

2017. 7. 20

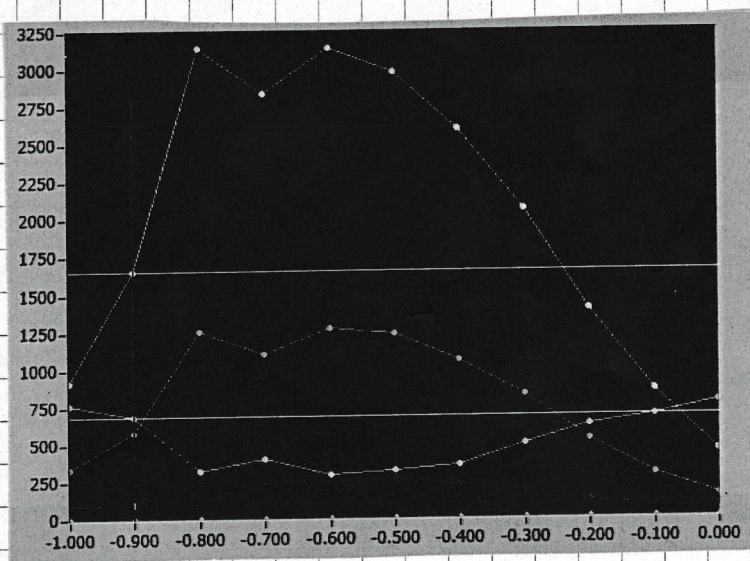
BGI + DESY + Tohoku Univ.

M2258

8:29

50 ton

X scan

 $x = -0.6$ 

8:30

M2258004

MgO, 50 ton, R.T. 300 sec,  $\kappa = 0^\circ$  $x = -0.604$ ,  $y = -1.302$ ,  $z = -2.801$ 

D.T. = 7.05

$$P = 5.67066 \pm 0.0217 \text{ GPa}$$

$$V = 72.278615 \pm 0.010663 \text{ Å}^3$$

$$V/V_0 = 0.967815 \pm 0.000143$$

$$a = 4.165527 \pm 0.00020 \text{ Å}$$

$$2\theta = 7.19568 \text{ deg.}$$

11:55

FMN.

