

## Appendix A

### Accelerometer Sensitivities and Charge Amp Settings



#### GLAST LAT Project TEM/TPS Vibration Testing

#### Accelerometer Sensitivities and Charge Amp Settings

Accel. #	Ch. #	S/N	Model	Sensitivity [pC/g]	F.S. Range [g]	Tape Gain [mV]	Sensitivity [mV/g]
CZ1		13048	2271AM20	12.43			
AZ1	6	AHKB2	2226C	3.038			
AZ2	10	16139	2226C	3.027			
AZ3	2	EF52	2220D	2.575			
AZ4	3	16017	2226C	3.07			
AZ5	5	30798	2222C	1.747			
AZ6	8						
CX1		13048	2271AM20	12.43			
AX1	5	30798	2222C	1.747			
AX2	10	16139	2226C	3.027			
AX3	2	EF52	2220D	2.575			
AX4	3	16017	2226C	3.07			
CY1		13048	2271AM20	12.43			
AY1	5	30798	2222C	1.747			
AY2	10	16139	2226C	3.027			
AY3	2	EF52	2220D	2.575			
AY4	3	16017	2226C	3.07			

# Appendix B – Test Log

GLAT 1842  
1843



## GLAST LAT Project TEM/TPS Vibration Testing

### Test Log

Date	Time	Unit #	Axis	Sine or Random	Level [g]/[grms]	Frequency [Hz]	File Name	Remarks
6/27/05	9:50	1842	X	SINE	0.15	5-2000		ch 2 accel bad...
	10:30	1842	X	<del>SINE</del>	<del>0.15</del>	5-2000		change ch2 accel.
	10:40	1842	X	Random	6.8	5-2000		
	10:50	1842	X	SINE	0.15	5-2000		
	11:15	1842	Y	SINE	0.15	5-2000		
	11:25	1842	Y	Random	6.8	5-2000		
	11:40	1842	Y	SINE	0.15	5-2000		
	11:57	1843	X	SINE	0.15	5-2000		
	12:10	1843	X	Random	6.8	5-2000		
	12:15	1843	X	SINE	0.15	5-2000		
	12:30	1843	Y	SINE	0.15	5-2000		
	12:40	1843	Y	Random	6.8	5-2000		
	12:50	1843	Y	SINE	0.15	5-2000		
	1:50	1842	Z	SINE	0.15	5-2000		
	2:05	1842	Z	Random	6.8	5-2000		
	2:20	1842	Z	SINE	0.15	5-2000		
	2:30	1843	Z	SINE	0.15	5-2000		
	2:40	1843	Z	Random	6.8	5-2000		
	2:50	1843	Z	SINE	0.15	5-2000		



## Appendix D – Test Data Package Checklist



### GLAST LAT Project TEM/TPS Vibration Testing

#### Qualification/Acceptance Test Data Package Checklist (Items supplied by Wyle Labs at end of test)

Item	✓	Description / Location
1	<i>[Signature]</i>	Calibrated Equipment List
2	<i>[Signature]</i>	Vibration Test plots (Pre- and Post test signature overlays and random vibration test data for Z, X, and Y axes)
3	<i>[Signature]</i>	Electronic Data in UFF or equivalent format, if available
4	<i>[Signature]</i>	Photographs of test setup
5	<i>[Signature]</i>	Procedure data sheets (Appendices A, B, and C)
6	NA <i>[Signature]</i>	Visual Inspection Report
7	NA <i>[Signature]</i>	Test Control System Software Setup Sheets

S  
H  
I  
P  
T  
O

STANFORD LINEAR ACCELERATOR CENTER  
2575 SAND HILL ROAD  
MENLO PARK, CALIFORNIA 94025

DATE  
6/29/05

VIA  
U.S. MAIL

ATTN: DAVID TARKINGTON

SHIP FROM  
XXXXXXXXXXXXXXXXXXXX  
XXXXXXXXXXXXXXXXXXXX  
XXXXXXXXXXXX  
5452 BETSY ROSS DRIVE  
SANTA CLARA, CA 95054  
408/764-5500

CUSTOMER ORDER NO: **SLAC0000056030**      JOB NUMBER: **49995.52072**      PARTIAL:       COMPLETE:       OUR P.O. NO:

ITEM NO.	QUANTITY	DESCRIPTION
1	1 SET	<p>ORIGINAL TEST DATA ON AS FOLLOWS:</p> <p>2 EACH TEM &amp; TPS (SEE INITIAL VISUAL)</p> <p>POST RANDOM AND SINE VIBRATION TESTING PER CUSTOMER INSTRUCTION</p>

**CERTIFICATE OF CONFORMANCE**

This is to certify that test data and/or certifications proving conformance to purchase order number N/A are on file and available for examination at WYLE LABORATORIES, under Job number N/A.

Quality Assurance Signature: \_\_\_\_\_

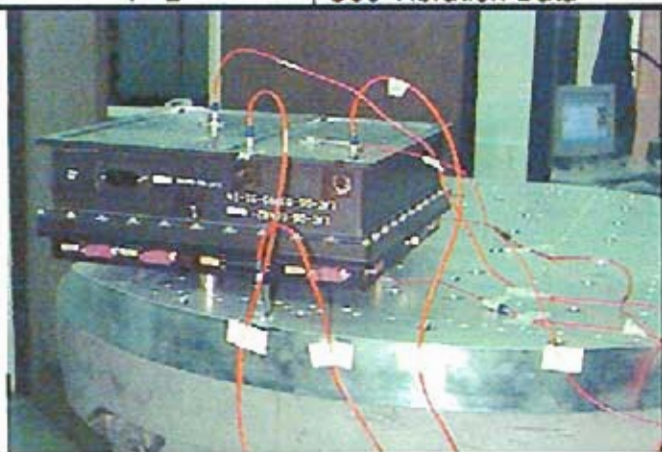
SHIPMENT AUTHORIZED BY:

RECEIVED BY: **Mail**      DATE: **6/29/05**      NAME: **T. KLAWITTER**

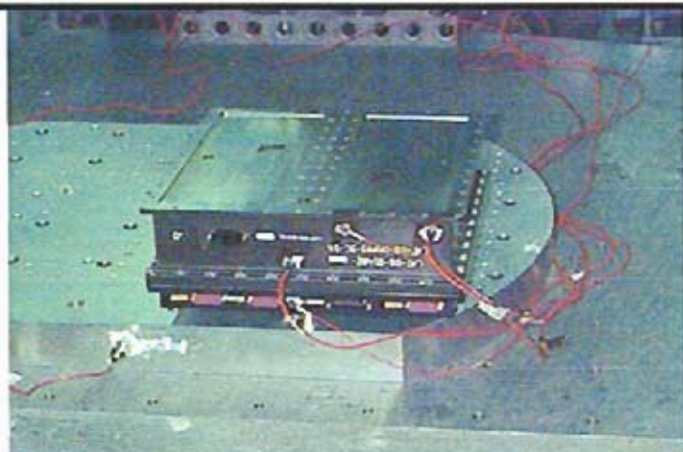


## TEST DATA

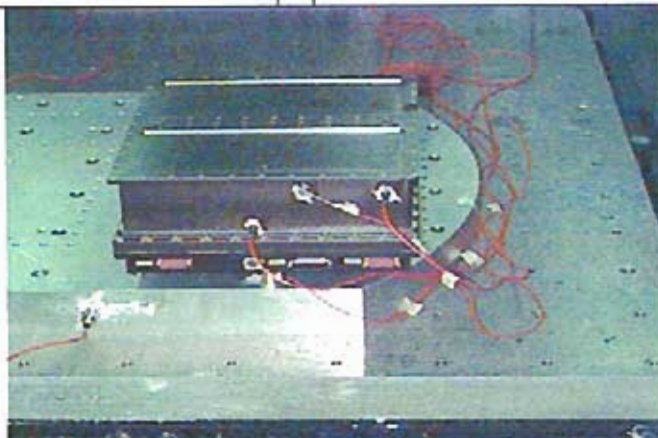
DATE STARTED 06-27-05	CUSTOMER Stanford Linear Accelerator	TECHNICIAN (SIGNATURE) <span style="float: right; border: 1px solid black; padding: 2px;">WSC T-21</span> <i>D. Wittich</i>
DATE COMPLETED 06-27-05	SPECIMEN DESCRIPTION TEM & TPS { See Initial Visual }	ENGINEER (SIGNATURE) <span style="float: right; border: 1px solid black; padding: 2px;">WSC Q-42</span> <i>Sima Chetty</i>
TEMPERATURE 73°F	TYPE OF TEST SET-UP - Detail	ENGINEER <i>Sima Chetty</i>
HUMIDITY 39% R.H.	MANUFACTURER Stanford Linear Accelerator	JOB NUMBER 49995.52072
SPECIMEN NUMBER 1 - 2	TEST SPECIFICATION See Vibration Data	



