14.0 GPa. Russian Geology and Geophysics, 50, 12, 112-1138, 2009.

210. Sano-Furukawa A., Kagi H., Nagai T., Nakano S., Fukura S., Ushijima D., Iizuka R., Ohtani E., Yagi T., Change in compressibility of delta-AlOOH and delta-AlOOD at high pressure: A study of isotope effect and hydrogen-bond symmetrization., American Mineralogist, 94, 8-9, 1255-1261, 2009.

211. Sakai T., Ohtani E., Terasaki H., Sawada N., Kobayashi Y., Miyahara M., Nishijima M., Hirao N., Ohishi Y., Kikegawa T., Fe-Mg partitioning between perovskite and ferropericlase in the lower mantle. American Mineralogist, 94, 7, 921-925, 2009.

212. Litasov KD., Shatskiy A., Katsura T., Ohtani E., Water solubility in forsterite at 8-14 GPa. Doklady Earth Sciences, 425, 2, 432-435, DOI:10.1134/S1028334X09030180, 2009.

213. Litasov KD., Ohtani E.,, Phase relations in the peridotite-carbonate-chloride system at 7.0-16.5 GPa and the role of chlorides in the origin of kimberlite and diamond. Chemical Geology, 262, 29-41, 2009.

214. Ozawa S., Ohtani E., Miyahara M., Suzuki A., Kimura M., Ito Y., Transformation textures, mechanisms of formation of high-pressure minerals in shock melt veins of L6 chondrites, and pressure-temperature. Meteoritics & Planetary Science, 44, 11, 1771-1786, 2009.

2010

215. Sakamaki T., Ohtani E., Urakawa S., Suzuki A., Katayama Y., Density of dry peridotite magma at high pressure using an S-ray absorption method. American Mineralogist, 95, 144-147, 2010.

216. Kamada S., Terasaki H., Ohtani E., Sakai T., Kikegawa T., Ohishi Y., Hirao N., Sata N., Kondo T., Phase relationship of the Fe-FeS system in conditions up to the Earth's outer core. Earth and Planetary Science Letters, 294, 1-2, 94-100, 2010.

217. Terasaki H., Nishida K., Shibazaki Y., Sakamaki T., Suzuki A., Ohtani E., Kikegawa T., Density measurement of Fe3C liquid using X-ray absorption image up to 10 GPa and effect of light elements on compressibility of liquid iron. Journal of Geophysical Research, doi10.1029/2009JB006905, 2010.

218. Frost DJ., Asahara Y., Rubie DC., Miyajima N., Dubrovinsky LS., Holzapfel C., Ohtani E., Miyahara M., Sakai T., Partitioning of oxygen between the Earth's mantle and core. Journal of Geophysical Research-Solid Earth, 115, B02202, doi:10.1029/2009JB006302, 2010.

219. Ju J., Huynh K., Tang J., Li ZF., Watahiki M., Sato K., Terasaki H., Ohtani E., Takizawa H., Tanigaki K., Superconducting properties of SmFeAsO1-x prepared under high-pressure condition. Journal of Physics and Chemistry of Solids, 71, 4, 491-494, 2010.

220. Miyahara M., Ohtani E., Kimura M., El Goresy A., Ozawa S., Nagase T., Nishijima M., Hiraga K., Coherent and subsequent incoherent ringwoodite growth in olivine of shocked L6 chondrites. Earth and Planetary Science Letters, 295, 321-327, 2010.

221. Asanuma H., Ohtani E., Sakai T., Terasaki H., Kamada S., Kondo T., Kikegawa T.,

Melting of Iron-silicon alloy up to the core-mantle boundary pressure: implications to the thermal structure of the Earth's core. Physics and Chemistry of Minerals, 37, 6, 353-359, DOI 10.1007/s00269-009-0338-7, 2010.

222. Litasov K., Ohtani E., The solidus carbonated eclogite in the system CaO-Al2O3-MgO-SiO2-Na2O-CO2 to 32 GPa and carbonatite liquid in the deep mantle. Earth and Planetary Science Letters, 295, 1-2, 115-126, 2010.

223. Sakai T., Ohtani E., Terasaki H., Miyahara M., Nishijima M., Hirao N., Ohishi Y., Sata N., Fe-Mg partitioning between post-perovskite and ferropericlase in the lowermost mantle. Physics and Chemistry of minerals, 37, 7, 487-496, DOI 10.1007/s00269-009-0349-4, 2010.

224. Suzuki A., Ohtani E., Terasaki H., Nishida K., Hayashi H., Sakamaki T., Shibazaki Y., Kikegawa T., Pressure and temperature dependence of the viscosity of a NaAlSi2O6 melt. Physics and Chemistry of Minerals, 38, 59-64, DOI 10.1007/s00269-010-0381-4, 2010.

225. Shatskiy A., Konstantin L., Terasaki H., Katsura T., Ohtani E., Performance of semi-sintered ceramics as pressure-transmitting media up to 30 GPa. High Pressure Research, 30, 3, 443-450, 10.1080/08957959.2010.515079, Sep 2010.

226. Litasov KD., Shatskiy A., Fei YW., Suzuki A., Ohtani E., Funakoshi K., Pressure-volume-temperature equation of state of tungsten carbide to 32 GPa and 1673 K. Journal of Applied physics, 108, 5, 053513, doi: 10.1063/1.3481667, 2010.

227. Dymshits AM., Bobrov AV., Litasov KD., Shatskiy AF., Ohtani E., Litvin YA., Experimental study of the pyroxene-garnet phase transition in the Na2MgSi5O12 system at pressures of 13-20 GPa: First synthesis of sodium majorite. Doklady Earth Sciences, 434, 1, 1263-1266, DOI: 10.1134/S1028334X10090266, 2010.

228. Collerson KD., Williams Q., Kamber BS., Omori S., Arai H., Ohtani E., Majoritic garnet: A new approach to pressure estimation of shock events in meteorites and the encapsulation of sub-lithospheric inclusions in diamond. Geochimica et Cosmochimica Acta, 74, 20, 5939-5957, 2010.

229. Ozawa S., Miyahara M., Ohtani E., Kimura M. and Ito Y., Petrography of Yamato 984028 lherzolitic shergottite and its melt vein: implications for its shock metamorphism and origin of the vein. Polar Science, 4, 550-557, 2010.

230. Sakamaki T., Ohtani E., Urakawa S., Suzuki A., Katayama Y., Zhao D., Density of high-Ti basalt magma at high pressure and origin of heterogeneities in the lunar mantle. Earth and Planetary Science Letters, 299, 3-4, 285-289, 2010.

231. Litasov KD., Safonov OG., Ohtani E., Origin of Cl-bearing silica-rich melt inclusions in diamonds: Experimental evidence for an eclogite connection. Geology, 38, 12, 1131-1134, doi: 10.1130/G31325.1, 2010.

232. Ohtani E., Ozawa S., Miyahara M., Ito Y., Mikouchi T., Kimura M., Arai T., Sato K., Hiraga K., Coesite and stishovite in a shocked lunar meteorite, Asuka-881757, and impact events in lunar surface. PNAS Early Edition, 2010.

233. Litasov KD., Sharygin IS., Shatskiy AF., Ohtani E., Pokhilenko NP., Experimental Constraints on the Role of Chloride in the Origin and Evolution of Kimberlitic Magma. Doklady Earth Sciences, 435, 2, 1641-1646, DOI: 10.1134/S1028334X10120196, 2010.

234. Shimojuku A., Kubo T., Ohtani E., Nakamura T., Okazaki R., Effects of hydrogen and iron on the silicon diffusivity of wadsleyite. Physics of the Earth and Planetary Interiors, 183, 1-2, 175-182, DOI: 10.1016/j.pepi.2010.09.011, 2010.

2011

235. Nakamura R., Ohtani E., The high-pressure phase relation of the MgSO4-H2O system and its implication for the internal structure of Ganymede. Icarus, 211, 1, 648-654, 2011.

236. Shibazaki Y., Ohtani E., Terasaki H., Tateyama R., Sakamaki T., Tsuchiya T., Funakoshi K., Effect of hydrogen on the melting temperature of FeS at high pressure: Implications for the core of Ganymede. Earth and Planetary Science Letters, 301, 1-2, 153-158, 2011.

237. Litasov KD., Shatskiy A., Ohtani E., Katsura T., Systematic study of hydrogen incorporation into Fe-free wadsleyite. Physics and Chemistry of Minerals, 38, 1, 75-84, 2011.