M2258005

M2258

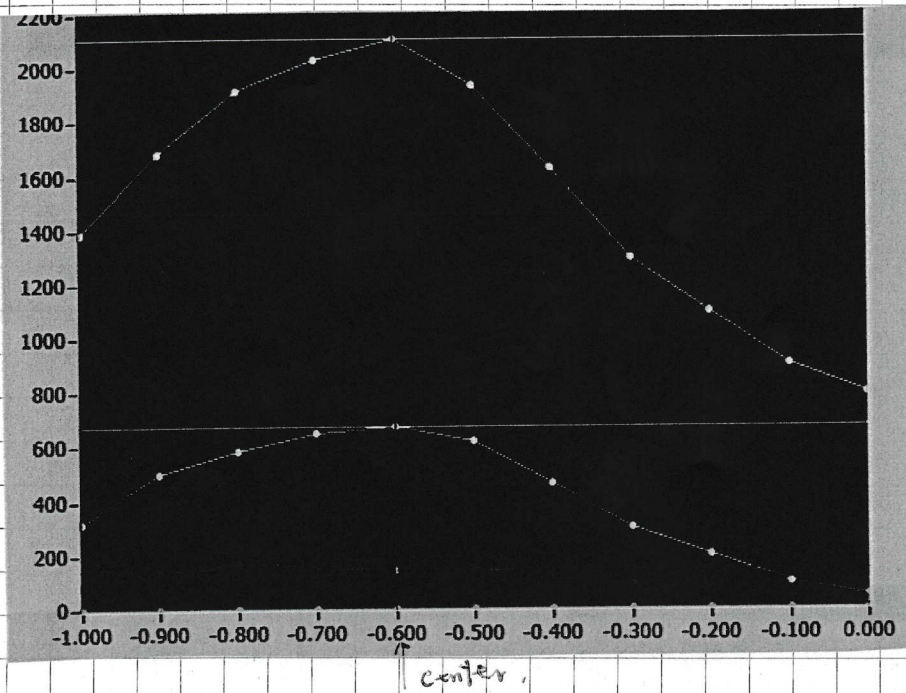
11:50

7 MIN / 200 TN

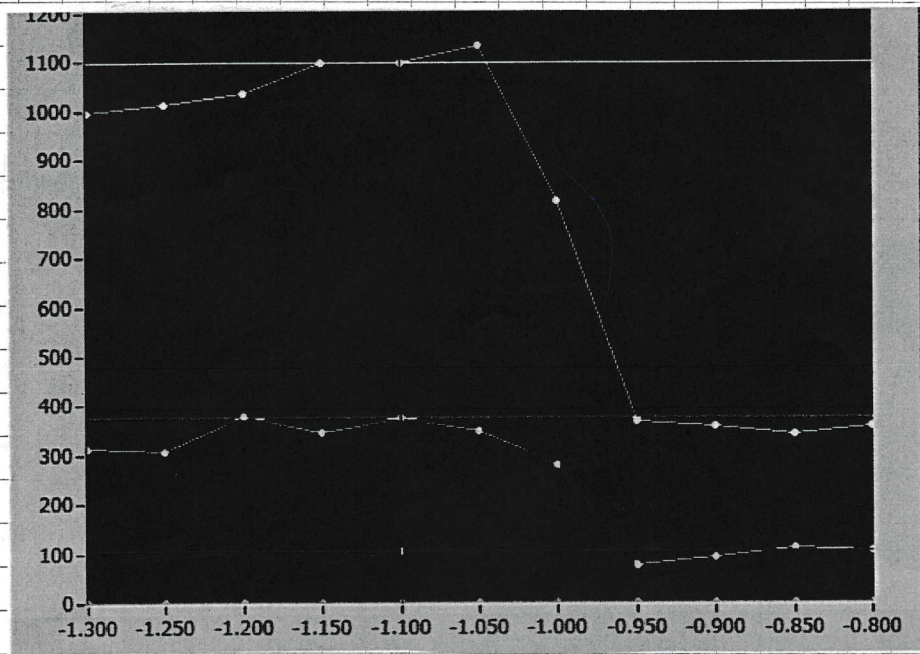




1208 X-scan 700 mv R.T.



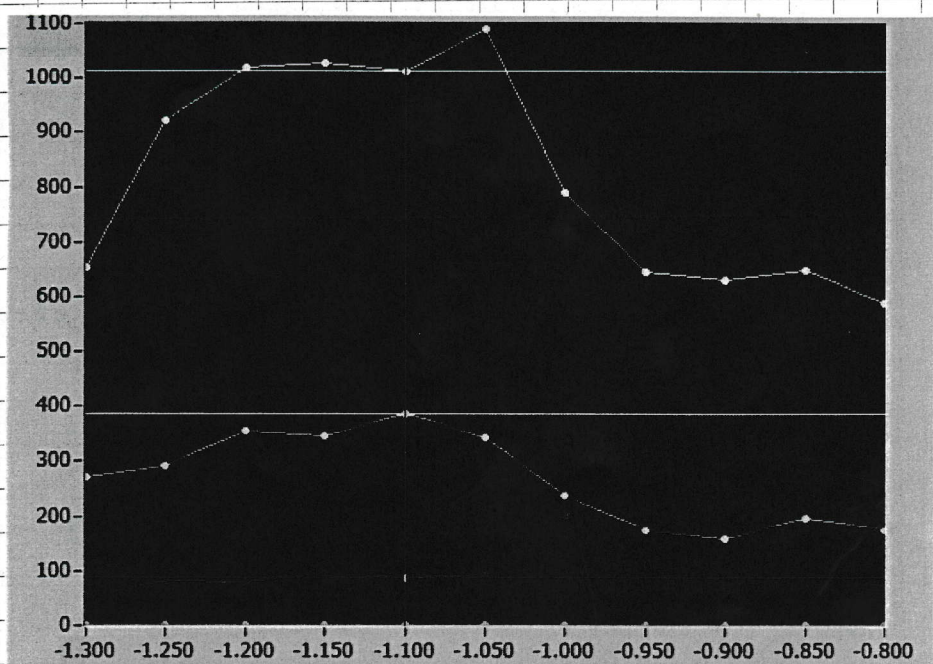
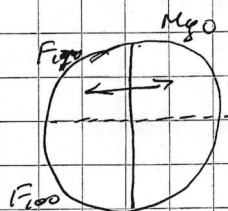
1201 Y-scan 700 mv R.T.