Z - Axis



X - Axis



Y - Axis

## TEST DATA

DATE STARTED 06-27-05		CUSTOMER Stanford Linear Accelerator			TECHNICIAN (SIGNATURE) <i>D. Wiltshire</i> 1-21	
DATE COMPLETED 06-27-05		SPECIMEN DESCRIPTION TEM / TPS { See Initial Visual }			ENGINEER (SIGNATURE) <i>Jim Olesky</i> WSC 0-02	
TEMPERATURE 73°F		TYPE OF TEST <b>VIBRATION - Sine and Random - Non-Op.</b>			ENGINEER <i>Jim Olesky</i>	
HUMIDITY 39% R.H.		MANUFACTURER Stanford Linear Accelerator			JOB NUMBER 49995.52072	
SPECIMEN NUMBER 1 & 2		TEST SPECIFICATION SLAC LAT-TD-05649 & Customer Instruction				
SPECIMEN NUMBER	DATE	AXIS	TIME START	TIME STOP	VIBRATION FREQUENCIES AND LEVELS	REMARKS
-	06-27-05	X	0921	+0:04:18	Sine - Search	Sine Search; Fixture Only
1		X	0946	+0:04:18	20 - 2000Hz @ 0.15g 2 octaves / minute 1 sweep up / axis	Sine Search; Ch.#2 bad; replaced accel; rerun
		X	1014	+0:04:18		Sine Search
		X	1035	+0:01:01	Random - Accept. 20Hz @ 0.01 G <sup>2</sup> /Hz	Random Accept.
		X	1043	+0:04:18	80 - 500Hz @ 0.04 G <sup>2</sup> /Hz 2000Hz @ 0.01 G <sup>2</sup> /Hz	Sine Search
		Y	1110	+0:04:18	6.79 Grms overall 1 minute / axis	Sine Search
		Y	1122	+0:01:00		Random Accept.
1		Y	1128	+0:04:18		Sine Search
2		X	1150	+0:04:18		Sine Search
		X	1201	+0:01:00		Random Accept.
		X	1207	+0:04:18		Sine Search
		Y	1227	+0:04:18		Sine Search
2	06-27-05	Y	1240	+0:01:00		Random Accept.





## TEST DATA

DATE STARTED 06-27-05		CUSTOMER Stanford Linear Accelerator			TECHNICIAN (SIGNATURE) <i>D. Wiltshire</i> [ISO T-21]	
DATE COMPLETED 06-27-05		SPECIMEN DESCRIPTION TEM / TPS { See Initial Visual }			ENGINEER (SIGNATURE) <i>Time Chosen</i> [ISO Q-02]	
TEMPERATURE 73°F		TYPE OF TEST <b>VIBRATION - Sine and Random - Non-Op.</b>			ENGINEER <i>Time Chosen</i>	
HUMIDITY 39% R.H.		MANUFACTURER Stanford Linear Accelerator			JOB NUMBER 49995.52072	
SPECIMEN NUMBER 1 & 2		TEST SPECIFICATION SLAC LAT-TD-05649 & Customer Instruction				
SPECIMEN NUMBER	DATE	AXIS	TIME START	TIME STOP	VIBRATION FREQUENCIES AND LEVELS	REMARKS
2	06-27-05	Y	1246	+0:04:18	Sine - Search 20 - 2000Hz @ 0.15g 2 octaves / minute 1 sweep up / axis  Random - Accept. 20Hz @ 0.01 G <sup>2</sup> /Hz 80 - 500Hz @ 0.04 G <sup>2</sup> /Hz 2000Hz @ 0.01 G <sup>2</sup> /Hz 6.79 Grms overall 1 minute / axis	Sine Search
1		Z	1352	+0:04:18		Sine Search
1		Z	1407	+0:01:01		Random Accept.
1		Z	1416	+0:04:18		Sine Search
2		Z	1438	+0:04:18		Sine Search
2		Z	1450	+0:01:00		Random Accept.
2	06-27-05	Z	1457	+0:04:18		Sine Search
						Note: No external physical damage noted due to this test.

# Sine CX1 X-Axis Control

Stanford Linear Accelerator  
J/N 49995.52072  
TEM / TPS

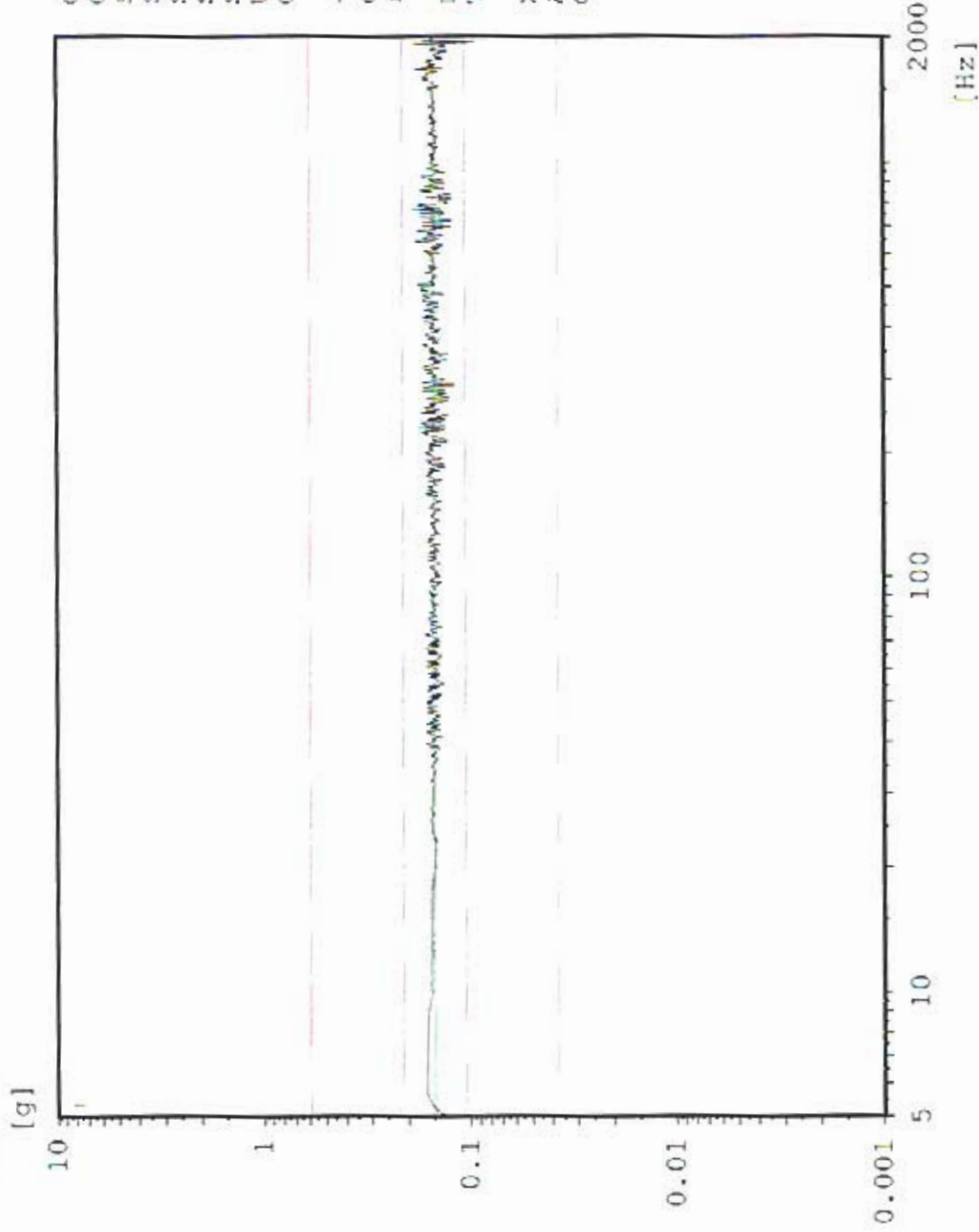


Chan.no: 1  
Chan.type: CW Filtered  
Sweep type: logarithmic  
Sweeps done: 1  
Sweeps req.: 1  
Sweep direct.: up  
Sweep rate: 2.00 Oct/min  
Unit: g  
Contr.strat.: Closed loop