238. Zhao DP., Yu S., Ohtani E.,, East Asia: Seismotectonics, magmatism and mantle dynamics. Journal of Asian Earth Science, 40, 3, 689-709, 2011.

239. Suzuki A., Ohtani E., Terasaki H., Nishida K., Hayashi H., Sakamaki Y., Shibazaki Y., Kikegawa T., Pressure and temperature dependence of the viscosity of a NaAlSi2O6 melt. Physics and Chemistry of Minerals, 38, 59-64, 2011.

240. Bindi L., Dymshits A. M, BOborov A. V., Litasov K. D., Shatskiy A. F., Ohtani E., Litvin Y. A., Crystal chemistry of sodium in the Earth's interior: The structure of Na2MgSi5O12 synthesized at 17.5 GPa and 1700 °C. American Mineralogist, 96, 447-450, 2011.

241. Miyahara M., Ohtani E., Ozawa S., Kimura M., El Goresy A., Sakai T., Nagase T., Hiraga K., Hirao N. and Ohishi Y., Natural dissociation of olivine to (Mg,Fe)SiO3 perovskite and magnesiowustite in a shocked Martian meteorite. PNAS, 108, 5999-6003, 2011.

242. Terasaki H., Kamada S., Sakai T., Ohtani E., Hirao N., Ohishi Y., Liquidus and solidus temperatures of a Fe-O-S alloy up to the pressures of the outer core: Implication for the thermal structures of the Earth's core. Earth and Planetary Science Letters, 304, 3-4, 559-564, 2011.

243. Sakamaki T., Ohtani E., Urakawa S., Terasaki H., Katayama Y., Density of carbonated peridotite magma at high pressure using an X-ray absorption method. American Mineralogist, 96, 553-557, 2011.

244. Sakai T., Ohtani E., Hirao N., Ohishi Y., Equation of state of the NaCl-B2 phase up to 304 GPa. Journal of Applied physics, 109, 8, doi:10.1063/1.3573393, 2011.

245. Shatskiy A., Borzdov YM., Litasov KD., Ohtani E., Khokhryakov AF., Palyanov YN., Katsura T., Pressless split-sphere apparatus equipped with scaled-up Kawai-cell for mineralogical studies at 10-20 GPa. American Mineralogist, 96, 4, 541-548, 2011.

246. Sakai T., Ohtani E., Hirao N., Ohishi Y., Stability field of the hcp-structure for Fe, Fe-Ni, and Fe-Ni-Si alloys up to 3 Mbar. Geophysical research letters, 38, L09302, 2011.

247. Nishida K., Ohtani E., Urakawa S., Suzuki A,, Sakamaki T., Terasaki H., Katayama Y.,

Density measurement of liquid FeS at high pressures using synchrotron X-ray absorption. American Mineralogist, 96, 864-868, 2011.

248. Miyahara M., Ohtani E., Kimura M., Ozawa S., Nagase T., Nishijima M. and Hiraga K., Evidence for multiple dynamic events and subsequent decompression stage recorded in a shock vein. Earth and Planetary Science Letters, 307, 361-368, 2011.

249. Tateyama R., Ohtani E., Terasaki H., Nishida K., Shibazaki Y., Suzuki A., Kikegawa T., Density measurements of liquid Fe-Si alloys at high pressure using the sink-float method. Physics and Chemistry of Minerals, 38, 10, 801-807, DOI: 10.1007/s00269-011-0452-1, 2011.

250. Sano-Furukawa A., Kuribayashi T., Komatsu K., Yagi T., Ohtani E., Investigation of hydrogen sites of wadsleyite: A neutron diffraction study. Physics of the Earth and Planetary Science, 189, 1-2, 56-62, DOI: 10.1016/j.pepi.2011.07.003, 2011

251. Shatskiy A., Katsura T., Litasov KD., Shcherbakova AV., Borzdov YM., Yamazaki D., Yoneda A., Ohtani E., Ito E., High pressure generation using scaled-up Kawai-cell. Physics of the Earth and Planetary Interiors, 189, 1-2, 92-108, DOI: 10.1016/j.pepi.2011.08.001, 2011.

252. Asanuma H., Ohtani E., Sakai T., Terasaki H., Kamada S., Higo N., Ohishi Y., Static compression of Fe0.83Ni0.09Si0.08 alloy to 374 GPa and Fe0.93Si0.07 alloy to 252 GPa: Implications for the Earth's inner core. Earth and Planetary Science Letters, 310, 1-2, 113-118, DOI: 10.1016/j.epsl.2011.06.034, 2011.

253. Sakai T., Ohtani E., Terasaki H., Kamada S., Hirao N., Miyahara M., Nishijima M., Phase stability and compression study of (Fe-0.89,Ni-0.11)(3)S up to pressure of the Earth's core. American Mineralogist, 96, 1490-1494, DOI: 10.2138/am.2011.3822, 2011.

254. Kuritani T., Ohtani E., Kimura JI, Intensive hydration of the mantle transition zone beneath China caused by ancient slab stagnation. Nature Geoscience, 4, 10, 713-716, DOI: 10.1038/NGEO1250, 2011.

255. Terasaki H., Shibazaki Y., Sakamaki T., Tateyama R., Ohtani E., Funakoshi K., Higo Y., Hydrogenation of FeSi under high pressure. American Mineralogist, 96, 93-99, DOI: 10.2138/am.2011.3628, 2011.

256. Shiraishi R., Ohtani E., Kubo T., Doi N., Suzuki A., Shimojuku A., Kato Y., Kikegawa T., Deformation cubic anvil press and stress and strain measurements using monochromatic X-rays at high pressure and high temperature. High Pressure Research, 31, 3, 399-406, DOI: 10.1080/08957959.2011.590481, 2011.

257. Ozawa S. Miyahara M., Ohtani E., Kimura M., Ito Y., Petrography of Yamato 984028 lherzolitic shergottite and its melt vein: Implications for its shock metamorphism and origin of the vein. Polar Science, 4, 4, 550-557, DOI: 10.1016/j.polar.2010.08.002, 2011.

2012

258. Shibazaki Y., Ohtani E., Fukui H., Sakai T., Kamada S., Ishikawa D., Tsutsui S., Baron A.Q.R., Nishitani N., Hirao N., Takemura K., Sound velocity measurements in dhcp-FeH up to 70 GPa with inelastic X-ray scattering: Implications for the composition of the Earth’s core. Earth and Planetary Science Letters, 313-314, 79-85, 2012.

259. Ouchi T., Nishihara Y., Kawazoe T., Spengler D., Shiraishi R., Suzuki A., Kikegawa T., Ohtani E., Superplasticity in hydrous melt-bearing dunite: Implications for shear localization in Earth's upper mantle. Earth and Planetary Science Letters, 335, 59-71, doi: 10.1016/j.epsl.2012.04.032, 2012.

260. Zhao DP., Arai T., Liu L., Ohtani E., Seismic tomography and geochemical evidence for lunar mantle heterogeneity: Comparing with Earth. Global and Planetary Change, 90-91, Si, 29-36, doi: 10.1016/j.gloplacha.2012.01.004, 2012.

261. Terasaki H., Urakawa S., Rubie DC, Funakoshi K., Sakamaki T., Shibazaki Y., Ozawa S., Ohtani E., Interfacial tension of Fe-Si liquid at high pressure: Implications for liquid Fe-alloy droplet size in magma oceans. Physics of the Earth and Planetary Interiors, 202, 1-6, DOI: 10.1016/j.pepi.2012.05.002, 2012.

262. Kamada S., Ohtani E., Terasaki H., Sakai T., Miyahara M., Ohishi Y., Hirao N., Melting relationships in the Fe-Fe3S system up to the outer core conditions. Earth and Planetary Science letters, 359-360, 26-33, 2012.

263. Terasaki H., Ohtani E., Sakai T., Kamada S., Asanuma H., Shibazaki Y., Hirao N., Sata N., Ohishi., Sakamaki T., Suzuki A., Funakoshi K., Stability of Fe-Ni hydride after the reaction between Fe-Ni alloy and hydrous phase (delta-AlOOH) up to 1.2 Mbar: Possibility of H contribution to the core density deficit. Physics of the Earth and Planetary Interiors, 194, 18-24, DOI: 10.1016/j.pepi.2012.01.002, 2012.

