LEED Optics Test Report

Serial number: ER-LEED #325

Customer: IMS - Japan
Dr. Kimura

Filament Activation and Degassing

Filament Typ: ☐ LaB_6 ☒ Ir ☐ W

Activation Time: 2,5h Filament Current: 2,29 A

Anode Current (@ E=500eV; U_{Weh}=0V; U_{Anode}=500V): 420µA / sample: 175,6µA !

P_0 = 5.0E-10mbar

Focus Conditions:

Energy Range: 30 - 1000 eV

Filament Current [A]: 1,99

Energy	0 eV (offset)	100 eV	300 eV	500 eV
Wehnelt Voltage	-4	-4	-4	-4
Anode Voltage	444	444	444	444
$L_{1/3}$ Voltage	9	225	655	1083
L_2 Voltage	85	130	218	306
Suppressor Voltage	0	21	62	104

Energy	50 eV	100 eV	300 eV	500 eV
Beam Current [µA]	1,0	1,7	4,4	6,3

Alternativ Focus Conditions:

Energy Range: .....

Filament Current [A]: Remark:

Energy	0 eV (offset)			
Wehnelt Voltage				
Anode Voltage				
$L_{1/3}$ Voltage				
L_2 Voltage				
Suppressor Voltage				

Energy				
Beam Current [µA]				

1000eV Focus Conditions:

Filament Current: 2,00A

Anode Current: 80µA

Wehnelt Voltage: 1V

Anode Voltage: ~~44~~ 342V

$L_{1/3}$ Voltage: 2000V

L_2Voltage: 709V

Beam Current: 8,6µA

Screen Status:

Recommended Screen Voltage: 5 to 7kV

tested up to: 10kV

Homogeneity: perfect

Defects: none

Grid Status:

☐ clean, **no particles**

☐ Dust Particles at: .....
(with 12-way feedthrough at 12°°)

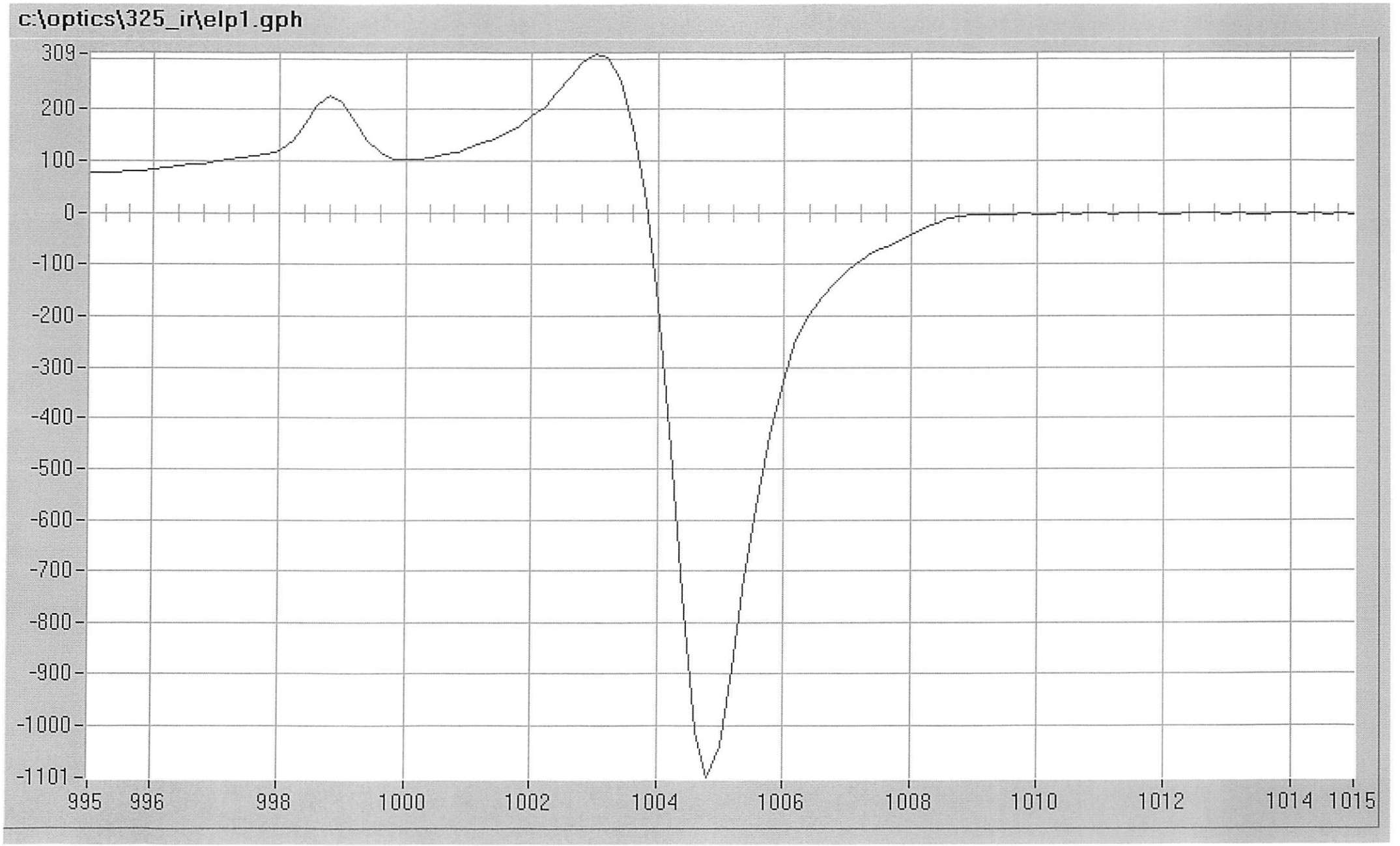
Auger Test Conditions:

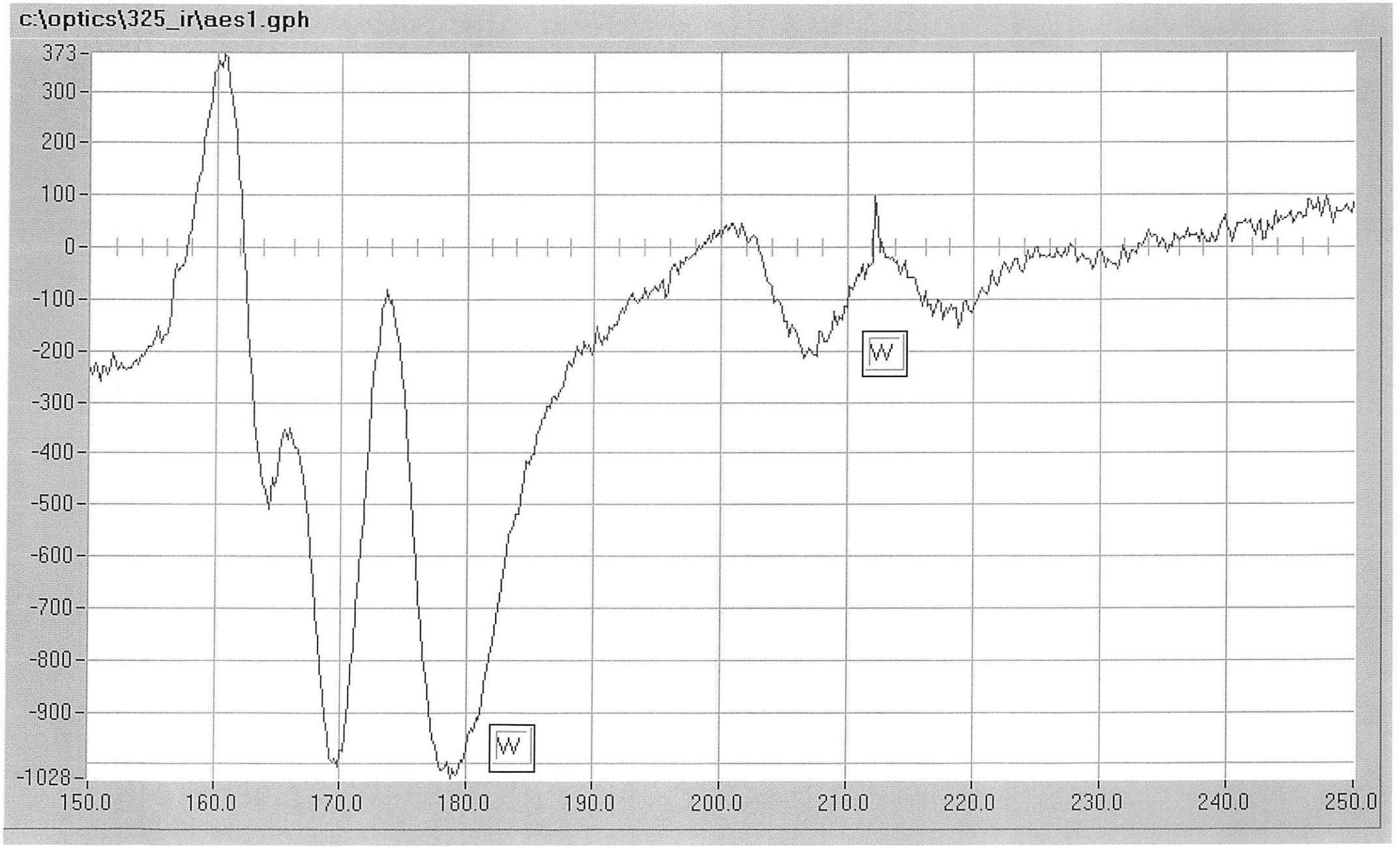
Spectrum No.	elp1.gph	aes1.gph	aes2.dat
Energy [eV]	1000	3000	3000
Beam Current [µA]	9,6	52,2	60,1
Filament current [A]	2,05	2,10	2,11
Anode Current [µA]	10	120	130
Wehnelt Voltage [V]	-13,3	0,0	0,0
Anode Voltage [V]	210	220	220
$L_{1/3}$ Voltage [V]	580	580	580
L_2 Voltage [V]	2000	3000	3000
Oscillator [V_{pp}]	1	5	5
step width [meV]	200	200	200
time per step [ms]	310	1050	310 10 times
Lock In Sens. [mV]	1000	100	100
Time Constant [ms]	300	1000	300
Sample	W(100)	W(100)	contaminated W(100)