-- Testing time --  
elapsed: 000:04:18  
remaining: 000:00:00

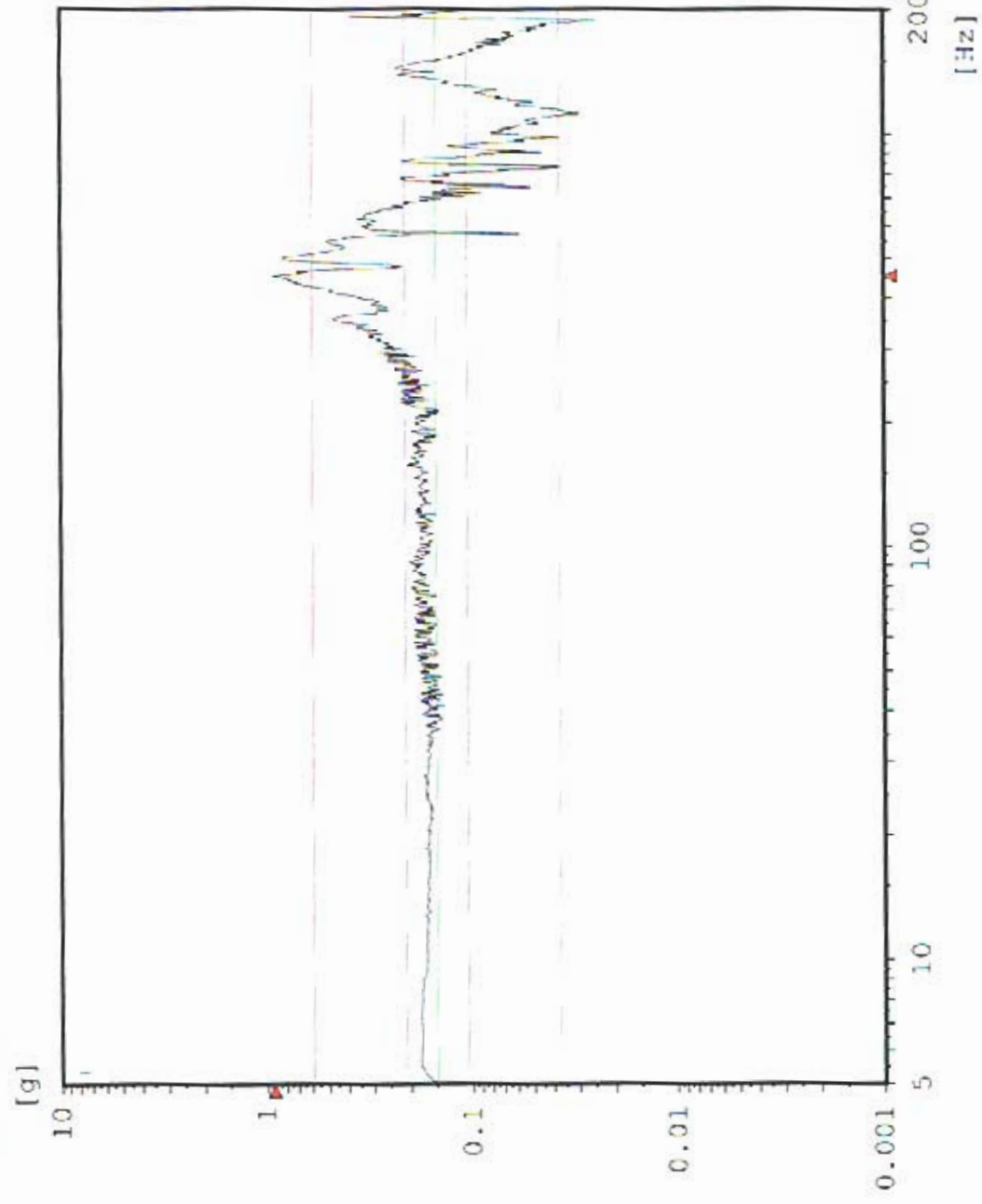
Date: 06-27-05  
Time: 11:54:58

X - axis Pre Random  
Acceptance Unit  
GLAT 1843



### Sine AX3 TPS top center

Stanford Linear Accelerator  
J/N 49995.52072  
TEM / TPS



Chan.no: 2 X Filtered  
 Chan.type: logarithmic  
 Sweep type: 1  
 Sweeps done: 1  
 Sweeps req.: 1  
 Sweep direct.: up  
 Sweep rate: 2.00 Oct/min  
 Unit: g  
 Contr.strat.: Closed loop

-- Testing time --  
 elapsed: 000:04:18  
 remaining: 000:00:00

Date: 06-27-05  
 Time: 1:54:58

X - axis Pre Random  
 Acceptance Unit  
 GLAT 1843

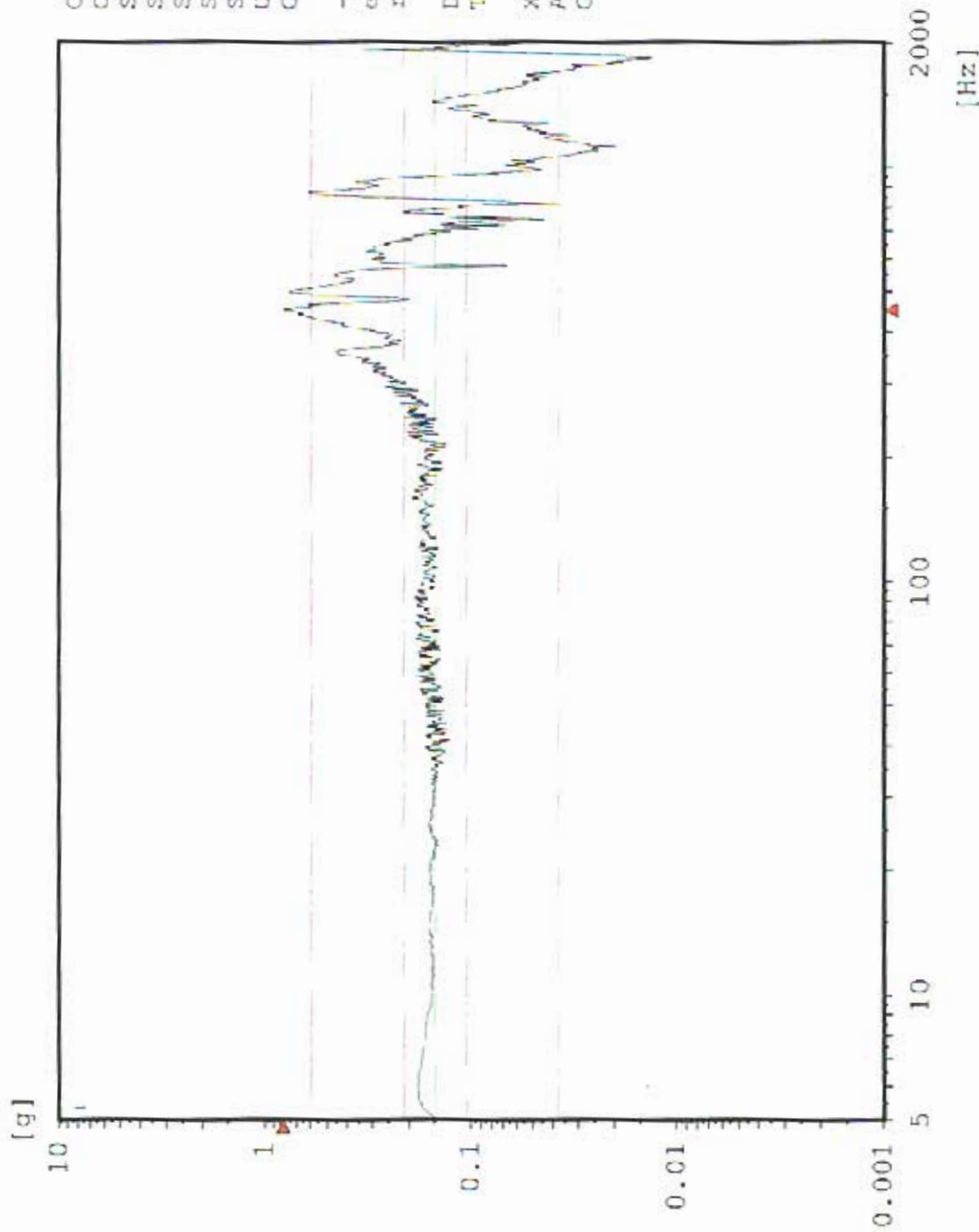
### AX4 TPS top edge

Sine

Stanford Linear Accelerator

J/N 49995.52072

TEM / TPS



Chan.no: 3 X Filtered  
 Sweep type: logarithmic  
 Sweeps done: 1  
 Sweeps req.: 1  
 Sweep direct.: up  
 Sweep rate: 2.00 Oct/min  
 Unit: g  
 Contr.strat.: Closed loop

-- Testing time --  
 elapsed: 000:04:18  
 remaining: 000:00:00

Date: 06-27-05  
 Time: 11:54:58

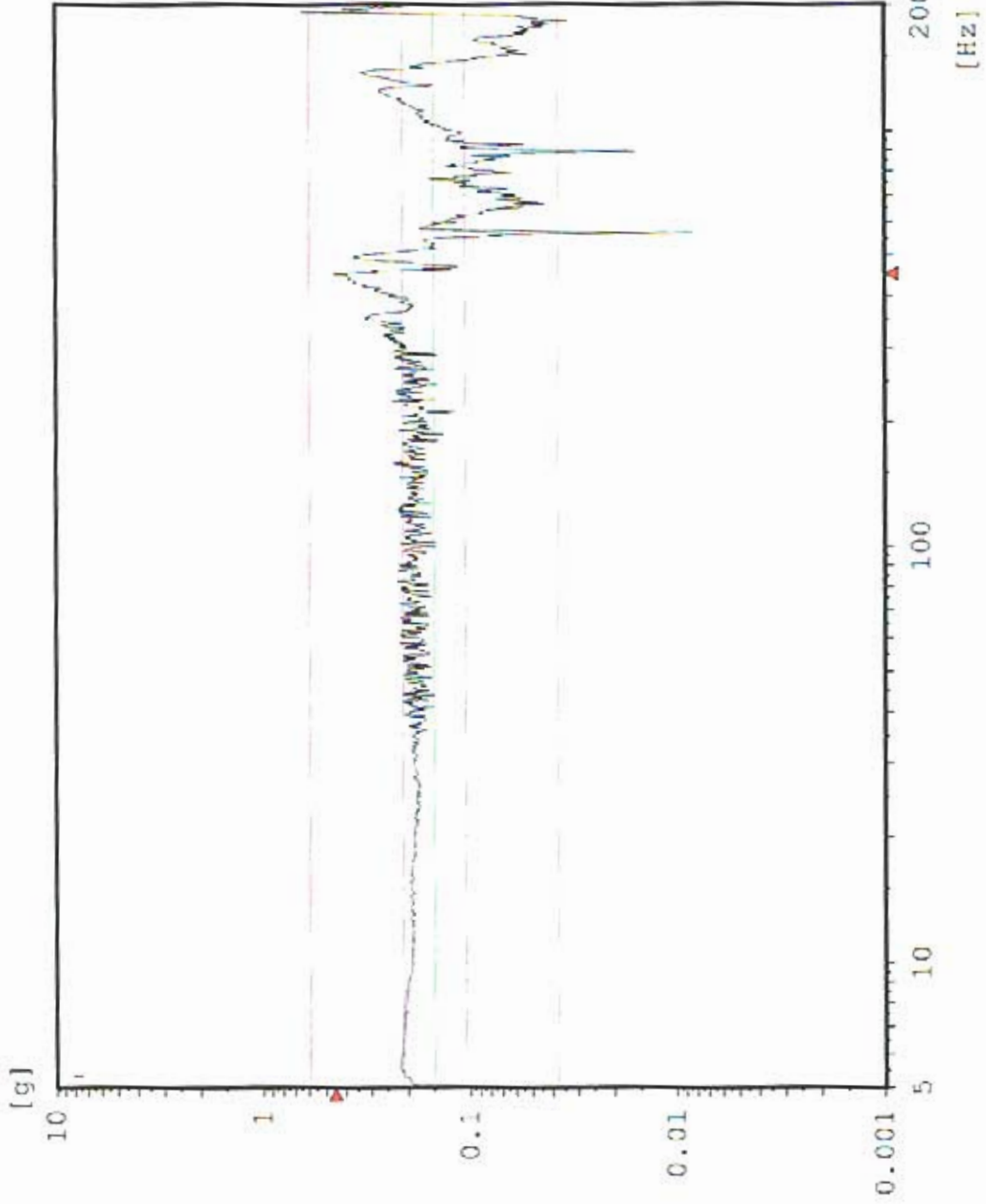
X - axis Pre Random  
 Acceptance Unit  
 GLAT 1843