2013

264. Nishida K., Kono Y., Terasaki H., Takahashi S., Ishii M., Shimoyama Y., Higo Y., Funakoshi K., Irifune T., Ohtani E., Sound velocity measurements in liquid Fe-S at high pressure: Implications for Earth's and lunar cores. Earth and Planetary Science Letters, 362, 182-186, 2013.

265. Kuritani T., Kimura J., Ohtani E., Miyamoto H., Furuyama K., Transition zone origin of potassic basalts from Wudalianchi volcano, northeast China. Lithos, 156-159, 1-12, 2013.

266. Kiseeva E.S., Litasov K.D., Yaxley G.M., Ohtani E., Kamenetsky V. S., Melting and Phase Relations of Carbonated Eclogite at 9–21 GPa and the Petrogenesis of Alkali-Rich Melts in the Deep Mantle. Journal of Petrology, doi:10.1093/petrology/egt023, 2013.

267. Sharygin IS., Litasov KD., Shatskiy AF., Golovin AV., Ohtani E., Pokhilenko NP., Melting of kimberlite of the Udachnaya-East pipe: Experimental study at 3–6.5 GPa and 900–1500°C. Doklady Earth Sciences, 448, 2, 200-205, doi: 10.1134/S1028334X13020086, 2013

268. Litasov KD., Gavryushkin PN., Dorogokupets PI., Sharugin IS., Shatskiy A., Fei YW., Rashchenko SV., Seryotkin YV., Higo Y., Funakoshi K., Ohtani E., Thermal equation of state to 33.5 Pa and 1673 K and thermodynamic properties of tungsten. Journal of Applied Physics, 113, 13, doi:10.1063/1.4799018, 2013.

269. Dymshits A., Bobrov AV., Bindi L., Litvin YA., Litasov KD., Shatskiy A., Ohtani E., Na-bearing majoritic garnet in the Na2MgSi5O12-Mg3Al2Si3O12 join at 11-20 GPa: Phase relations, structural peculiarities and solid solutions. Geochimica et Cosmochimica Acta, 105, 1-13, doi:10.1016/j.gca.2012.11.032, 2013.

270. Litasov KD., Dorogokupets PI., Ohtani E., Fei YW., Shatskiy A., Sharygin IS., Gavryushkin PN., Rashchenko SV., Seryotkin YV., Higo Y., Funakoshi K., Chanyshev AD., Lobanov SS., Thermal equation of state and thermodynamic properties of molybdenum at high pressures. Journal of Applied Physics, 113, 9, doi:10.1063/1.4794127, 2013.

271. Ghosh S., Ohtani E., Konstantin KD., Suzuki A., Dobson D., Funakoshi K., Effect of water in depleted mantle on post-spinel transition and implication for 660 km seismic discontinuity. Earth and Planetary Science Letters, 371, 103-111, doi.org/10.1016/j.epsl.2013.04.011, 2013.

272. Litasov K.D., Shatskiy A., Ohtani E., Yaxley GM., Solidus of alkaline carbonatite in the deep mantle. Geology, 41, 1, 79-82, doi:10.1130/G33488.1, 2013

273. Miyahara M., Ozawa S., Ohtani E., Kimura M., Kubo Y., Sakai T., Nagase T., Nishijima M., Hirao N., Jadeite formation in shocked ordinary chondrites. Earth and Planetary Science Letters, 373, 102-108, doi:10.1016/j.epsl.2013.04.023, 2013.

274. Shatskiy A., Sharygin IS., Gavryushkin PN., Litasov KD., Borzdov YM., Shcherbakova AV., Higo Y., Funakoshi K., Palyanov YN., Ohtani E., The system K2CO3-MgCO3 at 6 GPa and 900-1450 degrees C. American Mineralogist, 98, 8-9, 1593-1603, doi:10.2138/am.213.4407, 2013

275. Takahashi S., Ohtani E., Terasaki H., Ito Y., Shibazaki Y., Ishii M., Funakoshi K., Higo Y., Phase relations in the carbon-saturated C-Mg-Fe-Si-O system and C and Si solubility in liquid Fe at high pressure and temperature: implications for planetary interiors. Physics and Chemistry of Minerals, 40, 8, 647-657, doi:10.1007/s00269-013-0600-x, 2013.

276. Shimoyama Y., Terasaki H., Ohtani E., Urakawa S. Takubo Y., Nishida K., Suzuki A., Katayama Y., Density of Fe-3.5wt% C liquid at high pressure and temperature and the effect of carbon on the density of the molten iron. Physics of the Earth and Planetary Interiors. 224, 77-82, 2013.

277. Ohtani E., Shibazaki Y., Sakai T., Mibe K., Fukui H., Kamada S., Sakamaki T., Seto U., Tsutsui S., Baron Q. R. A., Sound velocity of hexagonal close-packed iron up to core pressures. Geophysical Research Letters, 40, 19, 5089-5094, doi:10.1002/grl.50992, 2013.

278. Shatskiy A., Gavryushkin N. P., Sharygin I.S., Litasov K. D., Kupriyanov I. N., Higo Y., Borzdov Y. M., Funakoshi K., Palanov Y. N., Ohtani E., Melting and subsolidus phase reltions in the system Na2CO3-MgCO3±H2O at 6 GPa and the stability of Na2Mg(CO3)2 in the upper mantle. American Mineralogist, 98, 2172-2182, 2013.

279. Shatskiy A., Sharygin I. S., Litasov K. D., Borzdov Y. M., Palyanov Y. N., Ohtani E., New experimental data on phase relations for the system Na2CO3-CaCO3 at 6 GPa and 900-1400℃. American Mineralogist, 98, 2164-2171, 2013.

280. Sakamaki T., Suzuki A., Ohtani E., Terasaki H., Urakawa S., Katayama Y., Funakoshi K., Wang Y., Hernlund J. W., Ballmer M. D., Ponded melt at the boundary between the lighosphere and asthenosphere. Nature Geoscience, 6, 1041-1044, doi:10.1038/ngeo1982, 2013.

281. Fukui H., Sakai T., Sakamaki T., Kamada S., Takahashi S., Ohtani E., Baron AQR., A compact system for generating extreme pressures and temperatures: An application of laser-heated diamond anvil cell to inelastic X-ray scattering. Review of scientific

Instruments, 84, 11, doi: 10.1063/1.4826497, 2013.

282. El Goresy A., Gillet Ph., Miyahara M., Ohtani E., Ozawa S., Beck P. and Montagnac G. Shock-induced deformation of Shergottites: Shock–pressures and perturbations of magmatic ages on Mars. Geochimica et Cosmochimica Acta, 101, 233-262, 2013.

283. Shatskiy A., Litasov KD., Borzdov YM., Katsura T., Yamazaki D., Ohtani E., Silicate diffusion in alkali-carbonatite and hydrous melts at 16.5 and 24 GPa: Implication for the melt transport by dissolution-precipitation in the transition zone and uppermost lower mantle. Physics of the Earth and Planetary Interiors, 225, 1-11, DOI: 10.1016/j.pepi.2013.09.004, 2013.

284. Litasov KD., Sharygin IS., Shatskii AF., Gavryushkin PN., Dorogokupets PI., Sokolova TS., Ohtani E., Dymshits AM., Alifirova TA., P-V-T equations of state for iron carbides Fe3C and Fe7C3 and their relationships under the conditions of the Earth's mantle and core. Doklady Earth Science, 453, 2, 1269-1273, DOI: 10.1134/S1028334X13120192, 2013.

285. Litasov KD., Shatskiy A., Gavryushkin ON., Sharygin IS., Dorogokupets PI., Dymshits A., Ohtani E., Higo Y., Funakoshi K., P-V-T equation of state of siderite to 33 GPa and 1673 K. Physics ot the Earth and Planetary Interiors, 224, 83-87, DOI: 10.1016/j.pepi.2013.07.011, 2013.

286. Miyahara M., Kaneko S., Ohtani E., Sakai T., Nagase T., Kayama M., Nishido H., Hirao N., Discovery of seifertite in a shocked lunar meteorite. Nature Communications, 4, #1737, DOI: 10.1038/ncomms2733, 2013.

2014

287. Kamada S., Ohtani E., Fukui H., Sakai T., Terasaki H., Takahashi S., Shibazaki Y., Tsutsui S., Baron A. Q. R., Hirao N., Ohishi Y., The sound velocity measurements of Fe3S. American Mineralogist, 99, 98-101, 2014.