Additional Remarks: double spots due to facetting of test crystal

Date: 15.08.2002

Signature: .....


c:\optics\325_ir\elp1.gph
309
200
100
0
-100
-200
-300
-400
-500
-600
-700
-800
-900
-1000
-1101
995
996
998
1000
1002
1004
1006
1008
1010
1012
1014
1015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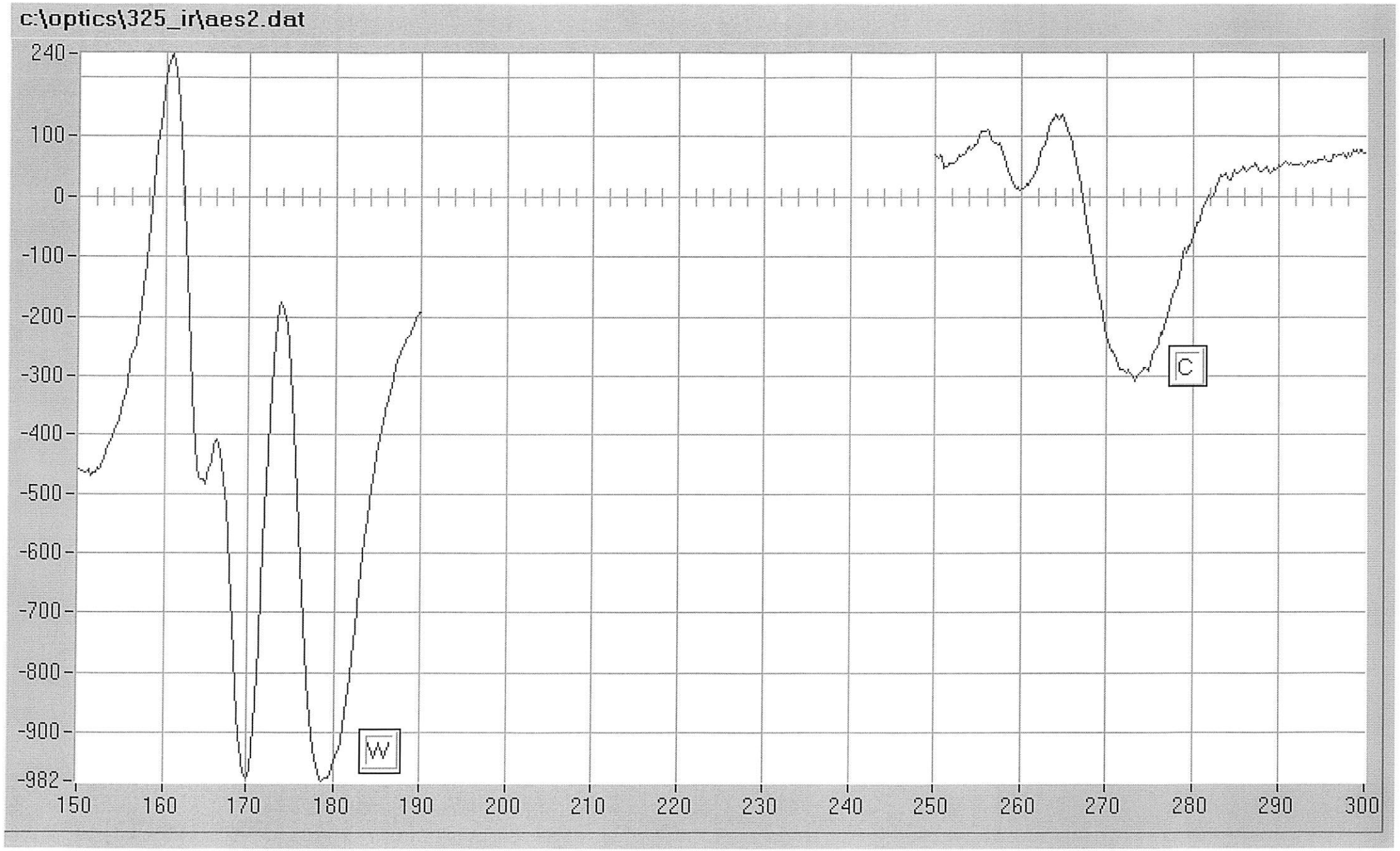
373
300
200
100
0
-100
-200
-300
-400
-500
-600
-700
-800
-900
-1028
150.0
160.0
170.0
180.0
190.0
200.0
210.0
220.0
230.0
240.0
250.0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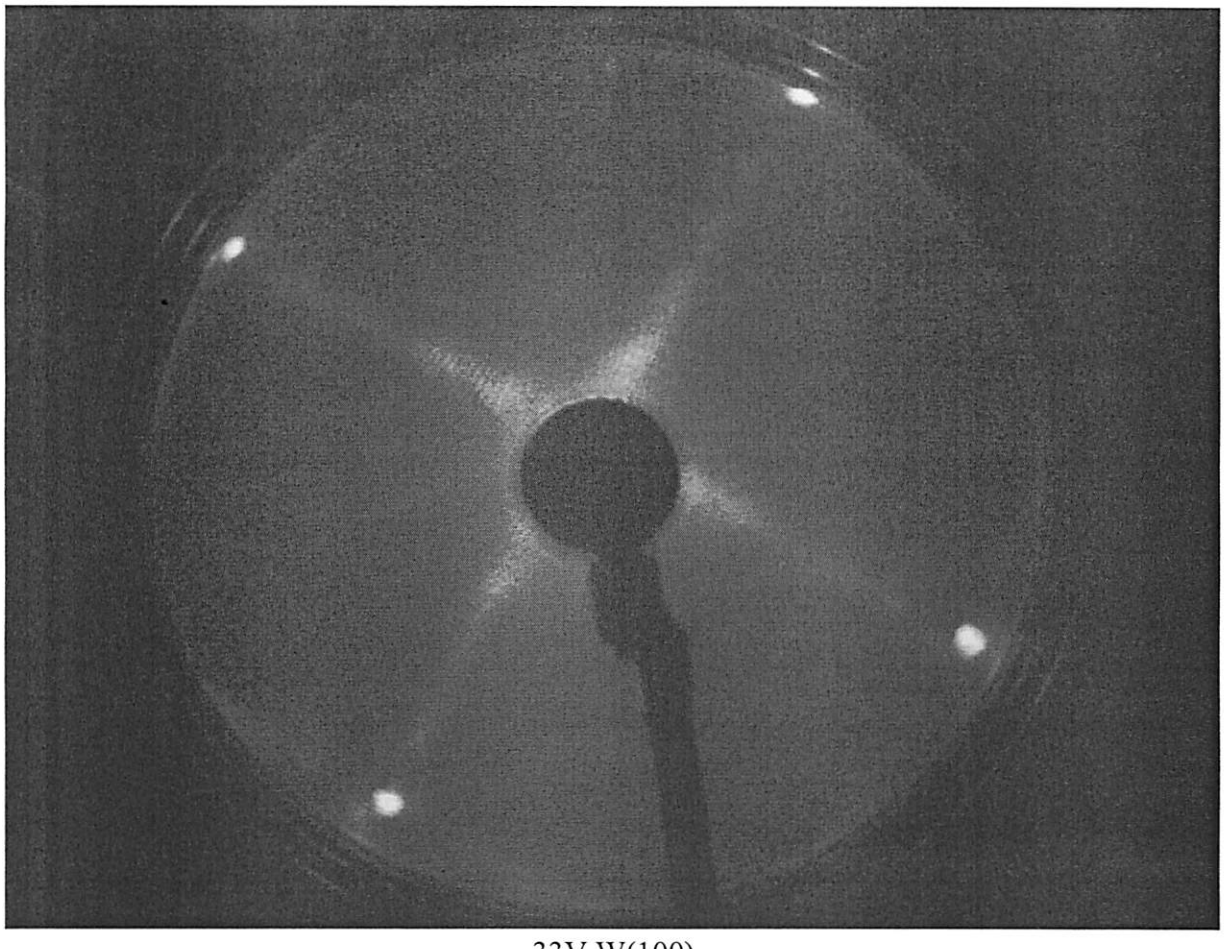
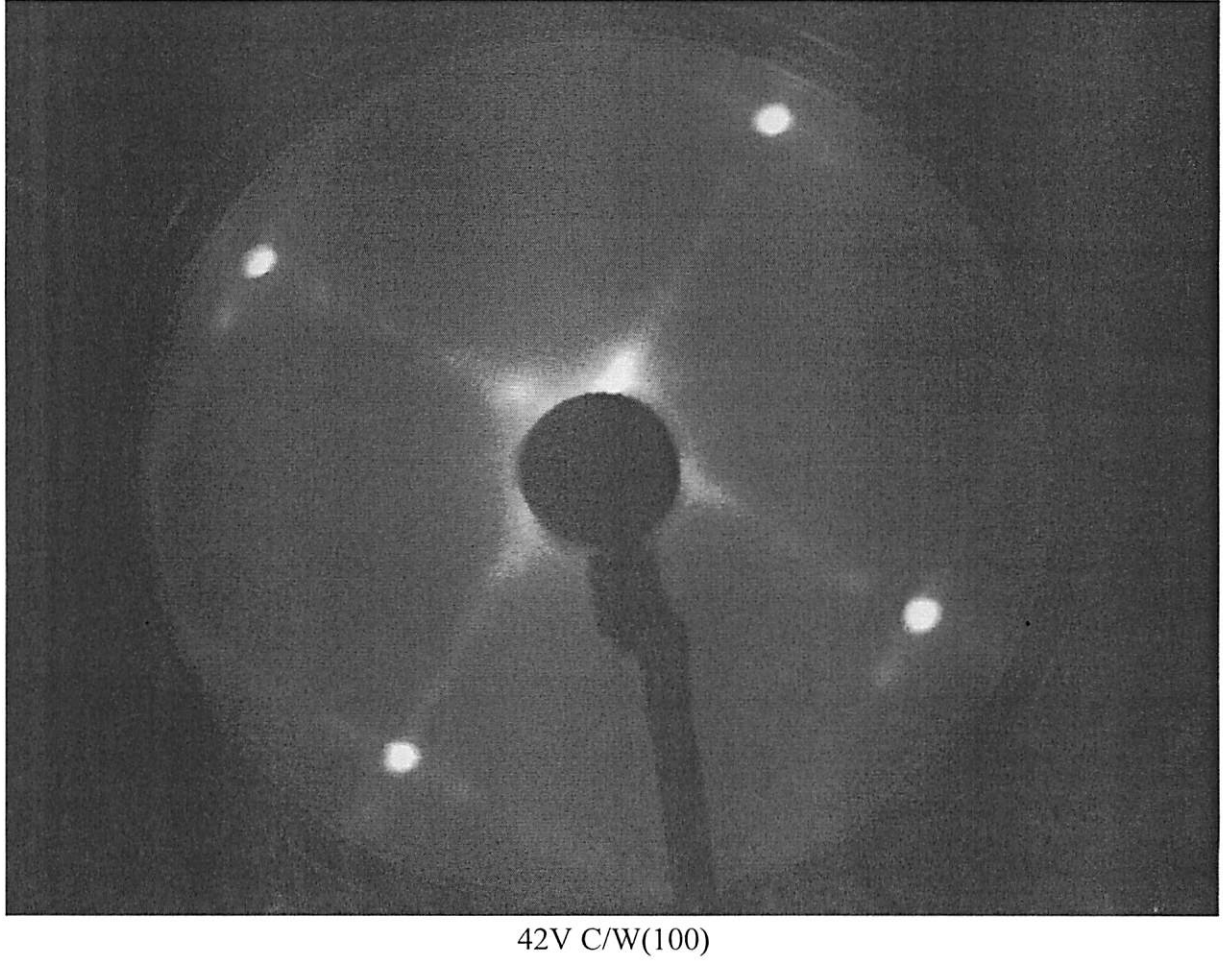
240
100
0
-100
-200
-300
-400
-500
-600
-700
-800
-900
-982
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300
W
C