# Sine AXI TEM center edge

Stanford Linear Accelerator

J/N 49995.52072

TEM / TPS



Chan.no: 5 M Filtered  
Sweep type: logarithmic  
Sweeps done: 1  
Sweeps req.: 1  
Sweep direct.: up  
Sweep rate: 2.00 Oct/min  
Unit: g  
Contr.strat.: Closed loop

-- Testing time --  
elapsed: 000:04:18  
remaining: 000:00:00

Date: 06-27-05  
Time: 11:54:58

X - axis Pre Random  
Acceptance Unit  
GLAT 1843

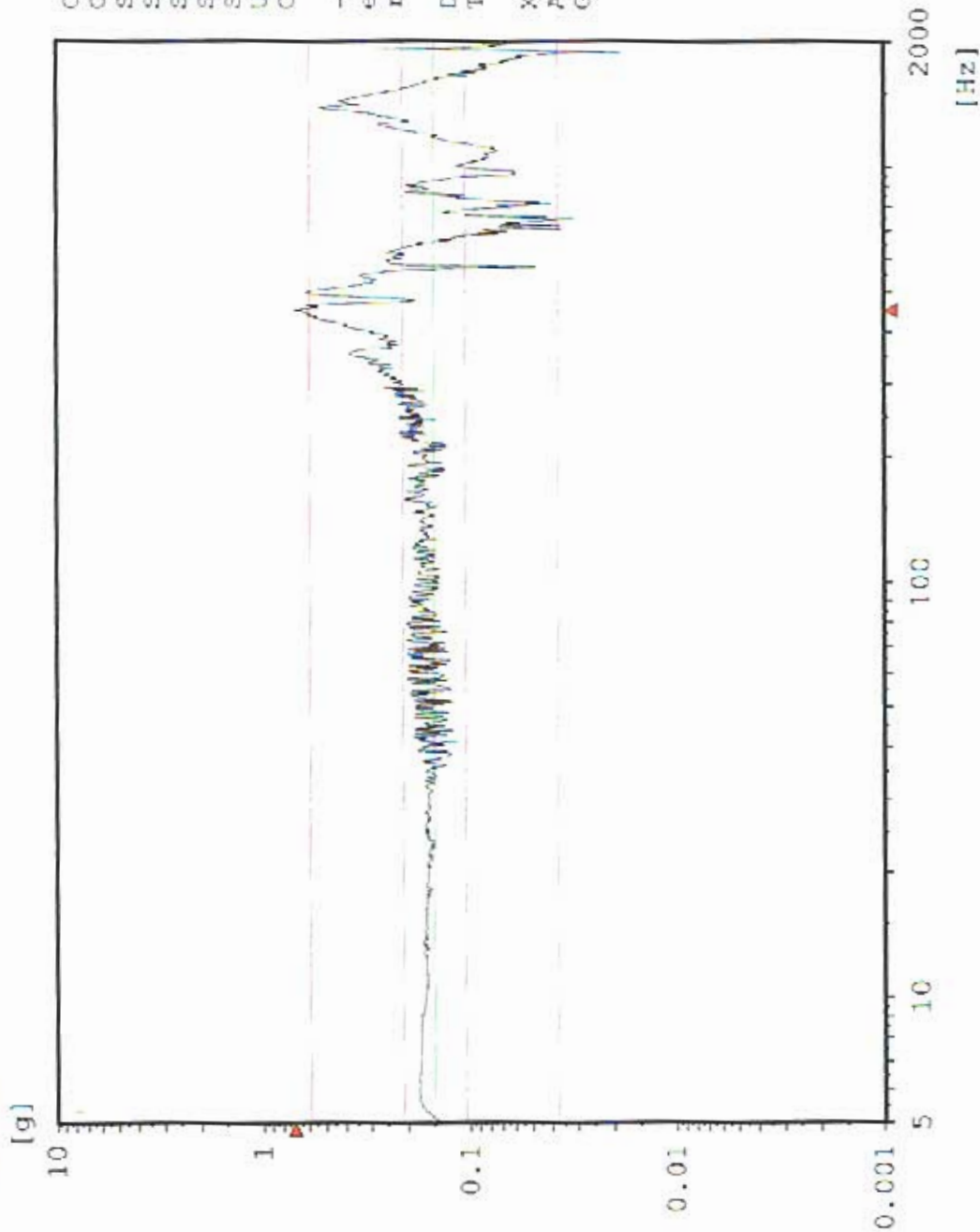
# AX2 TPS CG

Sine

Stanford Linear Accelerator

J/N 4995.52072

TEM / TPS



Chan.no: 10  
Chan.type: M Filtered  
Sweep type: logarithmic  
Sweeps done: 1  
Sweeps req.: 1  
Sweep direct.: up  
Sweep rate: 2.00 Oct/min  
Unit: g  
Contr.strat.: Closed loop

