

PHONON: T2 mode [1,1,0]

Sample:	10.8%Ga
Instrument	HB1A
Exp. No.	266
scan #	
27 scan h .85 k 1.15 l 0 e -3 -11 -.25 preset mcu 50	
28 scan h .80 k 1.20 l 0 e -4.5 -14 -.3 preset mcu 75	
29 scan h .75 k 1.25 l 0 e -4.5 -16 -.3 preset mcu 100	
30 scan h .70 k 1.30 l 0 e -8 -18 -.4 preset mcu 125	
31 scan h .65 k 1.35 l 0 e -8 -20 -.4 preset mcu 150	
32 scan h .60 k 1.40 l 0 e -9 -22 -.5 preset mcu 175	
33 scan h .55 k 1.45 l 0 e -9 -23 -.5 preset mcu 200	
34 scan h .50 k 1.50 l 0 e -9 -23 -.6 preset mcu 250	
Sample	28.8%Ga
Instrument	HB3
Exp. No.	171

scan #	scan command
19	scan h 0.5 k 1.5 l 0 e 12 5 -.4 preset mcu 15
20	scan h 0.55 k 1.45 l 0 e 12 5 -.4 preset mcu 15
21	scan h 0.6 k 1.4 l 0 e 12 5 -.4 preset mcu 10
22	scan h 0.65 k 1.35 l 0 e 11 4 -.4 preset mcu 10
23	scan h 0.7 k 1.3 l 0 e 10 4 -.4 preset mcu 10
24	scan h 0.75 k 1.25 l 0 e 8 2 -.4 preset mcu 10
25	scan h 0.8 k 1.2 l 0 e 8 2 -.4 preset mcu 10
26	scan h 0.85 k 1.15 l 0 e 7 1 -.4 preset mcu 10
27	scan h 0.9 k 1.1 l 0 e 6 1 -.4 preset mcu 10

SPIN WAVE

Sample:	10.8%Ga
Instrument	HB1A
Exp. No.	266
Scan #	
27 scan h .85 k 1.15 l 0 e -3 -11 -.25 preset mcu 50	
28 scan h .80 k 1.20 l 0 e -4.5 -14 -.3 preset mcu 75	
29 scan h .75 k 1.25 l 0 e -4.5 -16 -.3 preset mcu 100	
30 scan h .70 k 1.30 l 0 e -8 -18 -.4 preset mcu 125	
31 scan h .65 k 1.35 l 0 e -8 -20 -.4 preset mcu 150	
32 scan h .60 k 1.40 l 0 e -9 -22 -.5 preset mcu 175	
33 scan h .55 k 1.45 l 0 e -9 -23 -.5 preset mcu 200	
34 scan h .50 k 1.50 l 0 e -9 -23 -.6 preset mcu 250	

Sample:	28.8%Ga
Instrument	HB3
Exp. No.	171
Scan #	
28	scan h 0.5 1 0.025 k 1.5 1 0.025 l 0 e 35 preset mcu 50
29	scan h 0.5 1 0.025 k 1.5 1 0.025 l 0 e 30 preset mcu 40
30	scan h 0.5 1 0.025 k 1.5 1 0.025 l 0 e 27 preset mcu 30
31	scan h 0.5 1 0.025 k 1.5 1 0.025 l 0 e 24 preset mcu 30
32	scan h 0.5 1 0.025 k 1.5 1 0.025 l 0 e 21 preset mcu 25
33	scan h 0.5 1 0.025 k 1.5 1 0.025 l 0 e 18 preset mcu 25
34	scan h 0.5 1 0.025 k 1.5 1 0.025 l 0 e 15 preset mcu 20
35	scan h 0.5 1 0.025 k 1.5 1 0.025 l 0 e 12 preset mcu 20
36	scan h 0.7 1 0.025 k 1.3 1 0.025 l 0 e 10 preset mcu 20
39	scan h 0.5 1 0.025 k 1.5 1 0.025 e 60 ef 30.5 preset mcu 90
40	scan h 0.5 1 0.025 k 1.5 1 0.025 e 55 ef 30.5 preset mcu 90
41	scan h 0.5 1 0.025 k 1.5 1 0.025 e 50 ef 30.5 preset mcu 90
42	scan h 0.5 1 0.025 k 1.5 1 0.025 e 45 ef 30.5 preset mcu 90
43	scan h 0.5 1 0.025 k 1.5 1 0.025 e 40 ef 30.5 preset mcu 90

For HB1A Exp. #266

constant q scans illustrate the focus/defocus effect

HB1A Exp#266 Scan#24 scan h 1.1 k 0.9 l 0 e -1 -8 -0.4 preset mcu 20

HB1A Exp#266 Scan#25 scan h 0.9 k 1.1 l 0 e -1 -8 -0.2 preset mcu 20

HB3 Exp#171 scan#14 scan h 0.7 k 1.3 l 0 e 10 4 -.4 preset mcu 10

HB3 Exp#171 scan#15 scan h 1.3 k 0.7 l 0 e 10 4 -.4 preset mcu 10

Q-scans that show both spin wave and phonon modes

Scan 26: spin wave, Fe-Ga 10.8%, e = 5 meV, e loss

HB1A Exp#266 Scan#26 scan h 0.8 1.2 0.005 k 1.2 0.8 -0.005 l 0 e 5 preset mcu 20

HB3 Exp#171 Scan#16 scan h 0.5 1.5 0.025 k 1.5 0.5 0.025 l 0 e 7 preset mcu 5