288. Sakai T., Takahashi S., Nishitani N., Mashino I., Ohtani E., Hirao N., Equation of state of pure iron and Fe0.9Ni0.1 alloy up to 3 Mbar. Physics of the Earth and Planetary Interiors. 228, 114-126, 2014.

289. Kamada S., Ohtani E., Terasaki H., Sakai T., Takahashi S., Hirao N., Ohishi Y., Equation of state of Fe3S at room temperature up to 2 megabars. Physics of the Earth and Planetary Interiors, 228, 106-113, 2014.

290. Shibazaki Y., Terasaki H., Ohtani E., Tateyama R., Nishida K., Funakoshi K., Higo Y., High-pressure and high-temperature phase diagram for Fe0.9Ni0.1-H alloy. Physics of the Earth and Planetary Interiors, 228, 192-201, 2014.

291. Mashino I., Ohtani E., Hirao N., Mitsui T., Masuda R., Seto M., Sakai T., Takahashi S., Nakano S., The spin state of iron in Fe3+-bearing Mg-perovskite and its crystal chemistry at high pressure. American Mineralogist, 99, 8-9, 1555-1561, DOI: 10.2138/am.2014.4659, 2014.

292. Doi N., Kato T., Kubo T., Noda N., Shiraishi R., Suzuki A., Ohtani E., Kikegawa T., Creep behavior during the eutectoid transformation of albite: Implication for the slab deformation in the lower mantle. Earth and Planetary Science Letters, 388, 92-97, 10.1016/j.epsl.2013.09.009, 2014.

293. Dymshits AM., Litasov KD., Shatskiy A., Sharygin IS., Ohtani E., Suzuki A., Pokhilenko NP., Funakoshi K., P-V-T equation of state of Na-magorite to 21 GPa and 1673K. Physics of the Earth and Planetary Interiors, 227, 68-75, 10.1016/j.epsl.2013.09.009, 2014.

294. Litasov KD., Shatskiy A.F., Ovchinnikov SG., Popov ZI., Ponomarev DS., Ohtani E., Phase transformations of Fe3N-Fe4N Iron Nitrides at pressures up to 30 GPa studied by in situ X-ray diffractometry. JETP Letters, 98, 805-808, 10.1134/S0021364013250140, 2014.

295. Shatskiy A., Borzdov Y.M., Litasov K.D., Kupriyanov I. N., Ohtani E., Palyanov Y.N., Phase relations in the system FeCO3-CaCO3 at 6 GPa and 900–1700 °C and its relation to the system CaCO3-FeCO3-MgCO3. American Mineralogist, 99, 773-785, doi: 10.2138/am.2014.4721, 2014.

296. Ghosh S., Litasov K., Ohtani E., Phase relations and melting of carbonated peridotite between 10 and 20GPa: a proxy for alkali- and CO2-rich silicate melts in the deep mantle. Contributions to Mineralogy and Petrology, 167:964, doi: 10.1007/s00410-014-0964-z, 2014.

297. Ohtani E., Amaike Y., Kamada S., Sakamaki T., Hirao N., Stability of hydrous phase H MgSiO4H2 under lower mantle conditions. Geophysical Research Letters, 41, 23, 8283-8287, DOI: 10.1002/2014GL061690, 2014.

298. Lin YT., El Goresy A., Zhang JC., Gillet P., Xu YC., Hao JL., Miyahara M., Ouyang ZY., Ohtani E., Xu L., Yang W., Feng L., Zhao XC., Yang J., Ozawa S., NanoSIMS analysis of organic carbon from the Tissint Martian meteorite: Evidence for the past existence of subsurface organic-bearing fluids on Mars. Meteoritics & Planetary Science, 49, 12, 2201-2218, DOI: 10.1111/maps.12389, 2014.

299. Watanabe K., Ohtani E. Kamada S., Sakamaki T., Miyahara M., Ito Y., The abundance of potassium in the Earth's core. Physics of the Earth Planetary Interiors, 237, 65-72, DOI: 10.1016/j.pepi.2014.10.001, 2014

300. Dymshits AM., Litasov KD., Sharyin IS., Shatskiy A., Ohtani E., Suzuki A., Funakoshi K., Thermal equation of state of majoritic knorringite and its significance for continental upper mantle. Journal of Geophysical Research-Solid Earth, 119, 11, 8034-8046, DOI: 10.1002/2014JB011194, 2014.

301. Chanyshev AD., Litasov KD., Shatskiy AF., Ohtani E., Study of Pocyclic Aromatic Hydrocarbons at a Pressure of 6-9 GPa with X-ray Diffraction and Synchrotron Radiation. Doklady Earth Science, 458, 1277-1280, DOI: 10.1134/S1028334X1410016X, 2014.

302. Chanyshev AD., Litasov KD., Shatskiy AF., Furukawa J., Ohtani E., Stability Conditions of Polycyclic Aromatic Hydrocarbons at High Pressures and Temperatures. Geochemistry International, 52, 9, 767-772, DOI: 10.1134/S001670291409002X, 2014.

303. Ohira I., Ohtani E., Sakai T., Miyahara M., Hirao N., Ohishi Y., Nishijima M., Stability of a hydrous delta-phase, AlOOH-MgSiO2(OH)(2), and a mechanism for water transport into the base of lower mantle. Earth and Planetary Science Letters, 401, 12-17, DOI: 10.1016/j.epsl.2014.05.059, 2014.

304. Ozawa S., Miyahara M., Ohtani E., Koroleva ON., Ito Y., Litasov KD., Pokhilenko NP., Jadeite in Chelyabinsk meteorite and the nature of an impact event on its parent body. Scientific Report, 4, #5033, DOI: 10.1038/srep05033, 2014.

305. Mysen BO., Tomita T., Ohtani E., Suzuki A., Speciation of and D/H partitioning between fluids and melts in silicate-D-O-H-C-N systems determined in-situ at upper mantle temperatures, pressures, and redox conditions. American Mineralogist, 99, 578-588, DOI: 10.2138/am.2014.4575, 2014.

306. Litasov KD., Shatskiy A., Ohtani E., Melting and subsolidus phase relations in peridotite and eclogite systems with reduced C-O-H fluid at 3-16 GPa. Earth and Planetary Science Letters, 391, 87-99, DOI: 10.1016/j.epsl.2014.01.033, 2014.

307. Terasaki H., Shibazaki Y., Nishida K., Tateyama R., Takahashi S., Ishii M., Shimoyama Y., Ohtani E., Funakoshi K., Higo Y., Repulsive Nature for Hydrogen Incorporation to Fe3C up to 14 GPa. ISJI International, 54, 11, 2637-2642, DOI: 10.2355/isijinternational.54.2637, 2014.

308. Nishihara Y., Ohuchi Y., Kawazoe T., Spengler D., Tasaka M., Kikegawa T., Suzuki A., Ohtani E., Rheology of fine-grained forsterite aggregate at deep upper mantle conditions. Journal of Geophysical Research-Solid Earth, 119, 253-273, DOI: 10.1002/2013JB010473, 2014.

2015

309. Miyahara M., Ohtani E., El Goresy A., Lin Y., Feng L., Zhang J., Gillet P., Nagase T., Muto J., Nishijima M., Unique large diamonds in a ureilite from Almahata Sitta 2008 TC3 asteroid. Geochimica et Cosmochimica Acta, 163, 14-26, doi.org/10.1016/j.gca.2015.04.035, 2015.

310. Ohtani E., Y. Amaike, S. Kamada, I. Ohira, I. Mashino, 2015. Stability of hydrous minerals and water reservoirs in the deep Earth's interior. In Deep Earth: Physics and Chemistry of the Lower Mantle and Core, Amer. Geophys. Union, Monograph edited by H. Terasaki and R. Fischer, in press.

311. Shatskiy, A.; Gavryushkin, P.N.; Litasov, K.D.; Koroleva, O.N.; Kupriyanov I.N.; Borzdov Yu.M.; Sharygin I.S.; Funakoshi, K.; Palyanov Y.N.; Ohtani E. Raman spectroscopic and X-ray diffraction studies of the Na-Ca carbonates synthesized under upper mantle conditions. European Journal of Mineralogy, DOI: 10.1127/EJM/2015/0027-2426, 2015

312. Antonangeli, D. and E Ohtani, 2015. Sound velocity of hcp-Fe at high pressure: experimental constraints, extrapolations and comparison with seismic models. Progress in Earth and Planetary Science, 2, doi:10.1186/s40645-015-0034-9, 2015.