all images are recorded with AIDA-PC



33V W(100)



42V C/W(100)

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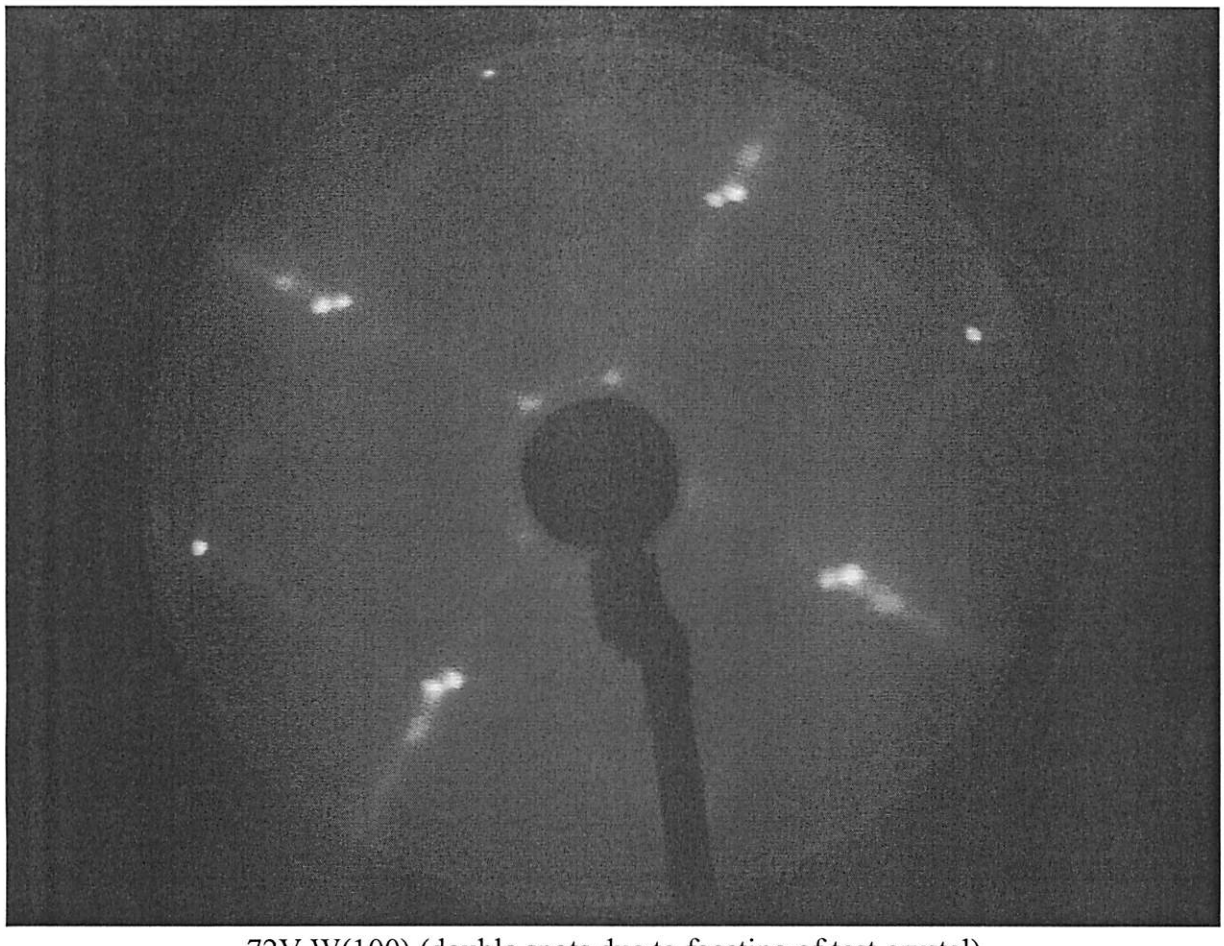
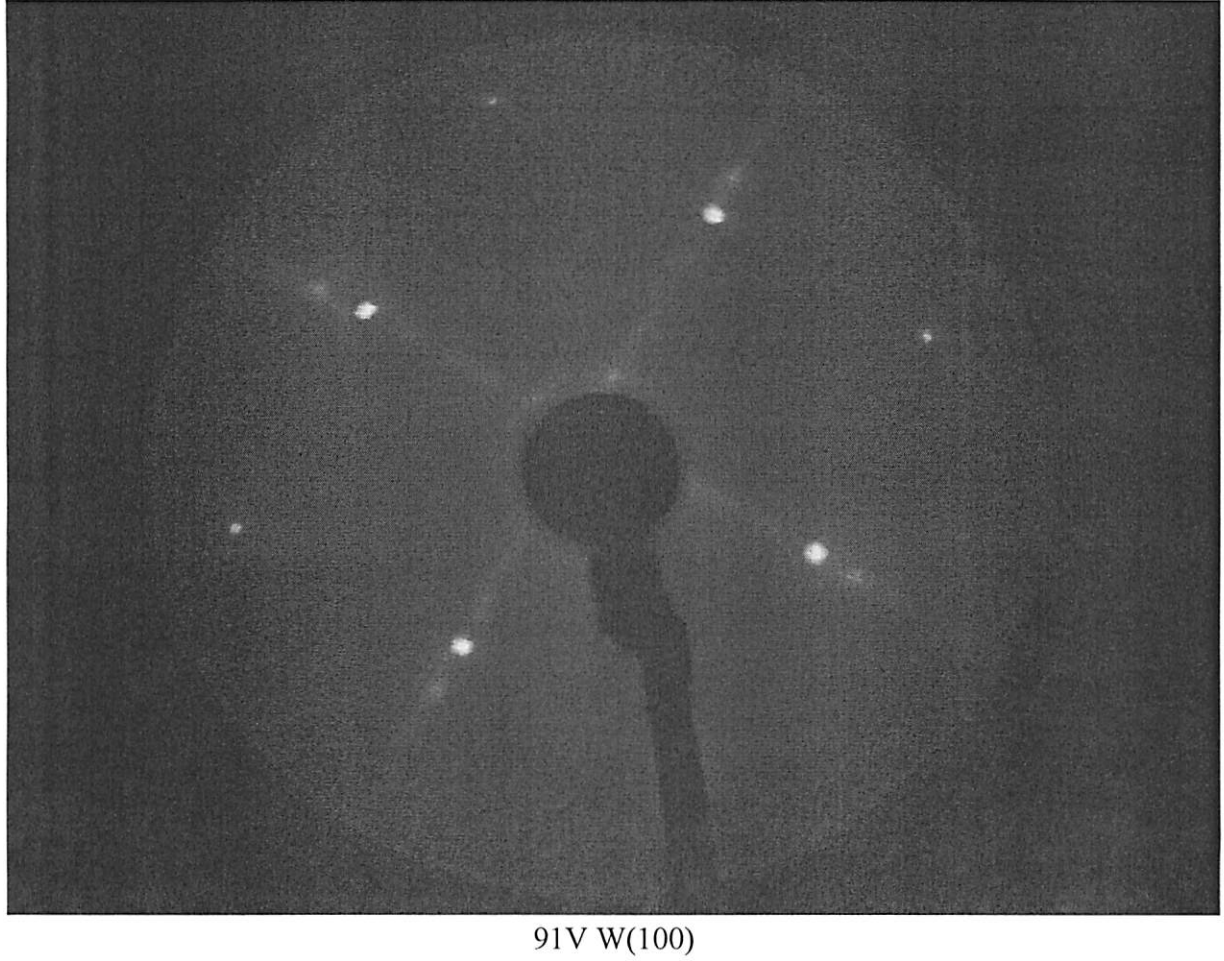