$z = -1.422$      $x = -0.6$      $y = -1.3 \sim -0.8$  , (1000)

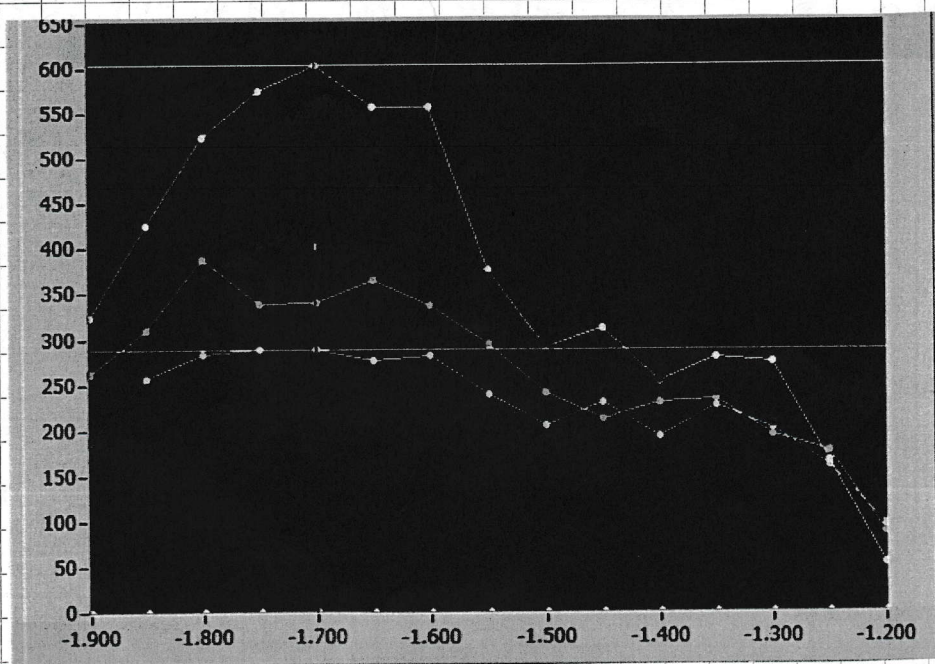


Y scan

 $Z = -1.143$  $X = -0.6$  $Y = -1.3 \sim -0.8$  $F_{070}$ 

230

Z scan

 $X = -0.6$  $Y = -0.85$  $Z = -1.9 \sim -1.2$ 



M 2258005 MgO 7.0 mV R.T. 300 sec DT 5.24 %

$$Z = -1.55 \quad X = -0.6 \quad Y = -1.15$$

$$P = 29.00608 \pm 0.10877 \text{ GPa} \rightarrow 29.14247 \pm 0.09420$$

$$V = 65.298506 \pm 0.022241 \text{ Å}^3$$

$$V/V_0 = 0.873012 \pm 0.00298$$

$$a = 7.024815 \pm 0.00045 \text{ Å}$$

$$2\theta = 7.19568 \text{ deg}$$

13:09 Heating to 1100 K

Time	Temp.	$V_1$	$I_1$	$R_1$	$P_1$	$V_2$	$I_2$	$R_2$	$P_2$	Stoke
13:09	27.7	0	0	20-30	0	0.001	0.5	0.003	0	9.306
13:14	100.6	22.9	1.47	15.6	33.7	11.76	1.71	6.95	19.9	9.307
13:15	200.6	23.3	2.38	9.74	35.5	11.80	3.56	3.31	42.1	9.307
13:17	300.1	23.4	3.29	7.11	76.0	11.83	5.31	2.22	62.7	9.306
13:18	398.0	24.0	4.11	5.85	98.9	12.08	6.85	1.75	82.7	9.306
13:20	500.9	24.7	4.91	5.04	121.2	12.29	8.36	1.46	102.8	9.307
13:21	600.3	25.3	5.58	4.54	141.9	12.69	9.65	1.31	121.6	9.308
13:23	699.3	26.3	6.16	4.27	162.9	13.04	10.70	1.29	139.4	9.312
13:25	826.4	27.3	6.83	4.05	189.9	13.69	11.92	1.13	163.0	9.329