313. Chanyshev AD., Litasov KD., Shatskiy AF., Furukawa Y., Yoshino T., Ohtani E., Oligomerization and carbonization of polycyclic aromatic hydrocarbons at high pressure and temperature. Carbon, 84, 225-235, doi:10.1016/j.carbon.2014.12.011, 2015.

314. Dymshits A., Sharygin I., Litasov K., Shatskiy A., Gavryushkin P., Ohtani E., Suzuki A., Funakoshi K., In situ observation of the pyroxene-majorite transition in Na2MgSi5O12 using synchrotron radiation and raman spectroscopy of Na-majorite. American Mineralogist, 100, 2-3, 378-384, doi:10.2138/am-2015-4801, 2015.

315. Sobolev NV., Dobretsov NL., Ohtani E., Taylor LA., Schertil HP., Palyanov NY., Litasov KD., Problems related to crystallogenesis and the deep carbon cycle. Russian Geology and Geophysics, 56, 1-2, 1-12, doi:10.1016/j.rgg.201.0.001, 2015.

316. Shatskiy A., Rashchenko SV., Ohtani E., Litasov KD., Khlestov MV., Borzdov YM., Kupriyanov IN., Sharygin IS., Palyanov YN., The system Na2CO3-FeCO3 at 6 GPa and its relation to the system Na2Co3-FeCO3-MgCO3. American Mineralogist, 100, 1, 130-137, doi:10.2138/am-2015-4777, 2015.

317. Kaneko S., Miyahara M., Ohtani E., Arai T., Hirao N., Sato K., Discovery of stishovite in Apollo 15299 sample. American Mineralogist, 100, 1308-1311, doi: org/10.2138/am-2015-5290, 2015.

318. Chanyshev AD., Litasov KD., Shatskiy A., Ohtani E., In situ X-ray diffraction study of decomposition of polycyclic aromatic hydrocarbons at pressures of 7-15 GPa: Implication to fluids under the Earth's and planetary environments. Chemical Geology, 105, 39-47, 10.1016/j.chemgeo.2015.04.004, 2015.

319. Martirosyan NS., Litasov KD., Shatskiy A., Ohtani E., The reactions between iron and magnesite at 6 GPa and 1273-1873 K: Implication to reduction of subducted carbonate in the deep mantle. Journal of Mineralogical and Petrological Sciences, 110, 2, 49-59, DOI: 10.2465/jmps.141003a, 2015.

320. Shatskiy A., Gavryushkin PN., Litasov KD., Koroleva ON., Kupriyanov IN., Borzdov YM., Sharygin IS., Funakoshi K., Palyanov YN., Ohtani E., Na-Ca carbonates synthesized under upper-mantle conditions: Raman spectroscopic and X-ray diffraction studies. European Journal of Mineralogy, 27, 2, 175-184, DOI: 10.1127/ejm/2015/0027-2426, 2015.

321. Ohtani E., Mibe K., Sakamaki T., Kamada S., Takahashi S., Fukui H., Tsutsui S., Baron, AQR, Sound velocity measurement by inelastic X-ray scattering at high pressure and temperature by resistive heating diamond anvil cell. Russian Geology and Geophysics, 56, 1-2, 190-195, DOI: 10.1016/j.rgg.2015.01.012, 2015.

322. Shatskiy A., Borzdov YM., Litasov KD., Sharygin IS., Palyanov YN., Ohtani E., Phase relationships in the system K2CO3-CaCO3 at 6 GPa and 900-1450 degrees C. American mineralogist, 100, 1, 223-232, DOI: 10.2138/am-2015-5001, 2015.

323. Tajima F., Yoshida M., Ohtani E., Conjecture with water and rheological control for subducting slab in the mantle transition zone. Geoscience Frontiers, 6, 79-93, 2015.

324. Ohtani, E., Hydrous minerals and the storage of water in the deep mantle, Chem. Geol. http://dx.doi.org/10.1016/j.chemgeo.2015.05.005, 2015.

➢ *Books and edited proceedings volumes*

1. Ohtani E., and Ahrens, T.J., (1997). Physical and Chemical evolution of the Earth. Editors. Phys. Rarth Planet. Inter. (Editors), IUGG Special volume, volume 100, 213p, Elsevier, 1997.

2. Rubie, D.C., Duffy, T.S. and Ohtani E., Ed., New developments in high pressure minerals physics and applicaitions to the earth's interior, Phys. Earth Planet. Inter., Special volume for HPMPS-6, 143-44, (2004).

3. Ohtani E. and Kakegawa, T. (2005), Earth and Life: their Origin and Evolution, Kyoritsu Shuppan Co.Ltd., 196p (in Japanese)

4. Ohtani E. (2007), Ed., Advance in High Pressure Mineralogy, Geol. Soc. Am., Monograph vol. 421, Geological Soc. Am, pp 242.

5. Suzuki, A., Nishida, K., Sakamaki, T., Terasaki, H. and Ohtani E., X-ray radiography technique at high pressures and high temperatures. in Recent development of the experimental techniques in high-pressure research on synchrotron radiation sources, edited by K. Kusaba, T. Kikegawa, K. Takemura, O. Ohtaka, T. Kondo, C. Sekine and T. Hattori, High Energy, Accelerator Research Organization (KEK), Tsukuba, pp. 61-64, 2007.

6. Lin, J-F., Karato, S., Bass, J.D., Ohtani E., Prewitt., C.T., Frontiers and grand challenges in mineral physics of the deep mantle. Special issue of Physics of the Earth and Planetary Interiors 170 (2008) 151p.

7. E Ohtani, D. Andrault, P. D. Asimow, L. Stixrude, Y.Wang, Advances in high-pressure mineral physics: From the deep mantle to the core. Proceedings of High Pressure Mineral Physics Seminar-7, Special issue in Physics of the Earth and Planetary Interiors, 174, Issues 1-4, 2009,

➢ *Peer-reviewed papers in Japanese*

1. Fujino, K., Ohtani E., and Irifune, T., Crystal chemistry of the pyrope melt and its quench phase at high pressure and temperature. Kobutugaku Zasshi, 16, Spec. issue no.1, 231-238, 1983.
   高温・高圧下におけるパイロープ・メルトとその急冷相の結晶化学

2. Ohtani E., Geobarometer: Its capability and limitation. Kobutugaku Zasshi, 19, 87-97, 1989.
   地質圧力計の有用性と限界

3. Ohtani E., Composition and constitution of the Earth interior. Jishin, 44, 183-199, 1991 (in Japanese with English abstract).
   地球内部の物質・組成

4. Ohtani E., Fractionation process and constitution of the earth interior. Kobutugaku Zasshi, 20, 209-216, 1991 (in Japanese with English abstract).
   地球の分化過程と内部構造

5. Ohtani E. Mineral as a function of temperature, pressure, and composition, Koubutugaku-Zasshi, 21, 223-237. 1992.
   温度・圧力・組成の関数としての鉱物

6. Ohtani E. Composition, Temperature, and pressure in the Earth interiors, The review of High Pressure Science and Technology, 1, 12-19, 1994.
   地球内部の組成、温度、圧力

7. Ohtani E., Irifune, T. Materials in the terrestrial planets and Moon, Basic methods and their applications in Solid Planetary Material Science, Edited by H. Takade, M. Kitamura, M. Miyamoto, Sec 15, pp187-201, ScienceHouse, 1994.

8. Yamazaki, D., Kato, T., Ohtani E., Preferred orientation of olivine by stress at high pressure, Zishin 49, 39-53, 1996.

超高圧下における応力場によるオリビンの選択配向

9. Ohtani E., Internal structure of the Earth based on the ultrahigh pressure experiments: Accumulation of diamond at the depth of 500 km, Parity, 11, 23-27, 1996.