72V W(100) (double spots due to faceting of test crystal)



91V W(100)

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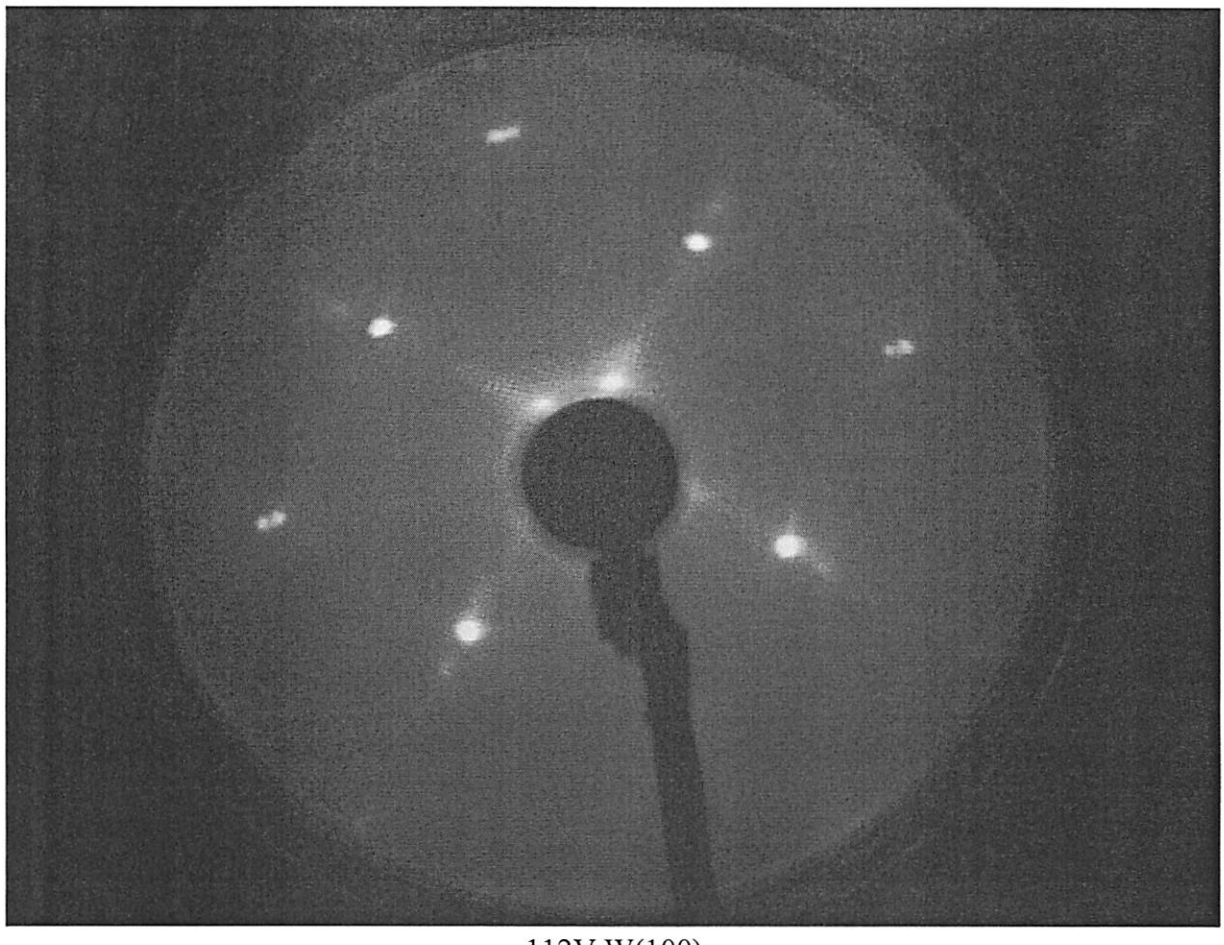

112V W(100)

142V W(100) (double spots due to faceting of test crystal)

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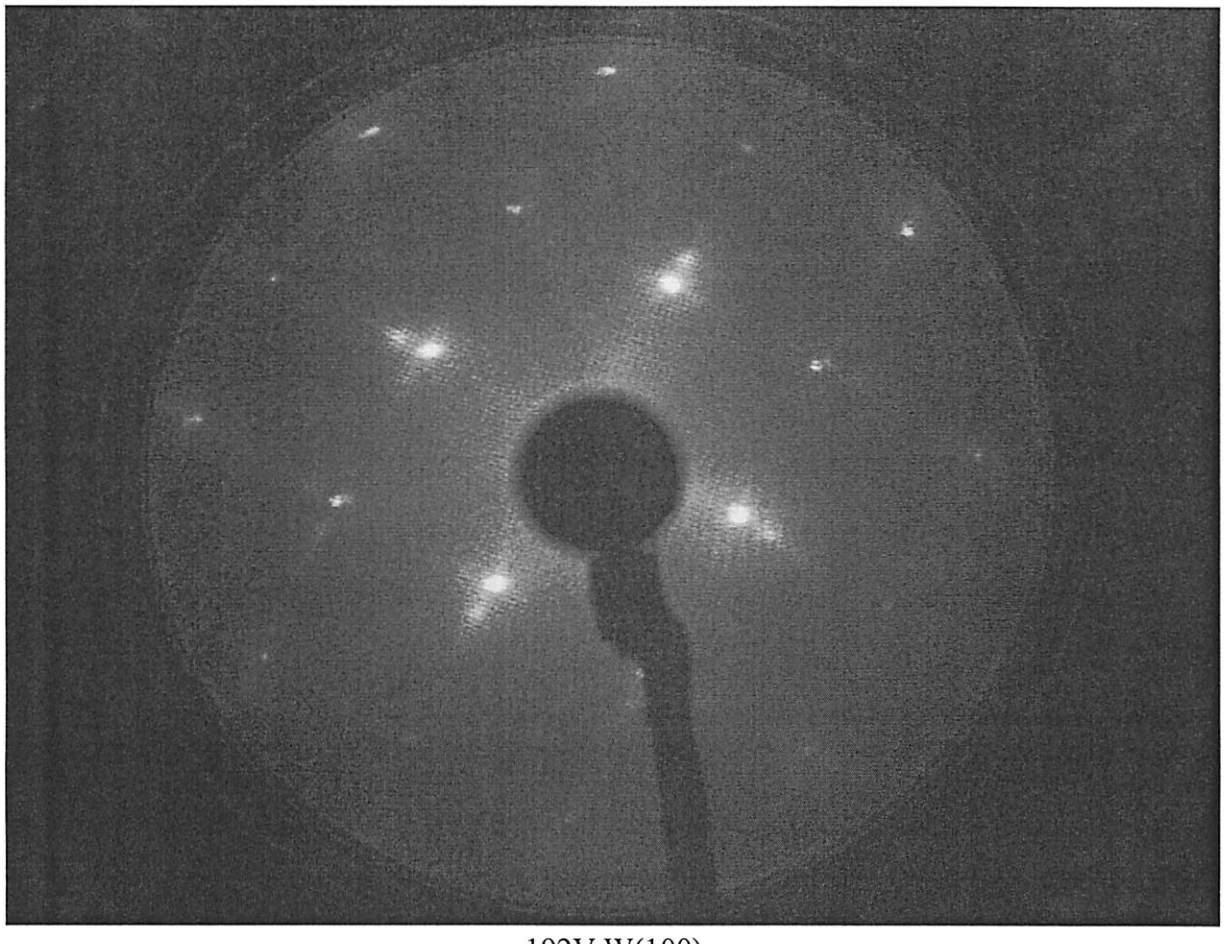

192V W(100)

257V W(100)