M 2258006 MgO 7.0 mV 1100 K 300 sec DT 5.67 %

$$Z = -1.55 \quad X = -0.6 \quad Y = -1.15$$

$$P = 24.08999 \pm 0.02690$$

$$V = 67.693618 \pm 0.007621$$

$$V/V_0 = 0.906421 \pm 0.00102$$

$$a = 7.075516 \pm 0.00015 \text{ Å}$$

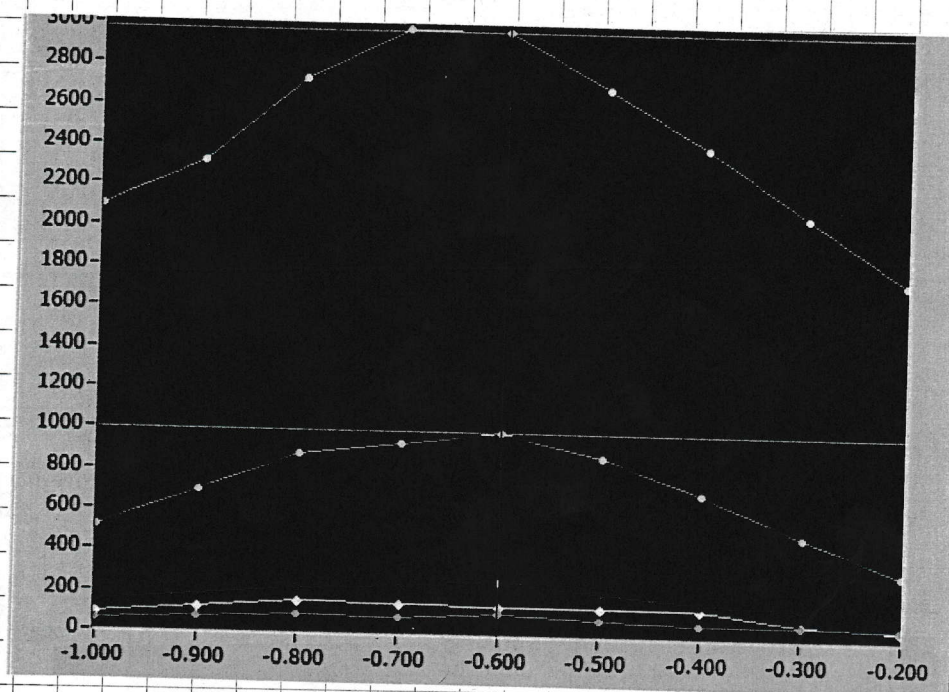
$$2\theta = 7.19568 \text{ deg}$$

13:35 X-scan



X-SCAN @ 1100 K

FMN

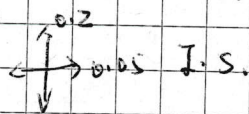


M2258007 Foto 7.0 MN 1100 K 300 sec

Vertical slit is too wide contain unknown peaks  
phase: RW, AK, PC

M2258008 Foto 7.0 MN 1100 K 300 sec D.T. = 3.12

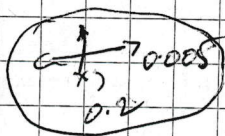
Z = -1.7 X = -0.6 Y = -0.85



phase: RW, AK, PC.

M2258009 F100 FMN 1100 K 300 sec K-0-72

Z = -1.45 X = -0.6 Y = -0.85



phase: RW, AK, PC.

M2258010 Ng0 FMN 1100 K 300 sec K-0-6

Z = -1.55 X = -0.6 Y = -1.15

M2258011 X Ng0 A copy of A M2258010

20/7  
13:15



M2258011 - Short - Acquisition of MgO.