10. Ohtani E., A model of formation of the Earth's core and chemistry of the mantle, Yuseijin, 5, 126-132, 1996.
地球核形成モデルとマントルの化学組成

11. Ohtani E., Role of water in the earth and planets, Review of High Pressure Science and Technology, 6, 30-35, 1997.
地球惑星内部における水の役割

12. Ohtani E., Fractionation in the early Earth estimated by the partitioning of elements at ultrahigh pressure conditions, Kazan 42, Special issue, S267-S274, 1997.
超高圧下での元素分配からみた初期地球の分化

13. Ohtani E, Equilibrium and disequilibrium in the core formation process, Koubutugaku Zasshi, 27, 179-184, 1998.
地球核形成過程における平衡と非平衡

14. Suzuki, A., Kondo, T., Ohtani E., Analysis of small samples using Micro-Raman Spectrometer, Ganseki Koubutu Kagaku, 30, 241-246, 2001.
顕微ラマン分光装置を使用した微小試料の解析

15. Ohtani E., Phase equilibrium: Formation conditions of minerals estimated by their phase relations, Ganseki Koubutsu Kagaku, 32, 144-146, 2003.
相平衡:鉱物の相関係から推定されるその生成環境

16. Ohtani E. (2005). Minerals and Rocks in the Earth's Interior, Journal of Geography, 114, 338-349 (in Japanese).
地球内部の岩石鉱物

17. Ohtani E. (2005). Dry and wet magma oceans and formation of the crusts of the Earth and Moon. Yuseijin (Jour. Japanese Soc. Planet. Sci.), 14, 109-112(in Japanese).
無水および含水マグマオーシャンと月と地球の地殻

18. Ohtani E. (2006), Importance of Geoneutrino observation in Earth and Planetary Science, Butsuri Gakkaishi (Physics), 61, 6, 2006. (in Japanese with English abstract).

19. Ohtani E. Global water cycle and dynamics of the global earth. Chigaku-Zasshi, 116, no.6, 2007 (in Japanese).
大規模水循環と全地球ダイナミクス

20. Ohtani E., Melting relations and equation of state of magmas at high pressure: Applications to Geodynamics. The review of High Pressure Science and Technology, Vol.18, No.4, 360-369, 2008 (in Japanese).
マントル物質の融解とマグマの密度:そのマントルダイナミクスへの適用
（Bowen 賞受賞記念）

➢ *Papers without review (in English and Japanese)*

1. Ohtani E., Terrestrial magma ocean and evolution of the layered structure of the mantle. Gekkan Chikyu (The Earth Monthly), 7, 569-573, 1985 (in Japanese).

2. Ohtani E., Ultrahigh pressure experiment and origin of the magma in the early stage of the terrestrial evolution. Gekkan Chikyu (The Earth Monthly), 8 , 14-19, 1986 (in Japanese).

3. Ohtani E., Ultrahigh pressure experiments and chemical evolution of the interior of the mantle. Memorial volume of Professor Shinji Sato, 121-126, 1988 (in Japanese).

4. Ohtani E., Kato, T. and Onuma, K., Chemical structure and origin of the core-mantle boundary and the core, Gekkan Chikyu (The Earth Monthly), Gougai (Special volume) No. 2, 22-27, 1989 (in Japanese).

5. Ohtani E. The early Earth, perspective for research. Gekkan Chikyu (The Earth Monthly), 12, 686-689, 1990 (in Japanese).

6. Ohtani E., MULTIER (Multi-sphere Interactions and Rhysms) 3, Gekkan Chikyu (Earth Monthly), 13, no 9., 1991 (in Japanese).

7. Ohtani E., Subduction and the mantle dynamics of the early Earth, Gekkan Chikyu (Earth Monthly), 13, 613-617, 1991 (in Japanese).

8. Yamashita, H. Ohtani E., High pressure and temperature experiments on kimberlite: chemical compositions of fluids in the upper mantle, Bull. Kanazawa prefect. Mus. (Nat. Sci.), No. 24, pp1-8, 1995.(in Japanese)

9. Ohtani E., Synthesis of Minerals and deep structure of the Earth. Ch. 6, Mineral Sciences, Shinpan Chigakukyouiku Koza, vol. 3,Tokai University Press, 1995 (in Japanese).

10. Ohtani E., Suzuki, A., Kato, T. and Yurimoto, H., Flotation of Diamond in magmas at high pressure and its implications for diamond genesis and fractionation in the deep mantle. Advanced Materials '96, Proceedings of the 3 rd NIRIM Internatiuonal symposium on Advanced Materials (ISAM'96), 345-350, 1996.

11. Ohtani E., T. Kubo, and A. Suzuki, Events in the interior of the plumes: Plume tectonics based on the ultrahigh pressure experiments, Kagaku, 67, 534-542, 1997. (in Japanese)

12. Hamahata, Y., Ohtani E. and Kawamura, K., Molecular dyamic estimation of the temperature anormaly in the lower mantle. Extended abstract of international symposium on New Images of the Earth's interior through long-term ocean-floor observations, Ocean Hemisphere Project, 113-115, 1997.

13. Yamazaki, D., Kato, T., Yurimoto, H., Ohtani E., Toriumi, M., Silicon self-diffusion in perovskite at high pressure.Extended abstract of international symposium on New Images of the Earth's interior through long-term ocean-floor observations, Ocean Hemisphere Project, 116, 1997.

14. Kudoh, Y., Nagase, T, Mizobata, H., Ohtani E., Sasaki, S., Tanaka, M., Crystal structure of phase G synthesized at 22 GPa and 1050C. KEK Progress report, 97-2, 1997.

15. Ohtani E., Asahara, Y., Role of water in the early Earth: Formation of komatiite magmas and cratonic peridotites by melting of the wet mantle in the Archean, Chikyu Kagaku, 33, 235-245, 1999 (in Japanese).

16. Ohtani E., Kubo, T., Suzuki, A., Interior of the plume, Plume tectonics based on the ultrahigh pressure experiments, Plume Tectonics and decoding of the whole Earth's history, edited by M. Kumazawa and S. Maruyama, pp 314-322, 2002, Iwanami Shoten, (in Japanese).

17. Ohtani E., Kubo, T., Suzuki, A., Water controls the interior of the Earth - Recent results of High Pressure experiments, Plume Tectonics and decoding of the whole Earth's history, edited by M. Kumazawa and S. Maruyama, pp 323-325, 2002, Iwanami Shoten (in Japanese).

18. S. Enomoto, E Ohtani, K. Inoue, A. Suzuki (2005). Neutrino geophysics with KamLAND and future prospects, www.arxiv.org

19. Ohtani E., Kawazoe T., Suzuki A., Terasaki H., Konstantin L., Nishida K., In situ determination of phase and melting relations of Fe-FeS-FeO system at high pressure and temperature and applications to the Martian core. Spring-8 User Experimental Report, 2005B.

20. Ohtani E., Sano A., Kondo T., Sakai T., Suzuki A., Hirao N., Sata N., Ooishi Y., Stability of hydrous phase -AlOOH at Multi-Mega bar conditions. Spring-8 User Experimental Report, 2005B.

21. Ohtani E., Terasaki H., Suzuki A., Tsuno K., Nishida K., Sakamaki T., Yu X., Secco R., Viscosity measurement of molten Fe-S-O alloy above 20 GPa. Spring-8 User Experimental Report, 2006A.

22. Urakawa S., Sakamaki T., Ohtani E., Suzuki A., Katayama Y., Density measurement for MORB melts by X-ray absorption method. Spring-8 User Experimental Report, 2005B.

23. Hirao N., Kondo T., Ohtani E., Sata N., Ooishi Y., In situ X-ray measurements of iron-nickel alloy at 1.8 Mbar. Spring-8 User Experimental Report, 2005B.

24. Terasaki H., Suzuki A., Ohtani E., Nishida K., Sakamaki T., Viscosity measurement of molten Fe-alloy above 20 GPa. Spring-8 User Experimental Report, 2005B.

25. Secco R., Ohtani E., Litasov K., Suzuki A., Terasaki H., Kawazoe T., Nishida K., Sakamaki T., Viscosity of Liquid Fe-Si Alloys at High Pressures and Temperatures. Spring-8 User Experimental Report, 2005B.

26. Sakai T., Kobayashi Y., Hirao N., Ohtani E., Sata N., Ooishi Y., Melting relation of Fe-FeS system under ultra-high pressures. Spring-8 User Experimental Report, 2005B.

27. Suzuki A., Ohtani E., Terasaki H., Sakamaki T., Nishida K., Radiography method for the density measurement of basaltic magma at high pressure and high temperature. Spring-8 User Experimental Report, 2006A.

28. Hirao N., Kondo T., Ohtani E., Ooishi Y., Equation of state of iron to 202 GPa. Spring-8 User Experimental Report, 2006A.