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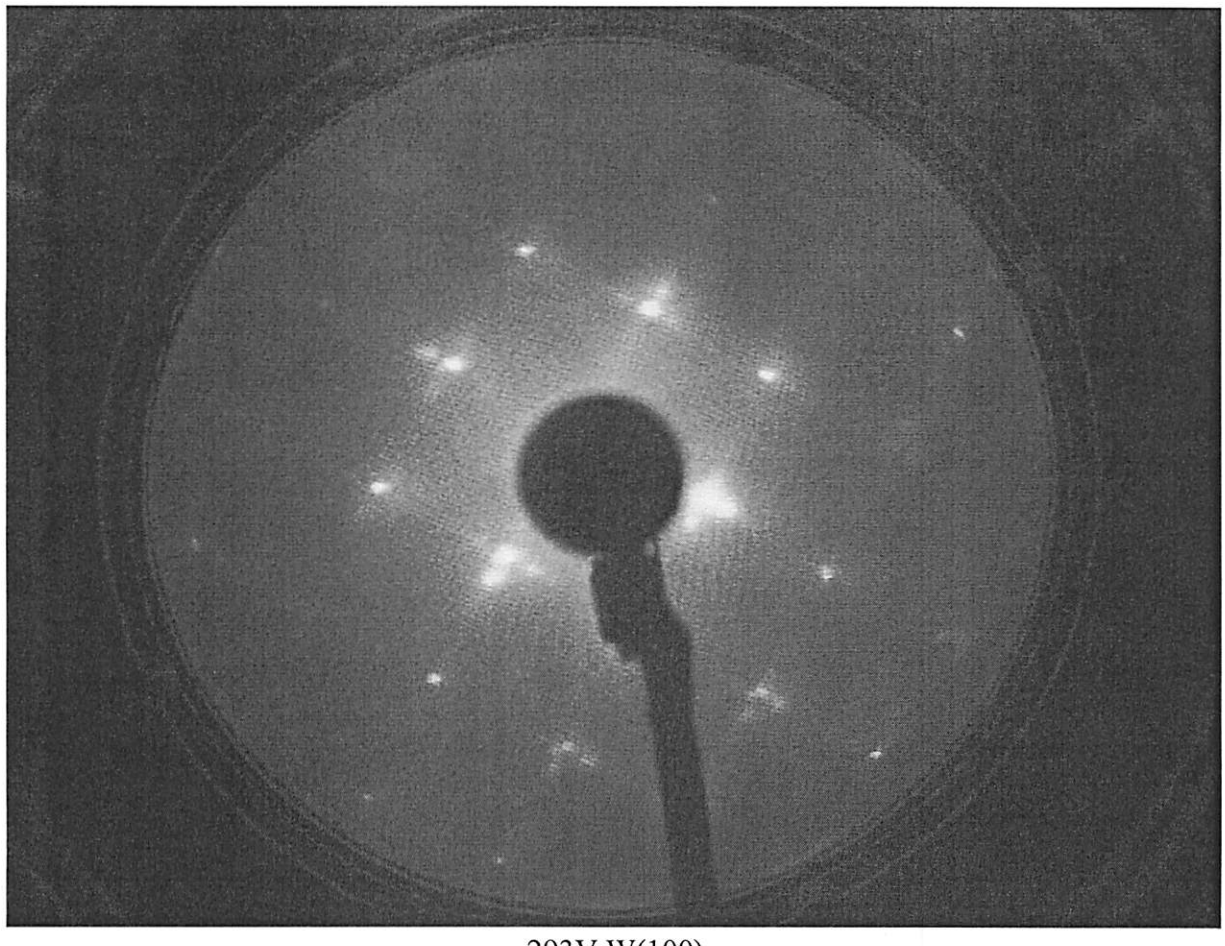
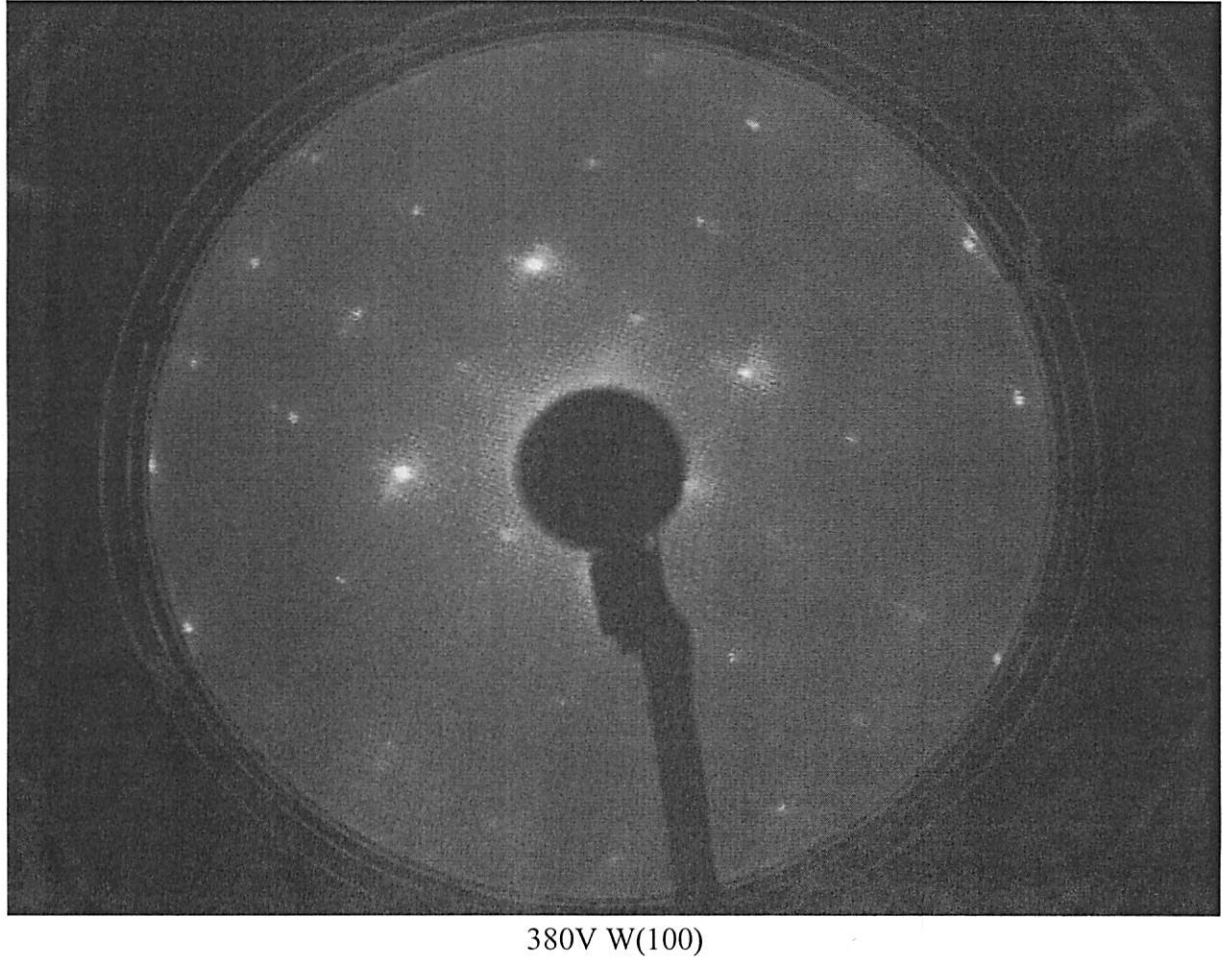
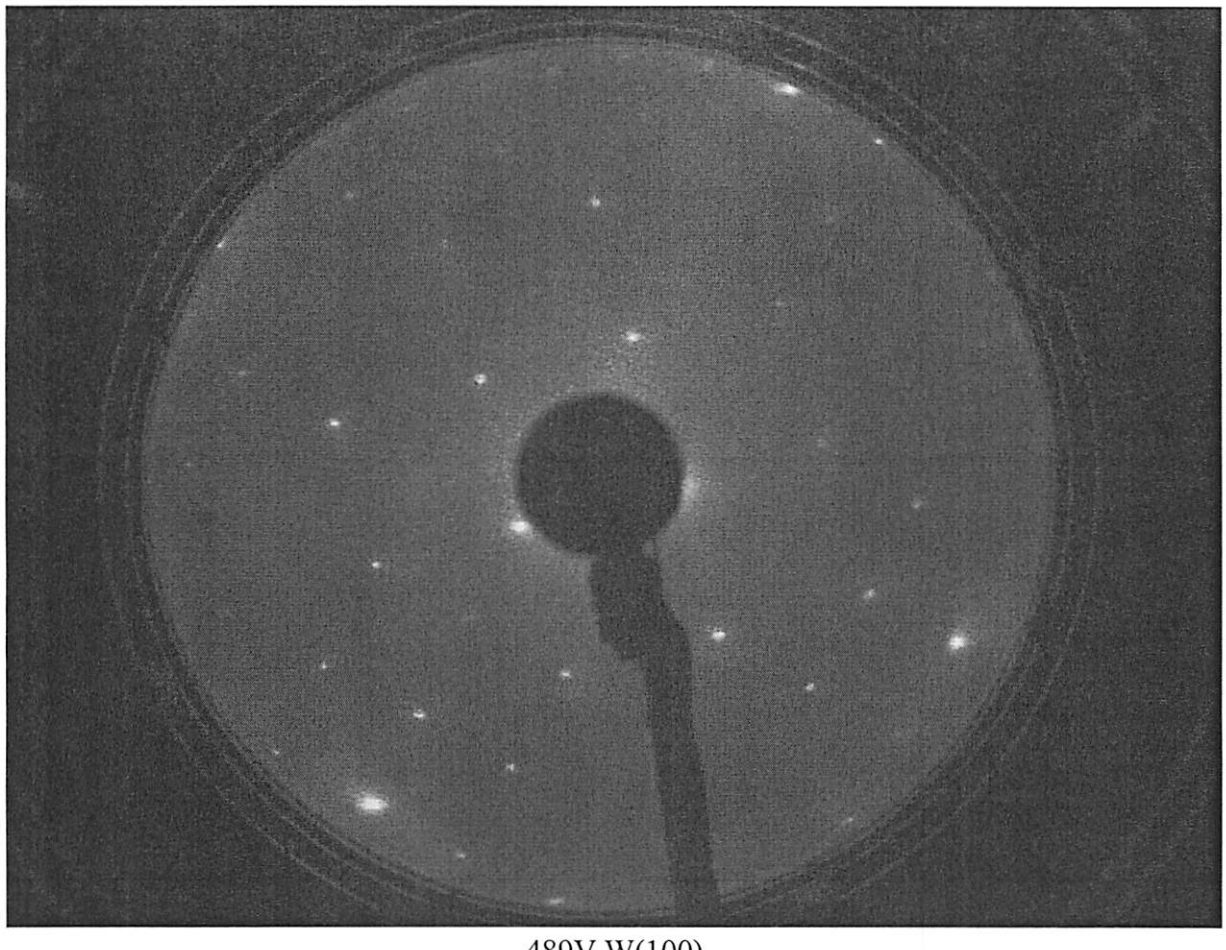