-- Testing time --  
elapsed: 000:04:18  
remaining: 000:00:00

Date: 06-27-05  
Time: 11:54:58

X - axis Pre Random  
Acceptance Unit  
GLAT 1843

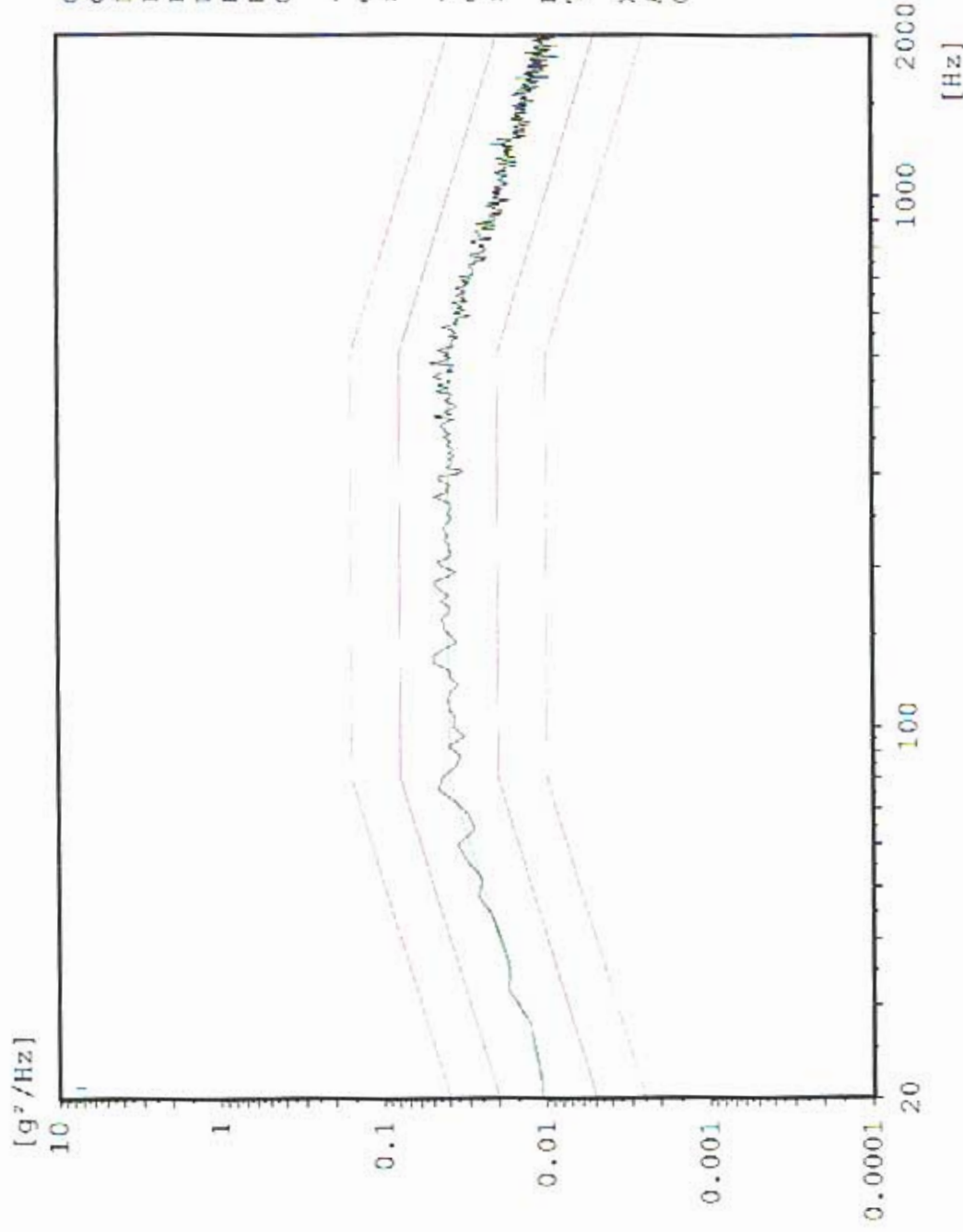
# Random

## CX1 X-Axis Control

Stanford Linear Accelerator

J/N 49995.52072

TEM & TPS



Chan.no: 1  
Chan.type: C  
DOF: 126  
Level: 0.0 dB  
Resolution: 4 Hz  
Unit: g<sup>2</sup>/Hz  
RMS (act.): 6.846 g  
RMS (req.): 6.787 g  
Contr.strat.: Closed loop

-- Time on act. level --  
elapsed: 000:01:00  
remaining: 600:00:00

-- Time total --  
elapsed: 000:02:53  
remaining: 000:00:00

Date: 06-27-05  
Time: 12:02:28

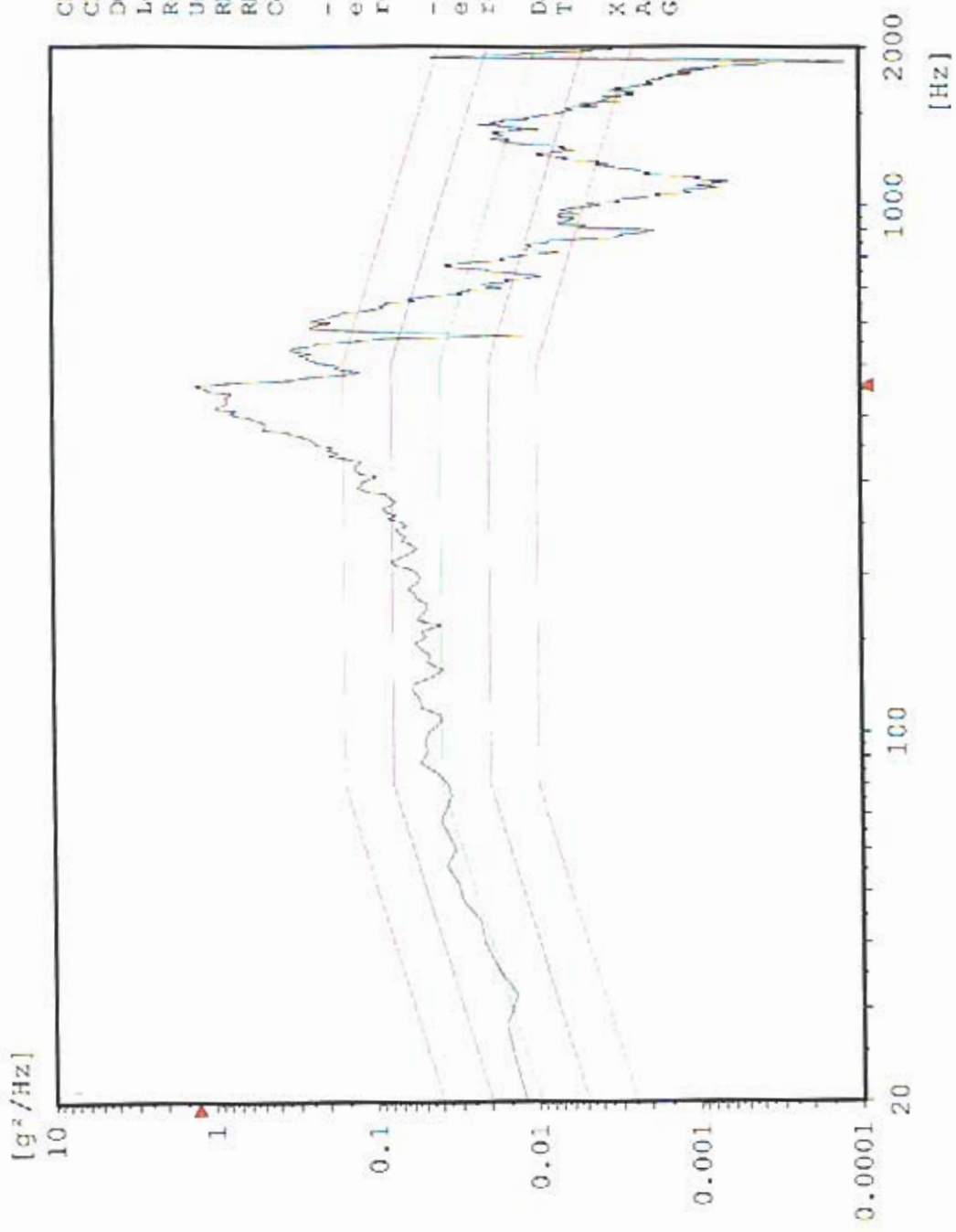
X - Axis  
Acceptance Unit  
GIAT 1843

Max: 456 Hz 1.301 g<sup>2</sup>/Hz

### AX4 TPS Top Center

Random

Stanford Linear Accelerator  
J/N 49995.52072  
TEM & TPS



Chan.no: 2  
Chan.type: M  
DOF: 100  
Level: 6.0 dB  
Resolution: 4 Hz  
Unit: g<sup>2</sup>/Hz  
RMS (act.): 12.23 g  
RMS (req.): 6.787 g  
Contr.strat.: Closed loop

-- Time on act. level --  
elapsed: 000:01:00  
remaining: 000:00:00

-- Time total --  
elapsed: 000:02:53  
remaining: 000:00:00

Date: 06-27-05  
Time: 12:02:28

X - Axis  
Acceptance Unit  
GLAT 1843



Max: 456 Hz 0.9839 g<sup>2</sup>/Hz

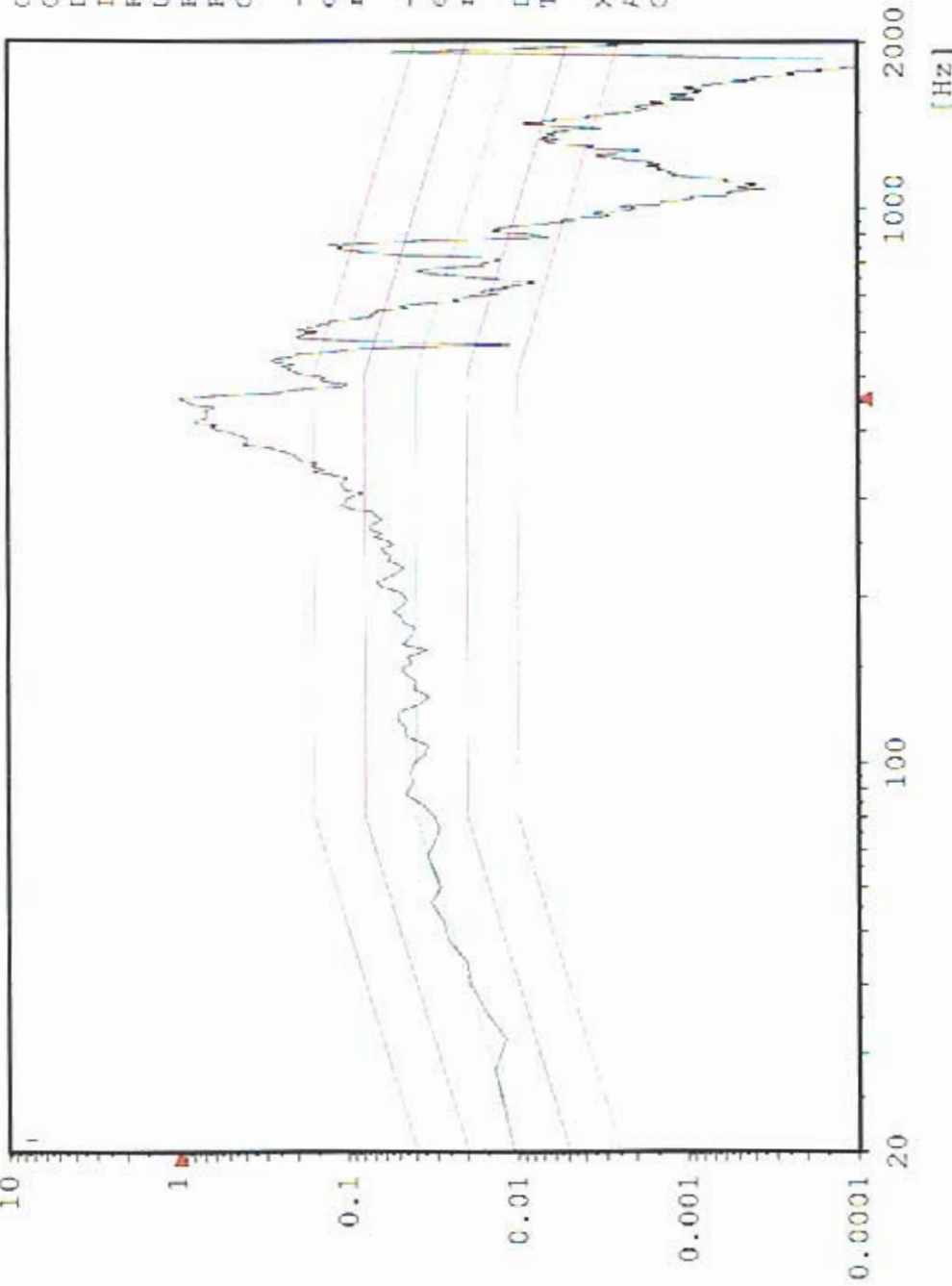
### AX3 TPS Top Edge

Random

Stanford Linear Accelerator

J/N 49955.52072

TEM & TPS



Chan.no: 3  
Chan.type: M  
DOF: 100  
Level: 0.0 dB  
Resolution: 4 Hz  
Unit: g<sup>2</sup>/Hz  
RMS (act.): 11.13 g  
RMS (req.): 6.787 g  
Contr.strat.: Closed loop

