

5th International Seminar “High-Pressure Mineralogy: Theory and Experiment”

Conveners: Hiroyuki Kagi, Konstantin Litasov

Date: January 16th (Monday) and 17th (Tuesday), 2023

9:00-12:35 (Moscow time)

15:00-18:35 (Japan time)

Zoom online seminar (using Hiroshima University account)

January 16 (Monday), 2023

5th International Seminar “High-Pressure Mineralogy: Theory and Experiment” Day-1

Zoom Meeting (Open from 8:30 in Moscow time, 14:30 in Japan time)

<https://us06web.zoom.us/j/83165247614?pwd=QUdsK2lCTmdybnBEWdNjNDYwbGJ6dz09>

Meeting ID: 831 6524 7614

Passcode: 170492

(Moscow time, add 6 hours for Japan time)

9:00-9:05 Opening remarks

Chair: Toru Inoue

9:05-9:25 (20 min) Anastasiia Iskrina (Moscow State University)

High-pressure new post-spinel phases in the MgO-Al₂O₃-Cr₂O₃ system

9:25-9:45 (20 min) Kazutaka Yamaguchi (Hiroshima University)

Clarification of the effect of high oxygen fugacity on melting temperatures of wadsleyite by high-temperature and high-pressure experiments

9:45-10:05 (20 min) Anna Spivak (Institute of Experimental Mineralogy)

In situ high pressure study Ga, Ge – analogues of important mineral phases for the Earth science

Break (15 min)

Chair: Hiroyuki Kagi

10:20-10:40 (20 min) Hideaki Kawamura (Tohoku University)

Carbon isotopic analysis of microcrystalline diamond samples recovered from MA experiments by NanoSIMS

10:40-11:00 (20 min) Dmitry Zedgenizov (Zavaritsky Institute of Geology and Geochemistry)

Diamond-forming fluids in coated diamonds from the Mirny kimberlite field (Siberian Craton)

Break (15 min)

Chair: Dmitry

11:15-11:35 (20 min) Yuichiro Mori (University of Tokyo)

In-situ X-ray and neutron diffraction study on Fe_{0.95}Si_{0.05} hydrides

11:35-11:55 (20 min) Konstantin Litasov (Institute of High Pressure Physics)

Interaction of upper mantle minerals with silicon carbide (SiC) at 6 GPa and 1100-1500 °C

11:55-12:25 (30 min) *INVITED* Sayako Inoué (Ehime University)

Formation of Mn oxide nanowire on the surfaces of Fe oxide

January 17 (Tuesday), 2023

5th International Seminar “High-Pressure Mineralogy: Theory and Experiment” Day-2

Zoom Meeting (Open from 8:30 in Moscow time, 14:30 in Japan time)

<https://us06web.zoom.us/j/84408121700?pwd=S1Z3R3QrSWFKTTTucEoreHNLc0pUQT09>

Meeting ID: 844 0812 1700

Passcode: 252865

(Moscow time, add 6 hours for Japan time)

Chair: Konstantin Litasov

9:00-9:20 (20 min) Kota Okumura (Hiroshima University)

Melting relations from the mantle transition zone to uppermost lower mantle in the MgO-SiO₂-H₂O system

9:20-9:40 (20 min) Aleksandra Bendeliani (Moscow State University)

Hydrous phases as the key sign of crust-mantle interaction: Evidence from experiments up to lower mantle conditions

9:40-10:00 (20 min) Tomonori Ohashi (Tohoku University)

Structure and speciation of hydrous sodium silicate melts under pressure

Break (15 min)

Chair: Hiroaki Ohfuji

10:15-10:35 (20 min) Yasushi Ueno (Hiroshima University)

The effect of water on the high-pressure phase transition of pyroxene - garnet system

10:35-10:55 (20 min) Xuejing He (University of Tokyo)

Hydrogen-bonding configurations of fluorine-doped brucite under high pressure

10:55-11:15 (20 min) Yuta Ishikawa (Ehime University)

Phase relation in a natural hydrous basalt under the lower mantle conditions

Break (15 min)

Chair: Andrey Bobrov

11:30-11:50 (20 min) Ko Fukuyama (Ehime University)

Temperature dependence of nitrogen solubility in bridgmanite: Evolution of the nitrogen storage capacity of the lower mantle

11:50-12:10 (20 min) Anastasiya Kalugina (Institute of Geology and Geochemistry)

Using Raman spectroscopy to characterize the composition of mineral inclusions in natural diamonds

12:10-12:30 (20 min) Naoko Takahashi (University of Tokyo)

In-situ Raman spectroscopic studies on the formation of hydrocarbon fluids under subduction zone conditions

12:30-12:35 Closing remarks Tetsuo Irifune and Konstantin Litasov