293V W(100)



380V W(100)

all images are recorded with AIDA-PC



489V W(100)

598V W(100)

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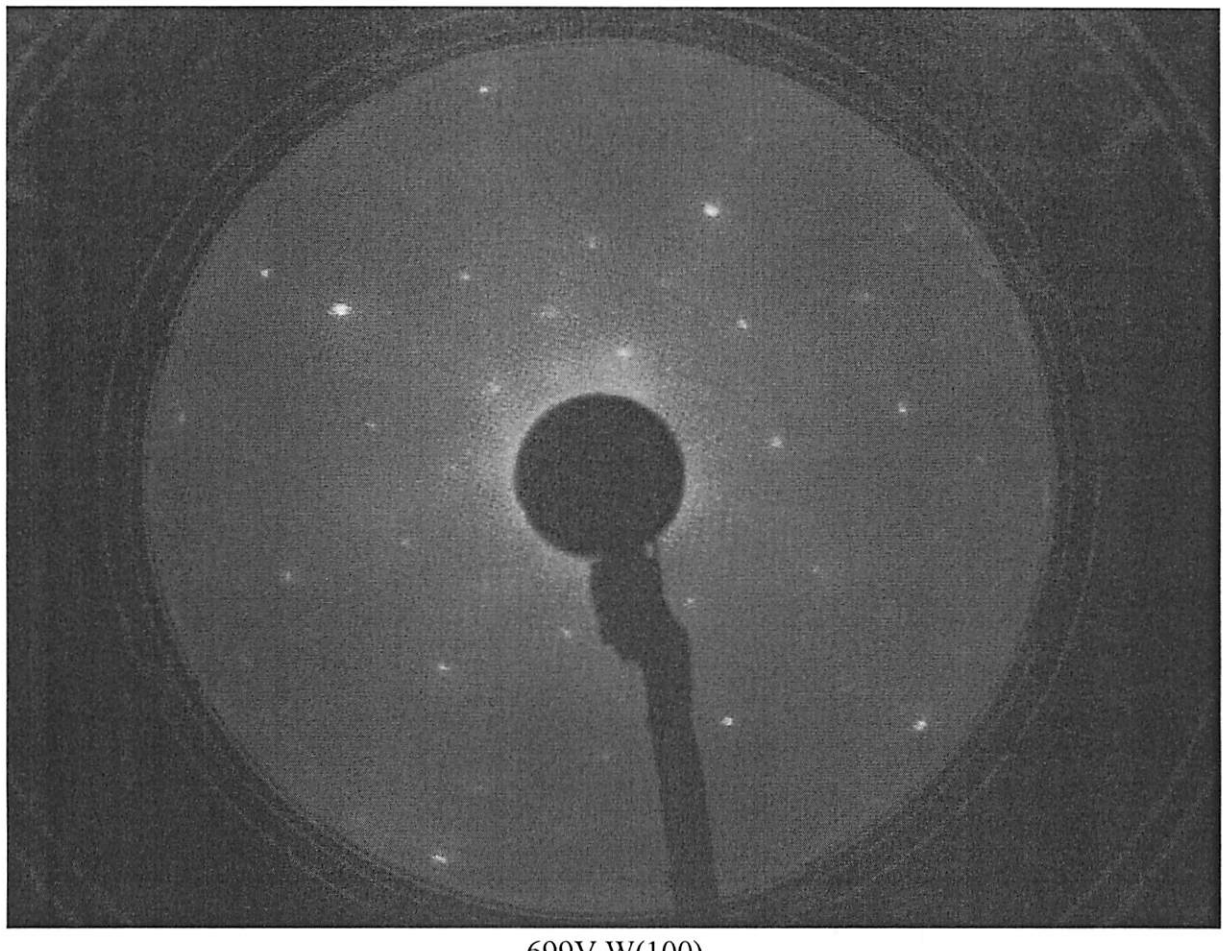
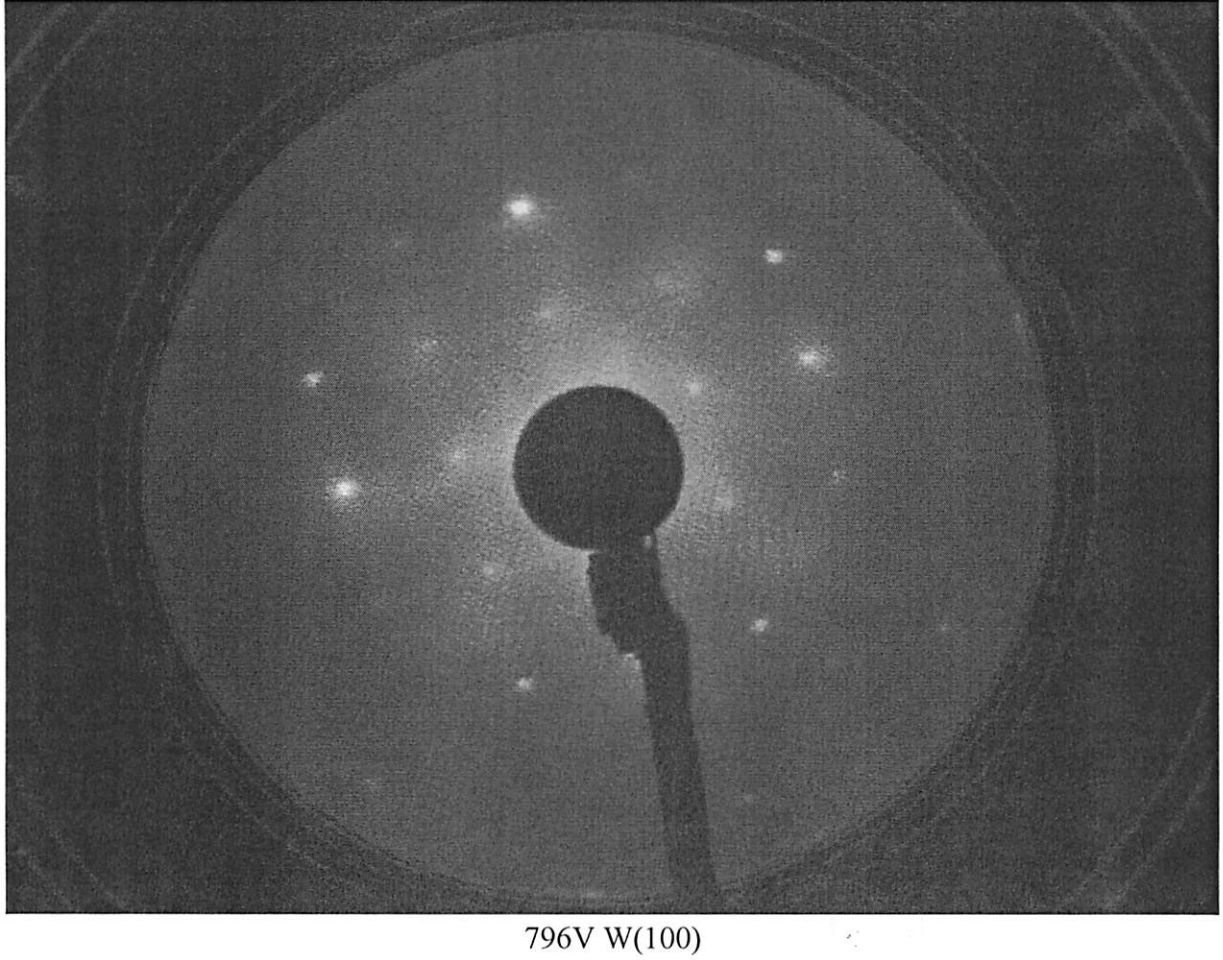
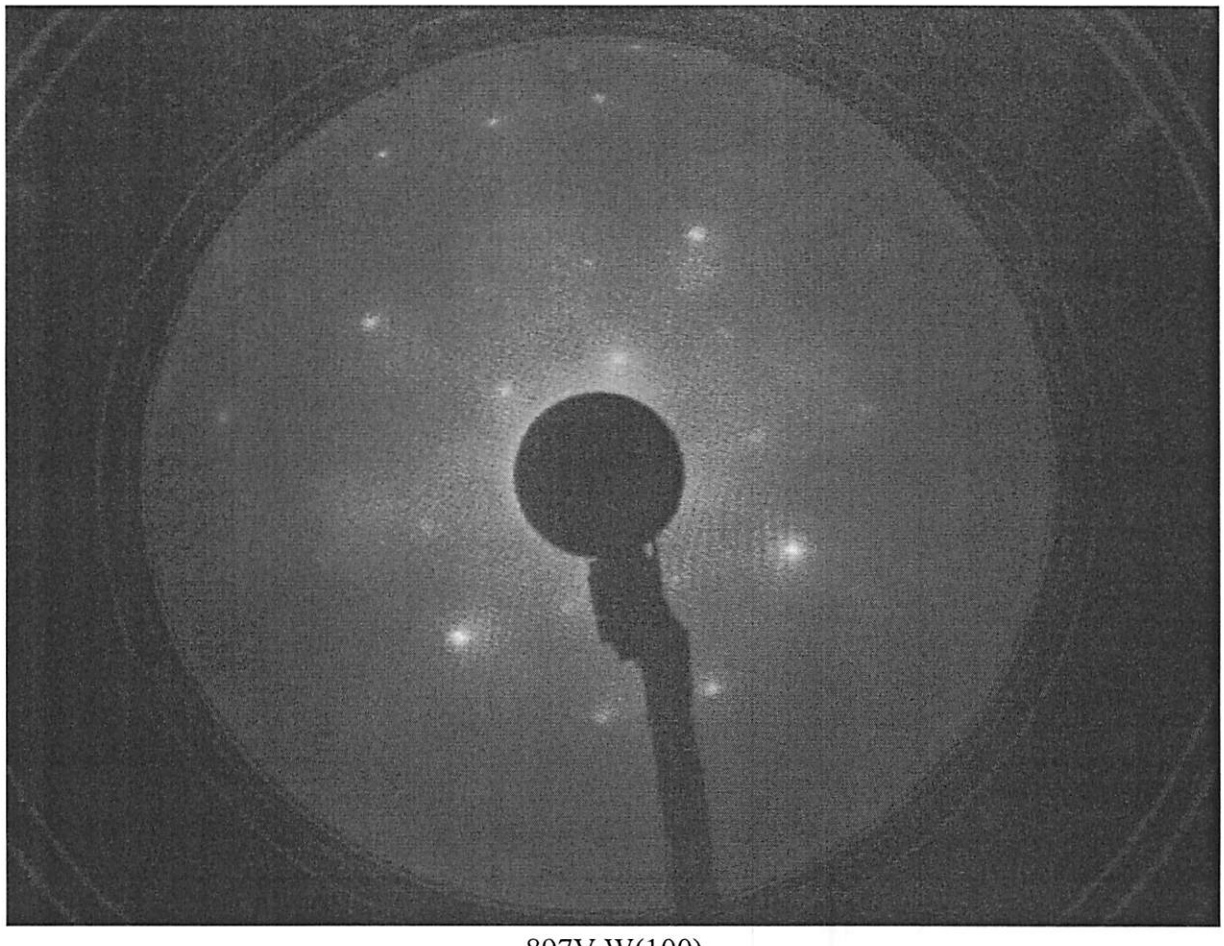