29. Litasov K., Ohtani E., Suzuki A., Terasaki H., Influence of water on phase transition in olivine and peridotite compositions with implication to 410- and 520-km discontinuity in the transition zone. Spring-8 User Experimental Report, 2006A.

30. Terasaki H., Ohtani E., Suzuki A., Tsuno K., Sakamaki T., Nishida K., Asanuma H.,

Litasov K., Secco R., Yu X., Measurement of the interfacial energy of Fe-S melt at high pressure using the static liquid-droplet method, Spring-8 User Experimental Report, 2006A (in Japanese).

31. Kondo T., Sakai T., Ohtani E., Hirao N., Sata N., Ohishi Y., Iron-water reaction under ultra-high pressure. Spring-8 User Experimental Report, 2006.

32. Urakawa S., Sakamaki T., Ohtani E., Suzuki A., Katayama Y., Density measurement for MORB melts by X-ray absorption method. Spring-8 User Experimental Report, 2006A.

33. E Ohtani, Importance of Geonutrino Observation in Earth and Planetary Science, Nippon Buturi Gakkaishi (Journal of Physical Society of Japan), Vol. 61, No.6, 2006 (in Japanese).

34. Ohtani E., Ultrahigh Pressure Earth Science: Applications of TEM and FIB Techniques for Study of Core-Mantle Boundary Region of Earth, JEOL News, 41, No.1, 27-31, 2006.

35. Ohtani E., Simulation of the Earth's deep interior: Global circulation of water in the Earth's interior, Aoba Scientia, No.7, 2-3, 2006 (in Japanese).

36. Ghosh S., Ohtani E., Litasov K., Suzuki A., Density of carbonated basaltic melt at the conditions of Earth's upper mantle. Geochimica et Cosmochimica Acta, 70, 18, A201-A201, Suppl. S, Aug-Sep 2006.

37. Kondo T., Sakai T., Kobayashi Y., Ohtani E., Miyahara M., Yoo JH., Nagase T., Fe-Mg partitioning between post-perovskite and magnesiowustite. Geochimica et Cosmochimica Acta, 70, 18, A329-A329, Suppl. S, Aug-Sep 2006.

38. Litasov KD., Ohtani E., Kagi H., Lakshtanov DL., Bass JD., Hydrogen solubility in Al-rich stishovite and water transport to the lower mantle. Geochimica et Cosmochimica Acta, 70, 18, A362-A362, Suppl. S, Aug-Sep 2006.

39. Ohtani E., Sakai T., Metal-silicate fractionation in the deep magma ocean and light elements in the core. Geochimica et Cosmochimica Acta, 70, 18, A455-A455, Suppl. S, Aug-Sep 2006.

40. Sakai T., Kondo T., Kobayashi Y., Ohtani E., Miyahara M., Yoo JH., Nagase T., Fe-Mg partitioning between post-perovskite and magnesiowustite. Geochimica et Cosmochimica Acta, 70, 18, A552-A552, Suppl. S, Aug-Sep 2006.

41. A. Suzuki, K. Nishida, T. Sakamaki, H. Terasaki, . E Ohtani, Imaging experiments at high pressure and temperature. PF Proceedings, 2007. (in Japanese)

42. Litasov, K., Ohtani E., Terasaki, H., Suzuki, A., Post-stishovite phase transformation in hydrous oceanic crust and seismic reflectors in the lower mantle. Spring-8 User Experimental Report, 2006B1230, 2007.

43. Asahara, Y., Frost, D., Rubie, D., Terasaki, H., Tsuno, K., Nishida, K., Saikia, A., Ohtani E.,In-situ determination of solvus in the Fe-FeO system at high temperatures and high pressures. Spring-8 User Experimental Report, 2006B1313, 2007.

44. Ohtani E., Kondo, T., Terasaki, H., Sano, A., Hirao, N., Reaction between metallic iron and delta-AlOOH at the core-mantle boundary. Spring-8 User Experimental Report, 2006B1094, 2007.

45. Urakawa, S., Sakamaki, T., Suzuki, A., Ohtani E., Nishida, K., Anomalous compression behavior of MORB composition magma. Spring-8 User Experimental Report, 2006B3710, 2007.

46. Ohtani E., Asanuma H., Sakai T., Terasaki H., Kondo T., Hirao N., Equation of state and phase relation of FeNiSi alloy to megabar pressure. Spring-8 User Experimental Report, 2007A1678, 2007.

47. Ohtani E., Ghosh S., Suzuki A., Litasov K. Terasaki H., Ozawa S., Determination of the phase boundary and the reaction kinetics of the post-spinel phase transition in the MgO-SiO2-H2O system. Spring-8 User Experimental Report, 2007A1701, 2007.

48. Ohtani E., Sano A., Terasaki H., Sakai T., Hirao N., Asanuma H., Search for post delta-AlOOH at multi-megabar conditions. Spring-8 User Experimental Report, 2007A2090, 2007.

49. Sakamaki, T., Suzuki, A., Ohtani E., Terasaki, H., Nishida, K., X-ray diffraction study of basaltic liquid at high pressure and high temperature. Spring-8 User Experimental Report, 2007A1095, 2007.

50. Terasaki, H., Ohtani E., Suzuki, A., Tsuno, K., Asahara, Y., Sakamaki, T., Ozawa, S., Shibazaki, Y., Ghosh, S., Litasov, K., Nishida, K., Funakoshi, K., In situ observation of liquid immiscibility of Fe-O-S liquid using X-ray radiography under high pressure. Spring-8 User Experimental Report, 2007A1096, 2007.

51. Litasov, K., Ohtani E., Ghosh, S., Terasaki, H., Suzuki, A., Influence of water on phase transitions in forsterite and olivine compositions with implication to seismic discontinuities in the Earth's mantle. Spring-8 User Experimental Report, 2007A1701, 2007.

52. Terasaki, H., Ohtani E., Sakai, T., Kamada, S., Asanuma, H., Sano, A., Hirao, N., Reaction of δ-AlOOH and FeNi alloy at Megabar pressures: Fate of hydrogen at the core-mantle boundary. Spring-8 User Experimental Report, 2007A1731, 2007.

53. Sakamaki, T., Ohtani E., Nishida, K., Suzuki, A., Yamaguchi, J., Urakawa, S., Density measurements of MORB melt and FeS melt at high pressure and temperature using X-ray absorption method. Spring-8 User Experimental Report, 2007A3709, 2007. (in Japanese)

54. S. Urakawa., Sakamaki T., Ohtani E., Anomalous compression of basaltic magma: implication to pressure –induced structural change in silicate melt. Earth and Planetary Science, 3-4, 2007.

55. Sanchez-Valle C., Litasov KD., Ohtani E., Bass JD., Effect of Al^{3+} on the elastic properties of ferropericlase at high pressure. Geochimica et Cosmochimica Acta, 71, 15, A873-A873, Suppl. S, Aug 2007.

56. El Goresy A., Miyajima N., Miyahara M., Ohtani E., Ferroir T., Gillet P., Chen M., Two contrasting nucleation and growth settings induced by dynamic high-pressure phase transitions of olivine to ringwoodite and wadsleyite in shocked L6 chondrites. Meteoritics & Planetary Science, 42, A40-A40, Suppl. S, Aug 2007.

57. Kimura M., Fukuda H., Mikouchi T., Suzuki A., Ohtani E., Abundant (Mg, Fe)SiO_3 glass in shock veins in and L6 chondrite, NWA 4719. Meteoritics & Planetary Science, 42, A82-A82, Suppl. S, Aug 2007.

58. Miyahara M., Uehara S., Ohtani E., Nagase T., Kitagawa R., The study of fine-grained interstice filling materials in chondrule and the fine- grained rim within Cold Bokkeveld chondrite by FIB-TEM/STEM. Meteoritics & Planetary Science, 42, A110-A110, Suppl. S, Aug 2007.

59. Terasaki, H., Shibazaki Y., Ohtani E., Suzuki, A., Sakamaki T., Ghosh S., Nishida K., Funakoshi K., In situ X-ray diffraction study of Hydrogen partitioning between iron and mantle minerals under high pressure and temperature; Implications to Hydrogen behavior at the Martian core-mantle boundary, SPring-8 User Experimental Report, 2008A.