-- Time on act. level --  
elapsed: 000:01:00  
remaining: 000:00:00

-- Time total --  
elapsed: 003:02:53  
remaining: 000:00:00

Date: 06-27-05  
Time: 12:02:28

X - Axis  
Acceptance Unit:  
GLAT 1843

Max: 412 Hz 0.2571 g<sup>2</sup>/Hz

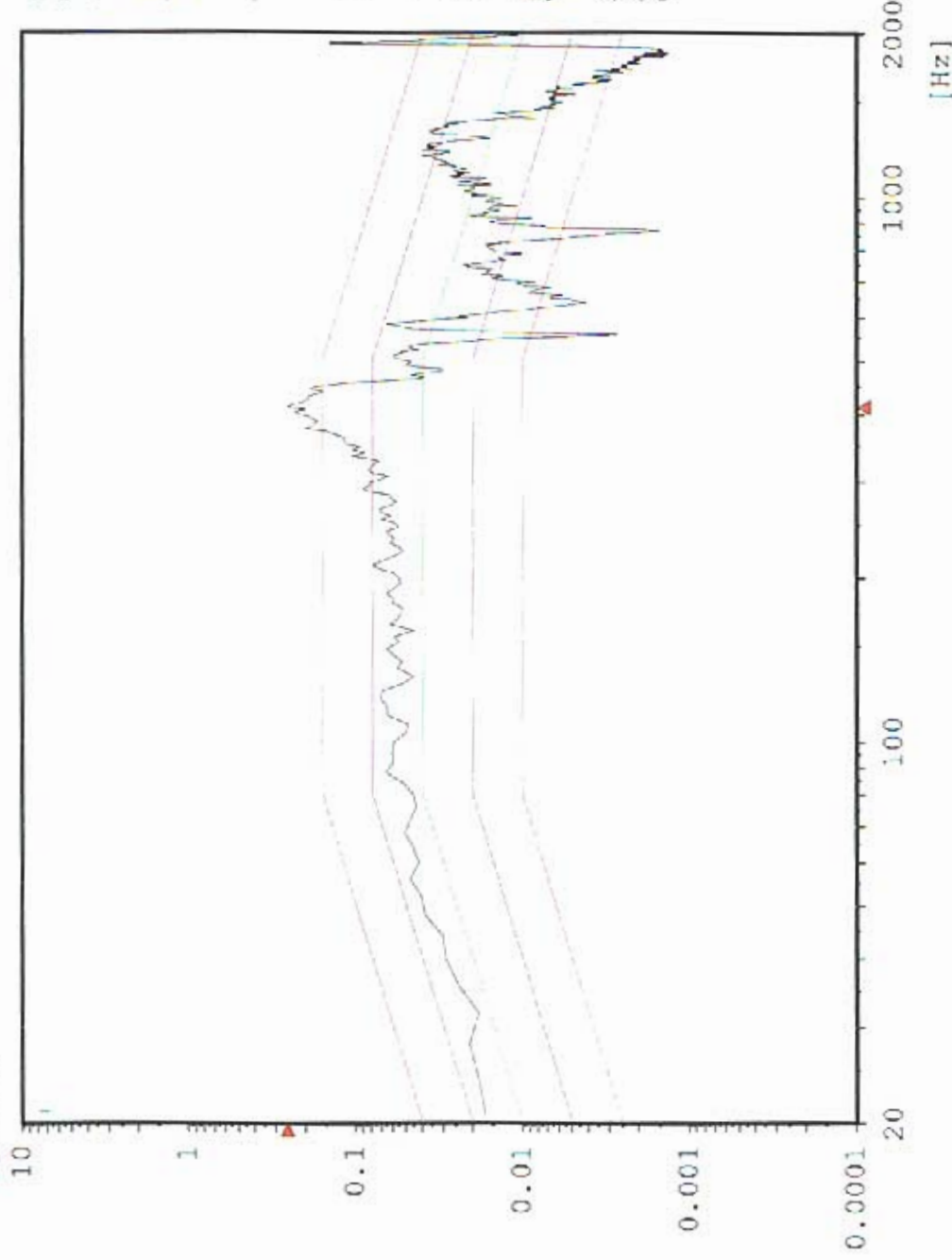
### Random CH# 5 TEM center edge

Stanford Linear Accelerator

J/N 49995.52072

TEM & TPS

[g<sup>2</sup>/Hz]



Chan.no: 5  
Chan.type: M  
DOF: 100  
Level: 0.0 dB  
Resolution: 4 Hz  
Unit: g<sup>2</sup>/Hz  
RMS (act.): 8.165 g  
RMS (req.): 6.787 g  
Contr.strat.: Closed loop

-- Time on act. level --  
elapsed: 000:01:00  
remaining: 000:00:00

-- Time total --  
elapsed: 000:02:53  
remaining: 000:00:00

Date: 06-27-05  
Time: 12:02:28

X - Axis  
Acceptance Unit  
GLAT 1843

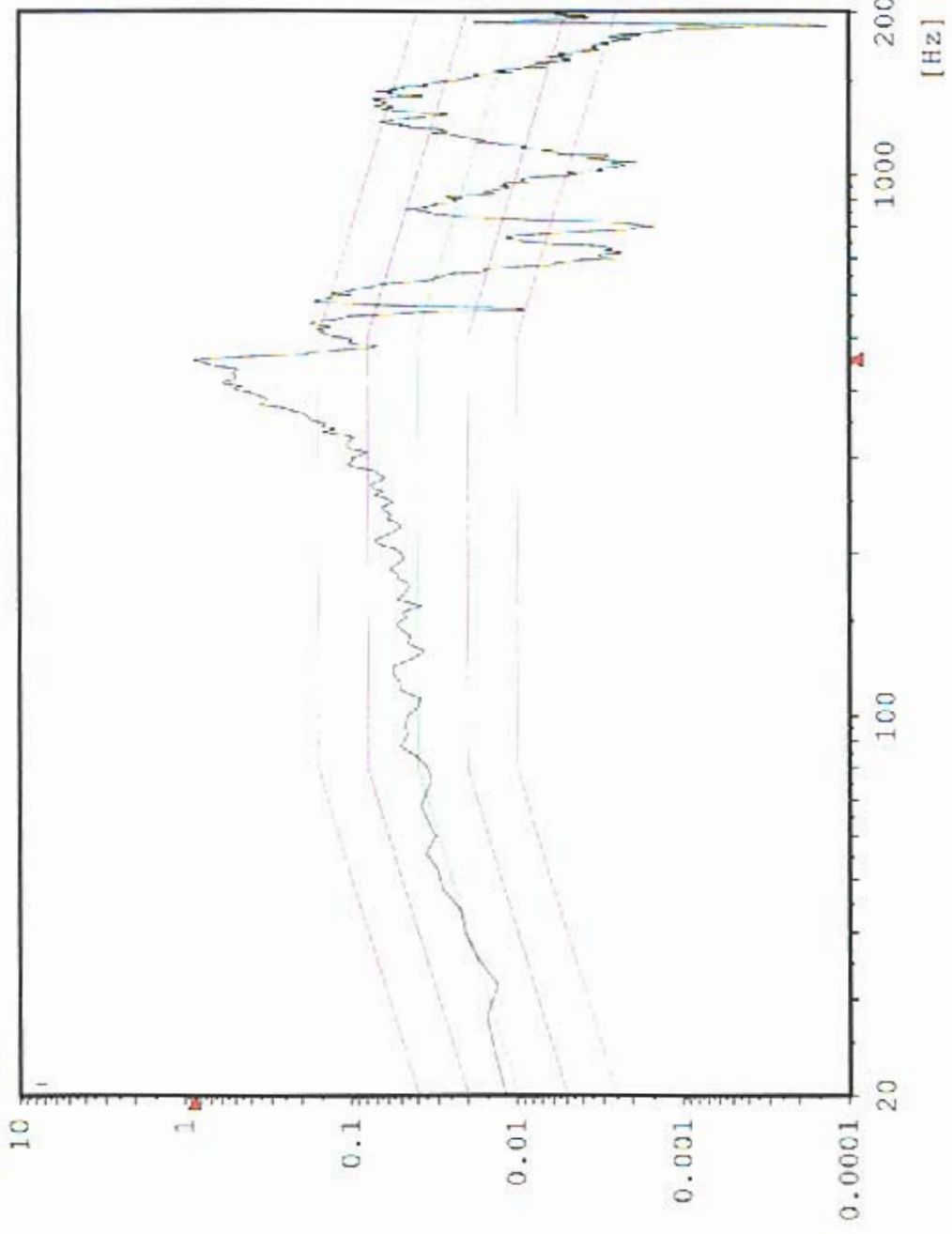
Max: 456 Hz 0.8887 g<sup>2</sup>/Hz

### Random AX2 TPS Bottom center

Stanford Linear Accelerator  
J/N 49995.52072  
TEM & TPS



[g<sup>2</sup>/Hz]