699V W(100)

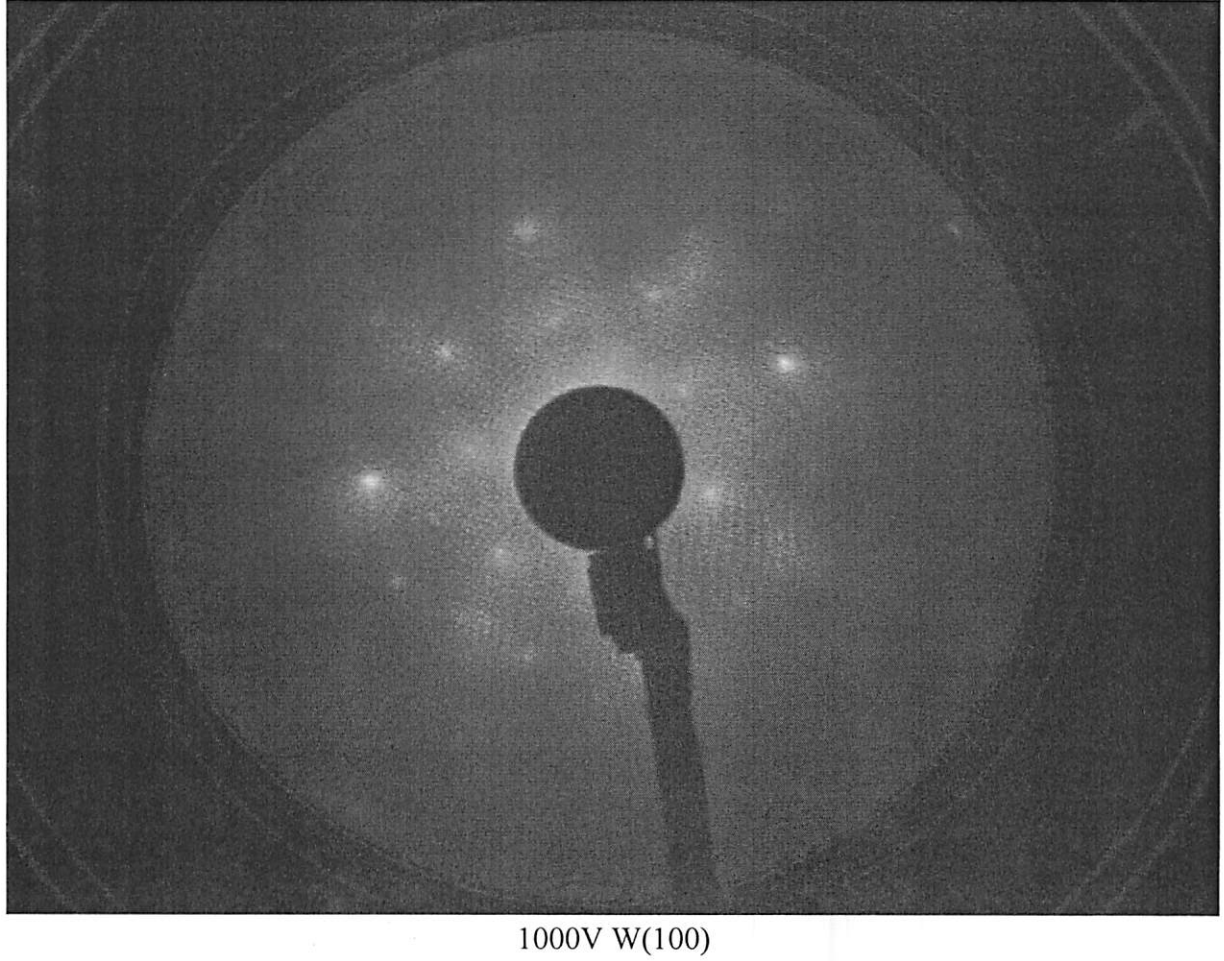


796V W(100)

all images are recorded with AIDA-PC



897V W(100)



1000V W(100)

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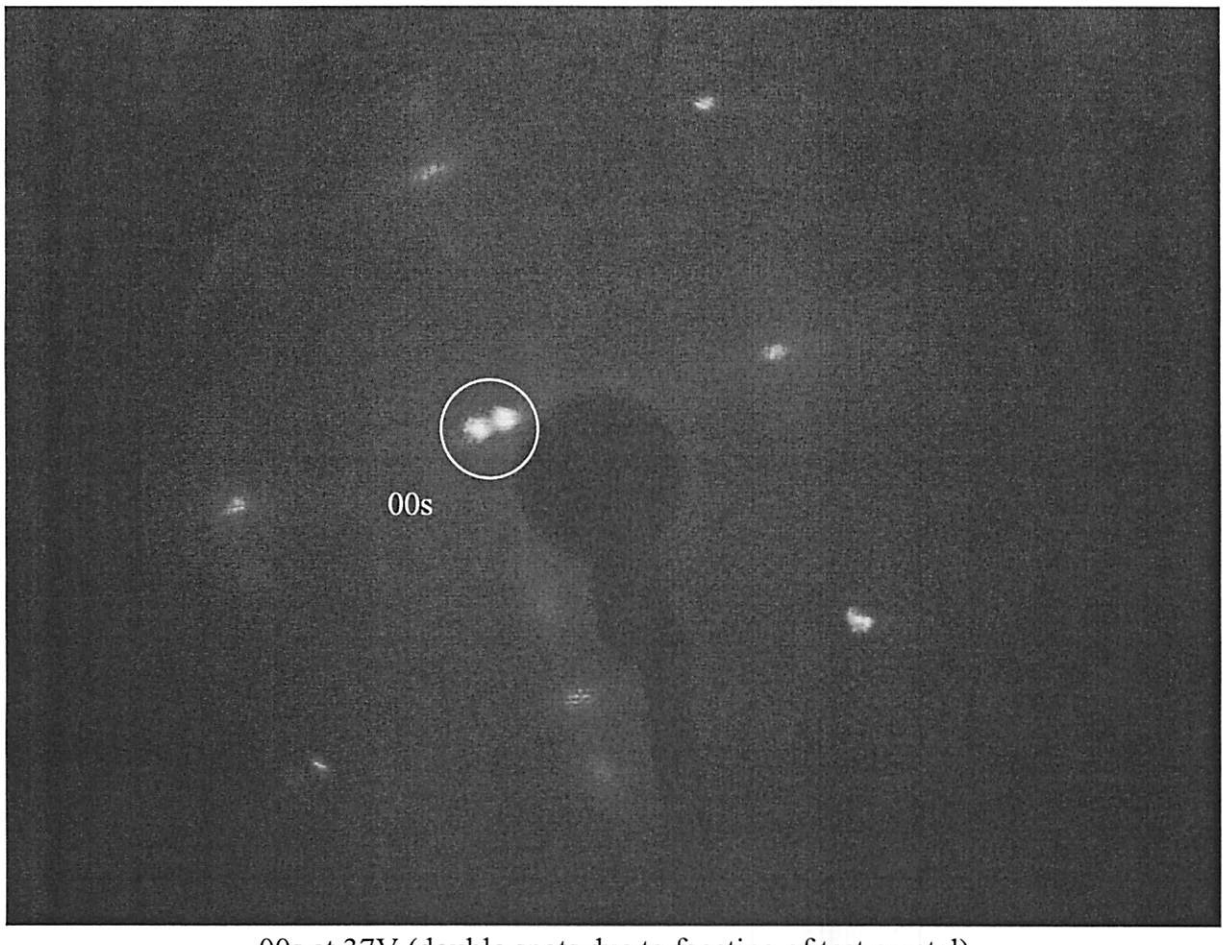