M2258012 - MgO - Repeat - 300 sec, 1100K  
7 MN.

$$P = 23.20 \pm 0.039 \text{ k}$$

$$V = 67.94 \pm 0.011467$$

$$V/V_0 = 0.909802 \pm 0.00015$$

14:44 Compression to 7.5 MN for 15 min

Temp.	$V_1$	$I_1$	$R_1$	$P_1$	$V_2$	$I_2$	$R_2$	$P_2$	stroke
826.3	29.56	6.75	4.38	199.9	14.63	11.70	1.25	170.9	9.490

M2258013 MgO, 7.5 MN, 1100K, 300 sec

$$x = -0.6 \quad y = -1.15 \quad z = +1.45$$

$$P = 23.65235 \pm 0.04461$$

$$V = 67.818176 \pm 0.01275$$

$$V/V_0 = 0.908085 \pm 0.000171$$

~~Temp.~~ Heating to 1700K

Time	Temp.	$V_1$	$I_1$	$R_1$	$P_1$	$V_2$	$I_2$	$R_2$	$P_2$	stroke
15:11	902.1	29.9	7.19	4.17	215.5	14.79	12.51	1.18	185.0	9.496
15:13	1001.9	30.4	7.69	3.96	233.4	14.99	13.43	1.11	201.0	9.496
15:15	1102.0	32.6	7.73	4.16	249.3	15.91	13.47	1.18	214.5	9.496
15:17	1199.9	33.3	8.12	4.10	270.0	16.44	14.14	1.16	233.0	9.496
15:19	1300.1	34.4	8.57	4.02	293.9	16.98	14.98	1.13	253.0	9.496
15:22	1427.0	34.6	9.38	3.70	326.9	16.99	16.6	1.02	282.0	9.512



1122 compress to 7.75 mV in 5 min

M2258014 MgO, 7.75 mV, 1700K, 300 sec [Denny Comp.]

$$X = -0.6 \quad Y = -1.15 \quad Z = -1.45$$

$$P = 23.81993 \pm 0.0297 \text{ GPa}$$

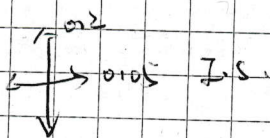
$$V = 68.885941 \pm 0.009154 \text{ Å}^3$$

$$V/V_0 = 0.922387 \pm 0.00123$$

$$a = 4.099305 \pm 0.00018 \text{ Å}$$

M2258015 FeO 7.75 mV, 1700K, 300 sec 4.72%

$$X = -0.6 \quad Y = -0.85 \quad Z = -1.6$$



phase: Brg. + Pc + St

M2258016 MgO 7.75, 1700K, 300 sec

$$X = -0.6 \quad Y = -1.10 \quad Z = -1.40$$

$$P = 23.87760 \pm 0.0381 \quad 23.81(5)$$

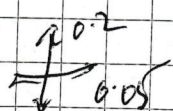
$$V = 68.86 \pm 0.0301$$

$$V/V_0 = 0.9224 \pm 0.0004$$

extracted (222) (420) (400)

M2258017 FeO 7.75 1700K 300 sec

$$X = -0.06 \quad Y = -0.85 \quad Z = -1.30$$



Brg + Pc



16:10

M2258018

MgO

7.75 MN, 1700 K 300 sec.

$$x = -0.6 \quad y = -1.10 \quad z = -1.40$$

$$P = 9$$

16:16

M2258019

Fe40

7.75

1700 K 300 sec.

0.05  $\uparrow$  0.2  $\downarrow$

$$x = -0.6 \quad y = -0.85 \quad z = -1.55$$

Brq + Ferropericase + st.

16:25

M2258020

MgO

7.75

1700 K 300 sec

$$x = -0.6 \quad y = -1.10 \quad z = -1.40$$

0.05  $\uparrow$  0.05  $\downarrow$

$$P = \underline{\underline{23.75 \pm 0.04 \text{ GPa}}}$$

16:30

M2258021

Fe100

7.75 MN

1700 K

300 sec

$$x = -0.6 \quad y = -1.10 \quad z = -1.30$$

0.2  $\uparrow$  0.05  $\downarrow$

Brq + Pc

16:35

M2258022

MgO

7.75 MN

1700 K

300 sec.

$$x = -0.6 \quad y = -1.10 \quad z = -1.40$$

0.5  $\uparrow$  0.05  $\downarrow$

$$P = 23.57245 \pm 0.06$$

$$V = 68.962533 \pm 0.02$$

$$V/V_0 = 0.923 \pm 0.000255$$

Onleach

16:45