Chan.no: 10  
Chan.type: M  
DOF: 100  
Level: 0.0 dB  
Resolution: 4 Hz  
Unit: g<sup>2</sup>/Hz  
RMS (act.): 10.68 g  
RMS (req.): 6.787 g  
Contr.strat.: Closed loop

-- Time on act. level --  
elapsed: 000:01:00  
remaining: 000:00:00

-- Time total --  
elapsed: 000:02:53  
remaining: 000:00:00

Date: 06-27-05  
Time: 12:02:28

X - Axis  
Acceptance Unit  
GLAT 1843

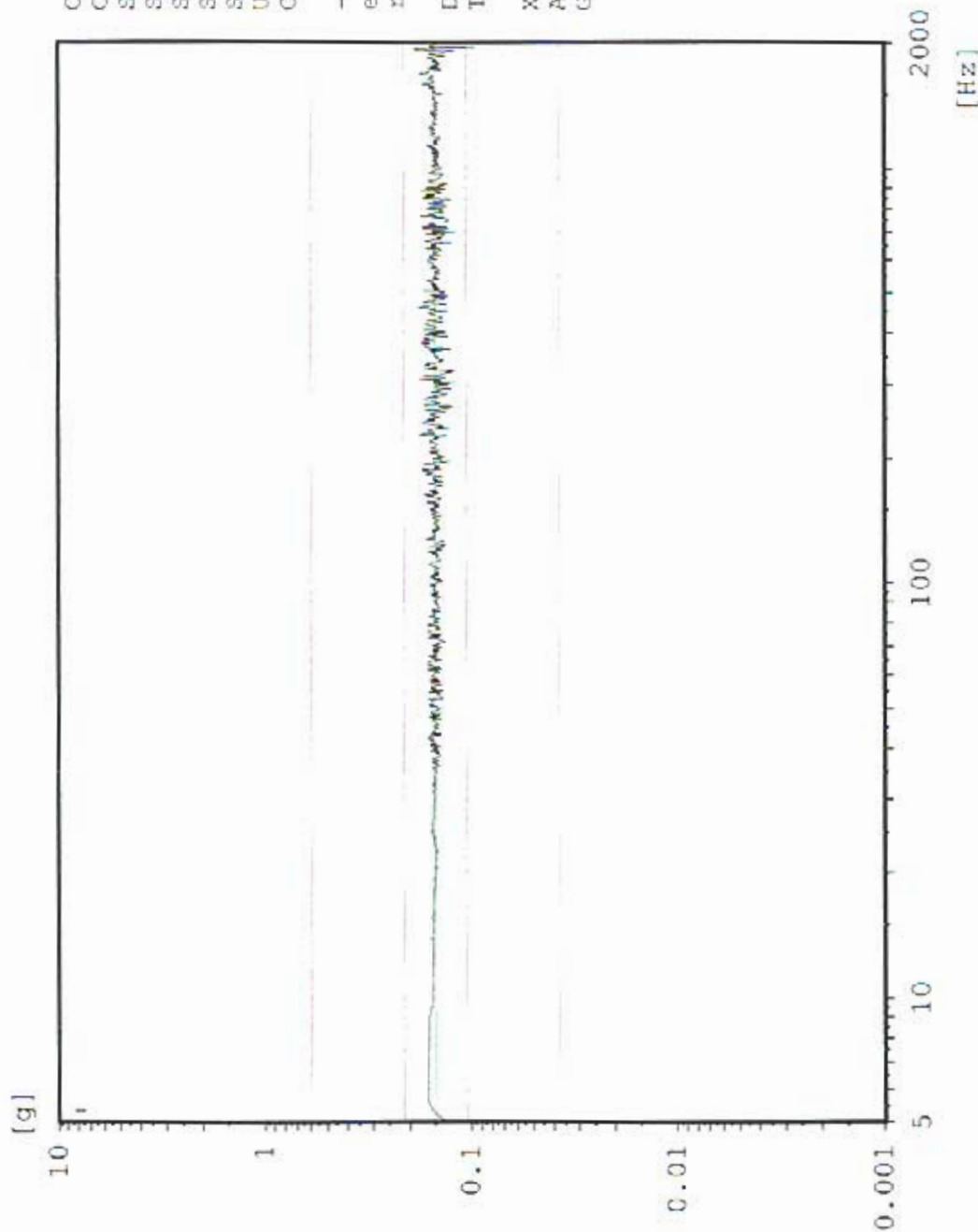
# CX1 X-Axis Control

Sine

Stanford Linear Accelerator

J/N 49995.52072

TEM / TPS



Chan.no: 1  
Chan.type: CW Filtered  
Sweep type: logarithmic  
Sweeps done: 1  
Sweeps req.: 1  
Sweep direct.: up  
Sweep rate: 2.00 Oct/min  
Unit: g  
Contr.strat.: Closed loop

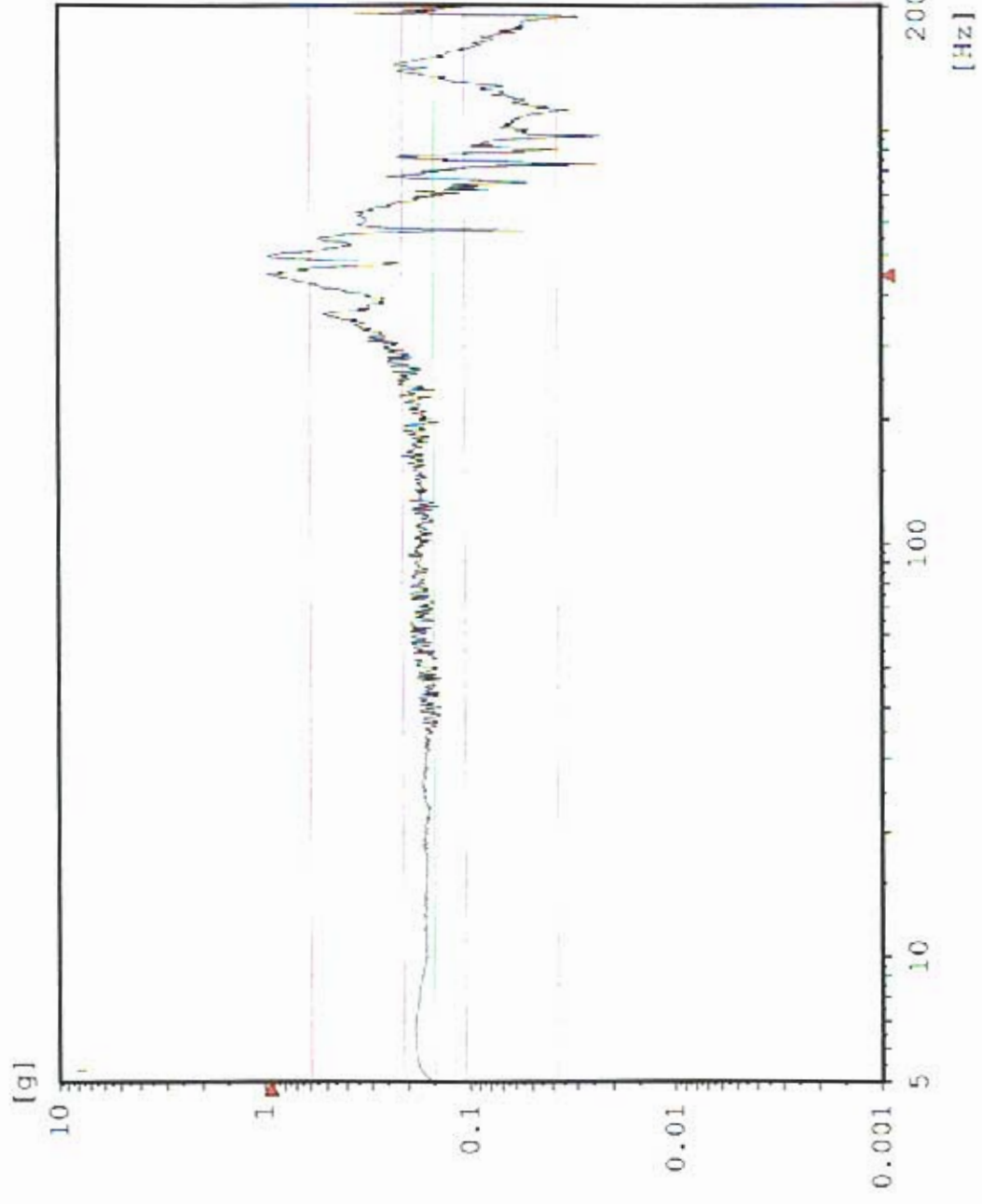
-- Testing time --  
elapsed: 000:04:18  
remaining: 000:00:00