00s at 37V (double spots due to faceting of test crystal)

00 at 728V

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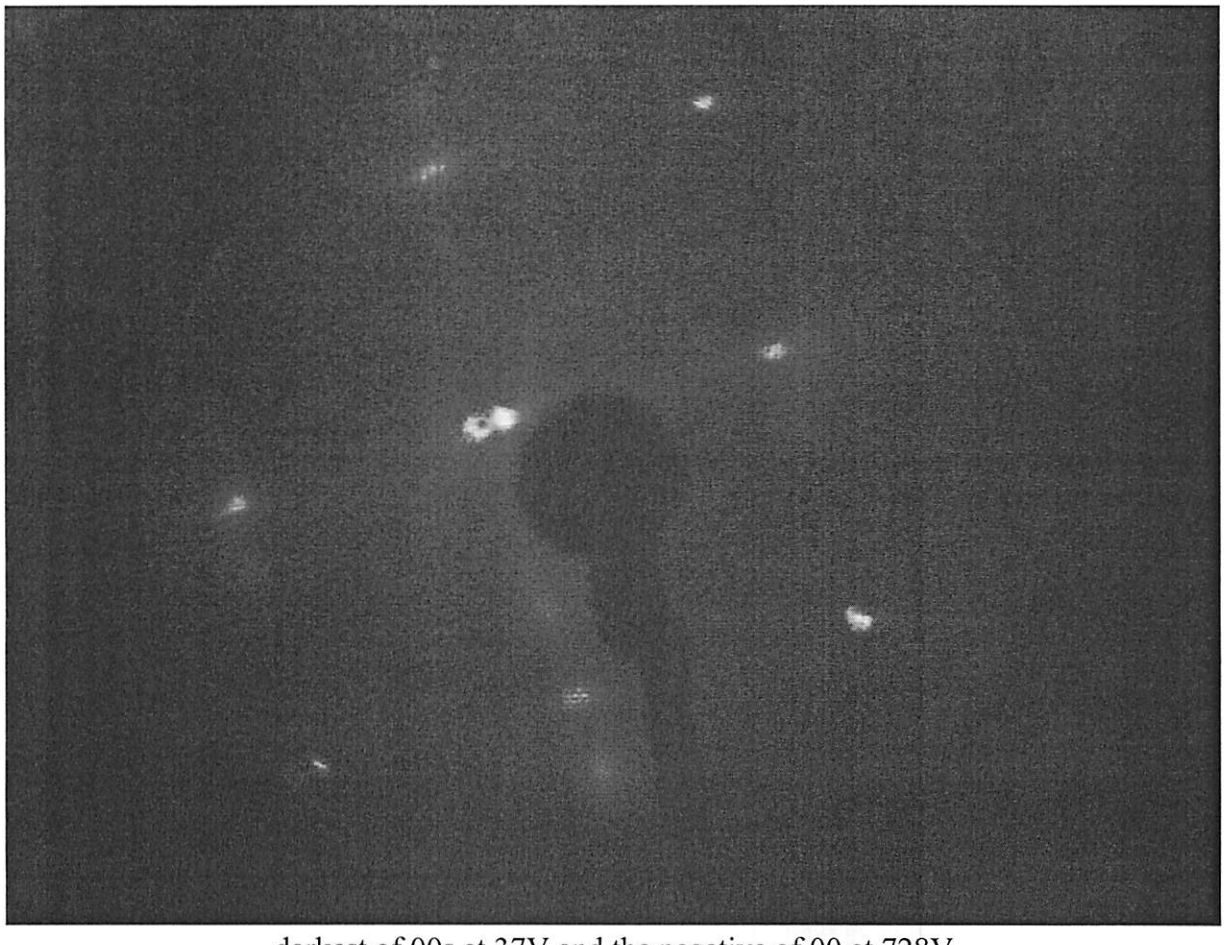
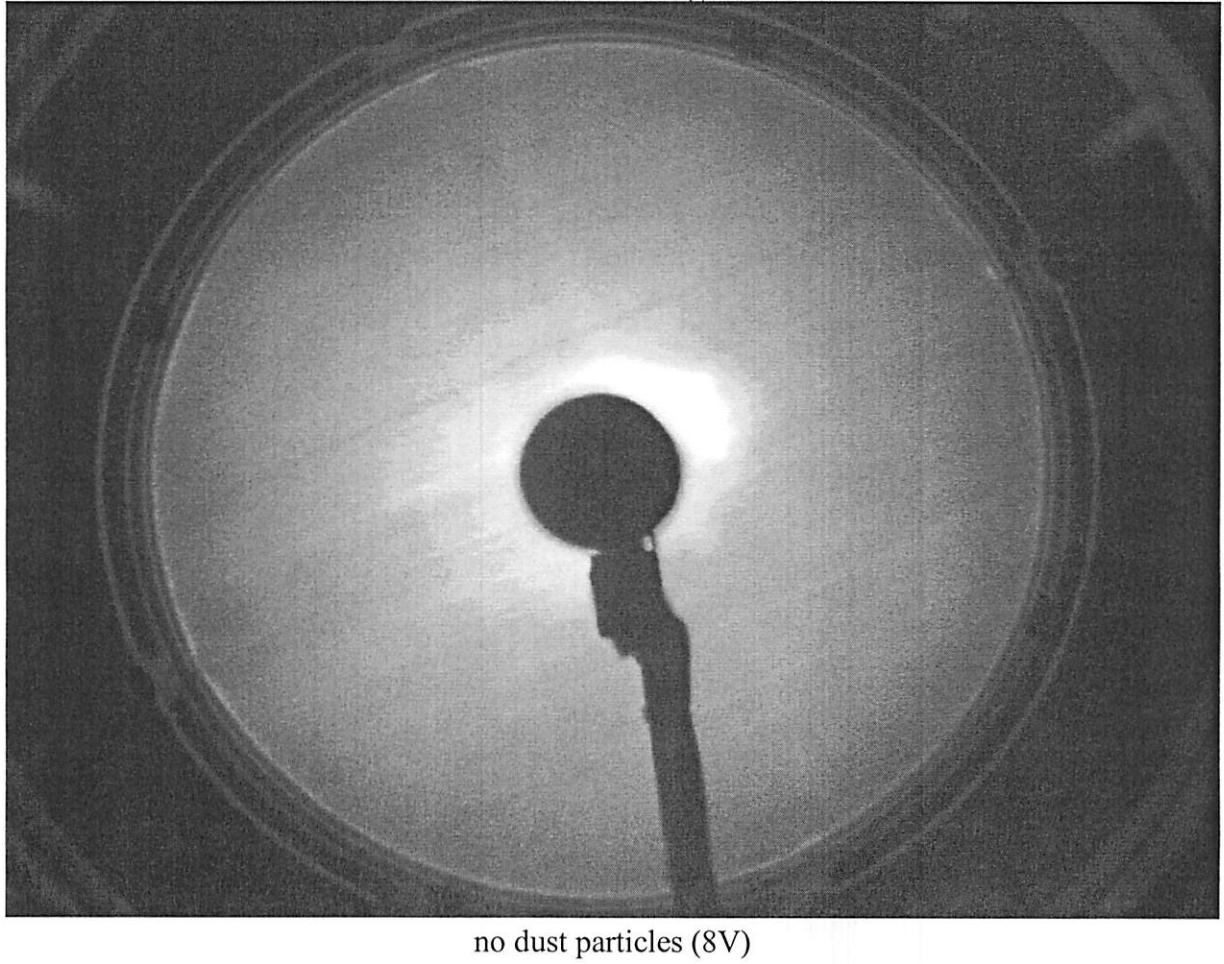


darkest of 00s at 37V and the negative of 00 at 728V



no dust particles (8V)