60. Sakai, T., Kamada, S., Terasaki, H., Ohtani E., Asanuma, H., Hirao, N., Phase relation of Fe-Ni-S ternary system at the core pressure and temperature, SPring-8 User Experimental Report, 2008A.

61. Ohtani E., Asanuma, H., Terasaki, H., Sakai, T., Kamada, S., Sawada, N., Kondo, T., Hirao, N., Study of high pressure phases of iron-nickel-silicon alloy at multi-megabar pressure and high temperature, SPring-8 User Experimental Report, 2008A.

62. Tsuno, K., H. Terasaki, E Ohtani, In situ observation of liquid immiscibility in Fe-O-S system at high pressures and temperatures, SPring-8 Research Frontiers 2007, 3-4, 2008

63. Asahara, Y., D.J. Frost, D.C. Rubie, A. Saikia, H. Terasaki, E Ohtani, K. Funakoshi, T. Matsuzaki, Preliminary in situ determination of the solvus in the Fe-FeO system at 2-5 GPa up to 2800 K, Annual report 2007 of Bayerisches Geoinstitut, Universitaet Bayreuth, 132-133, 2008.

64. El Goresy A., Miyahara M., Ohtani E., Nagase T., Nishijima M., Vashaei Z., Ferroir T., Gillet P., Dubrovinsky L., Simionovici A., Evidence for fractional crystallization of wadsleyite and ringwoodite from individual olivine melt pockets in chondrules entrained in shock melt veins. Meteoritics & Planetary Science, 43, 7, A41-A41, Suppl. S, Jul 2008.

65. Kimura M., Mikouchi T., Suzuki A., Miyahara M., Ohtani E., El Goresy A., Characterization of pyroxene highly enriched in Ca-tschermak component in the CH chondrite ALH 85085. Meteoritics & Planetary Science, 43, 7, A75-A75, Suppl. S, Jul 2008.

66. Miyahara M., Kimura M., Ohtani E., El Goresy A., Ozawa S., Nagase T., Nishijima M., Further evidence for ubiquitous fractional crystallization of wadsleyite and ringwoodite from olivine melt. Meteoritics & Planetary Science, 43, 7, A102-A102, Suppl. S, Jul 2008.

67. Ozawa S., Ohtani E., Suzuki A., Miyahara M., Terada K., Kimura M., Pressure-temperature conditions and U-Pb ages of shock melt veins in L6 chondrites. Meteoritics & Planetary Science, 43, 7, A126-A126, Suppl. S, Jul 2008.

68. Ohtani E., Chemical reactions and element partitioning at the core-mantle boundary. Geochimica et Cosmochimica Acta, 72, 12, A702-A702, Suppl. 1, Jul 2008.

69. Ohtani E., Terasaki H., Sakai T., Hirao N., Asanuma H., Kamada S., Murakami M., Study of high pressure phases of Fe0.8Ni0.1Si0.1-alloy and its compression at multi-megabar pressure and high temperature, SPring-8 User Experimental Report, 2008B.

70. Sakamaki T., Ohtani E., Nishida K., Suzuki A., Yamaguchi J., Urakawa S., Density

measurement of hydrous basaltic melt under pressure using X-ray absorption method. SPring-8 User Experimental Report, 2008B.

71. Terasaki H., Kamada S., Ohtani E., Sakai T., Asanuma H., Sano A., Investigation of liquidus phase and melting temperature of Fe-FeS alloy up to outer core pressure, SPring-8 User Experimental Report, 2008B.

72. Ohtani, E. Evaluation: Its difficulty and importance. Ozora (Universe), vol.27, 7-8, 2013. 大谷栄治：評価、その難しさと面白さ、宙（おおぞら）、27 号 7-8, 2013.

73. Ohtani, E. Nature is seamless, a message for young scholars, Shoko, vol 40, 14-16, 2015. 大谷栄治　自然は縫い目のない織物：これから科学研究を志す皆さんへ。曙光 40 号、14-16、2015

➢ *Invited lectures, keynote talks (after 2005)*

2005

1. Ohtani E., Effect of hydrogen on properties of minerals and magmas: in situ X-ray observations using synchrotron light source and future works using neutrons (solicited). EGU General Assembly 2005, EGU05-A-03580, Vienna, Austria, April 24-29, 2005.

2. Ohtani E., Melt-Crystal Density Crossover in the Earth: its importance in Mantle Dynamics (Invited). 2005 AGU Fall Meeting, MR11A-01, San Francisco, California, December 5-9, 2005.

2006

3. Ohtani E., S. Enomoto, Energetics of the earth derived from the Kamland observation and radiogenic heat source in the core. (Invited), AGU 2006 Joint Assembly, U41E-01Baltimore, May 23-26, 2006.

4. Ohtani E., Takeshi Sakai, Takaaki Kawazoe, Tadashi Kondo, Metal-silicate fractionation in the deep magma ocean and light elements in the core (Invited), 16th Annual V.M. Goldschmidt Conference 2006, S3-03, Melbourne, Australia, August 26– September 2, 2006.

2007

5. Ohtani E: Bowen Lecture: Physical and Chemical Properties of Melts under Deep Earth Conditions and Their Importance in Geodynamics (Invited), 2007 American Geophysical Union Fall Meeting. San Francisco, USA, Dec. 10-14

6. Ohtani E., Kudo T., Litasov K, Sano A., Transport and distribution of water in the transition zone and lower mantle (Invited). 7th High Pressure Mineral Physics Seminar, Matsushima, May 8-12, 2007.

7. Ohtani E., Physical and chemical properties of melts under deep earth conditions and their importance in geodynamics (Invited). 2007 AGU Fall Meeting, San Francisco, USA, December 10-14, 2007.

2008

8. Ohtani E , Heterogeneous distribution of hydrogen in the mantle transition zone(Invited). International Symposium on Lithosphere Petrology and Origin of Diamond dedicated to the 100th anniversary of Prof. Vladimir S. Sobolev, Novosibirsk, June 2-9, 2008

9. Ohtani E., Kudo T., Ghosh S., Shimojuku A, Suzuki A, Role of Hydrogen in the Mantle Transition Zone (Invited), AOGS 2008, Busan, June 16-20, 2008.

10. Ohtani E., Chemical Reactions and Element Partitioning at the Core-Mantle Boundary (keynote lecture). 2008 Goldschmidt conference, Vancouver, Canada July14-18.

2009

11. Ohtani E. et al., Formation of High pressure polymorphs of olivine and pyroxene in shocked meteorites and applications to collision of their parent bodies (Invited). 2009 AGU fall meeting. San Fransisco, USA, Dec. 14-18, 2009.

12. Ohtani E. et al., Distribution of Hydrogen in the Deep Earth and its Role in Earth's dynamics (Invited). 2009 AGU fall meeting. San Fransisco, USA, Dec. 14-18, 2009.

13. Ohtani E., Compression of silicate and metallic liquids at ultrahigh pressure: their importance in Earth Science (Invited). WDM2009 INTERNATIONAL WORKSHOP on WARM DENSE MATTER. March 15-19 2009, Hakone, Japan

14. Ohtani E. et al., The silicon content of the core based on the phase relation and density measurement of solid and molten FeSi and FeNiSi alloys (Invited). SMEC2009 Study of Matters at Extreme Conditions. March 29-April 2, Florida, USA.

2010

15. Ohtani E., Zhao D., Kuritani T., Tajima FC., Deep dehydration and physical and chemical nature of the mantle above the stagnant slab. 2010 AGU Fall Meeting, San Francisco, December 13-17, 2010. (invited)

2012

16. Ohtani E., Phase relations and Physical properties of the Earth's core. Joint symposium of Misasa-2012 and Geofluid-2, Misasa, March 18-21, 2012.

2013

17. Ohtani E., Phase relations and physical properties of iron alloys at high pressure: approach to the Earth's core. III International conference Crystallogenesis and Mineralogy, Russia, September 27- October 1, 2013.

2014

18. Ohtani E, Amaike Y., Ohira I., Kamada S., Sakamaki T., Suzuki A., Stability of hydrous phase h-□ solid solution in the lower mantle.International Symposium "Advances in High Pressure Research: Breaking scales and horizons" (Joint Research Projects/ Seminars, JSPS), Novosibirsk Russia, September 22-26, 2014.

2015

19. Ohtani E., Core formation process and composition of the core. Japan Geoscience Union Meeting 2015, Chiba, May 24 - May 28, 2015.