Date: 06-27-05  
Time: 12:11:58

X - axis Post Random  
Acceptance Unit  
GLAY 1843

# Sine AX3 TPS top center

Stanford Linear Accelerator  
J/N 49995.52072  
TEM / TPS



Chan.no: 2  
 Chan.type: M Filtered  
 Sweep type: logarithmic  
 Sweeps done: 1  
 Sweeps req.: 1  
 Sweep direct.: up  
 Sweep rate: 2.00 Oct/min  
 Unit: g  
 Contr.strat.: Closed loop

-- Testing time --  
 elapsed: 060:04:18  
 remaining: 060:00:00

Date: 06-27-05  
 Time: 12:11:58

X - axis Post Random  
 Acceptance Unit  
 GLAT 1843

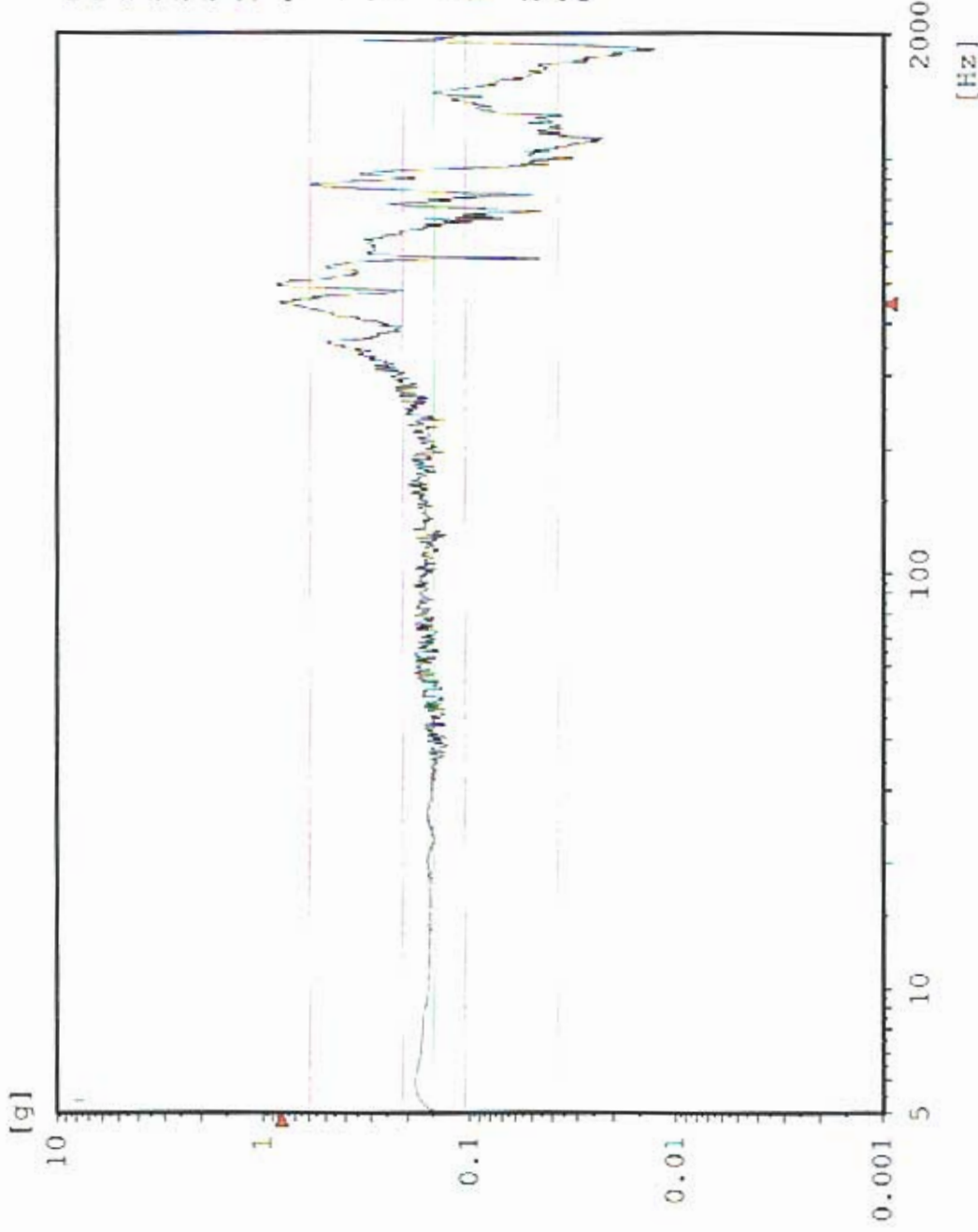
### AX4 TPS top edge

Sine

Stanford Linear Accelerator

J/N 49995.52072

TEM / TPS



Chan.no: 3  
 Chan.type: M Filtered  
 Sweep type: logarithmic  
 Sweeps done: 1  
 Sweeps req.: 1  
 Sweep direct.: up  
 Sweep rate: 2.00 Oct/min  
 Unit: g  
 Contr.strat.: Closed loop

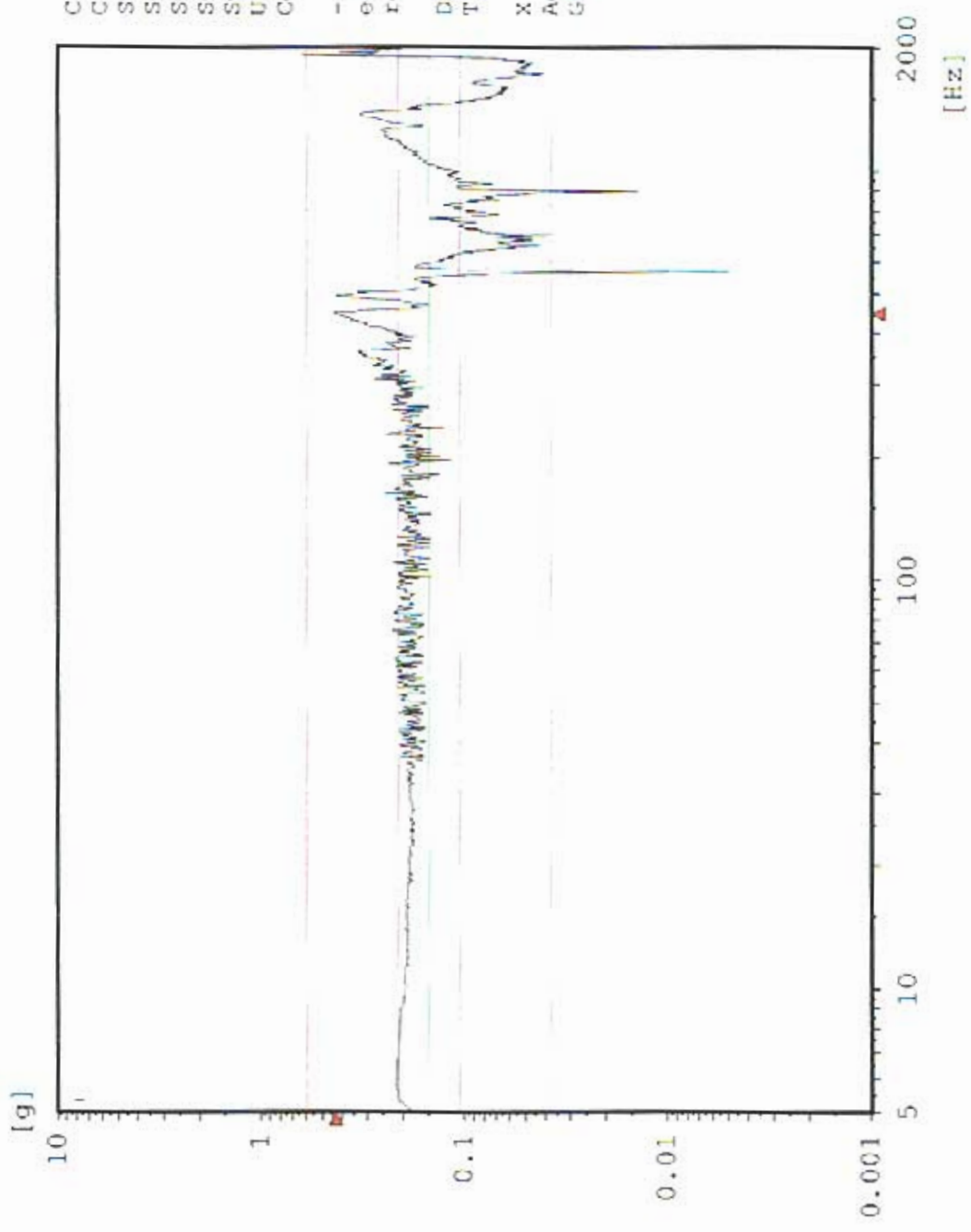
-- Testing time --  
 elapsed: 000:04:18  
 remaining: 000:00:00

Date: 06-27-05  
 Time: 12:11:58

X - axis Post Random  
 Acceptance Unit  
 GLAR 1B43

# Sine AX1 TEM center edge

Stanford Linear Accelerator  
J/N 49995.52072  
TEM / TPS



Chan.no: 5  
 Chan.type: M Filtered  
 Sweep type: logarithmic  
 Sweeps done: 1  
 Sweeps req.: 1  
 Sweep direct.: up  
 Sweep rate: 2.00 Oct./min  
 Unit: g  
 Contr.strat.: Closed loop

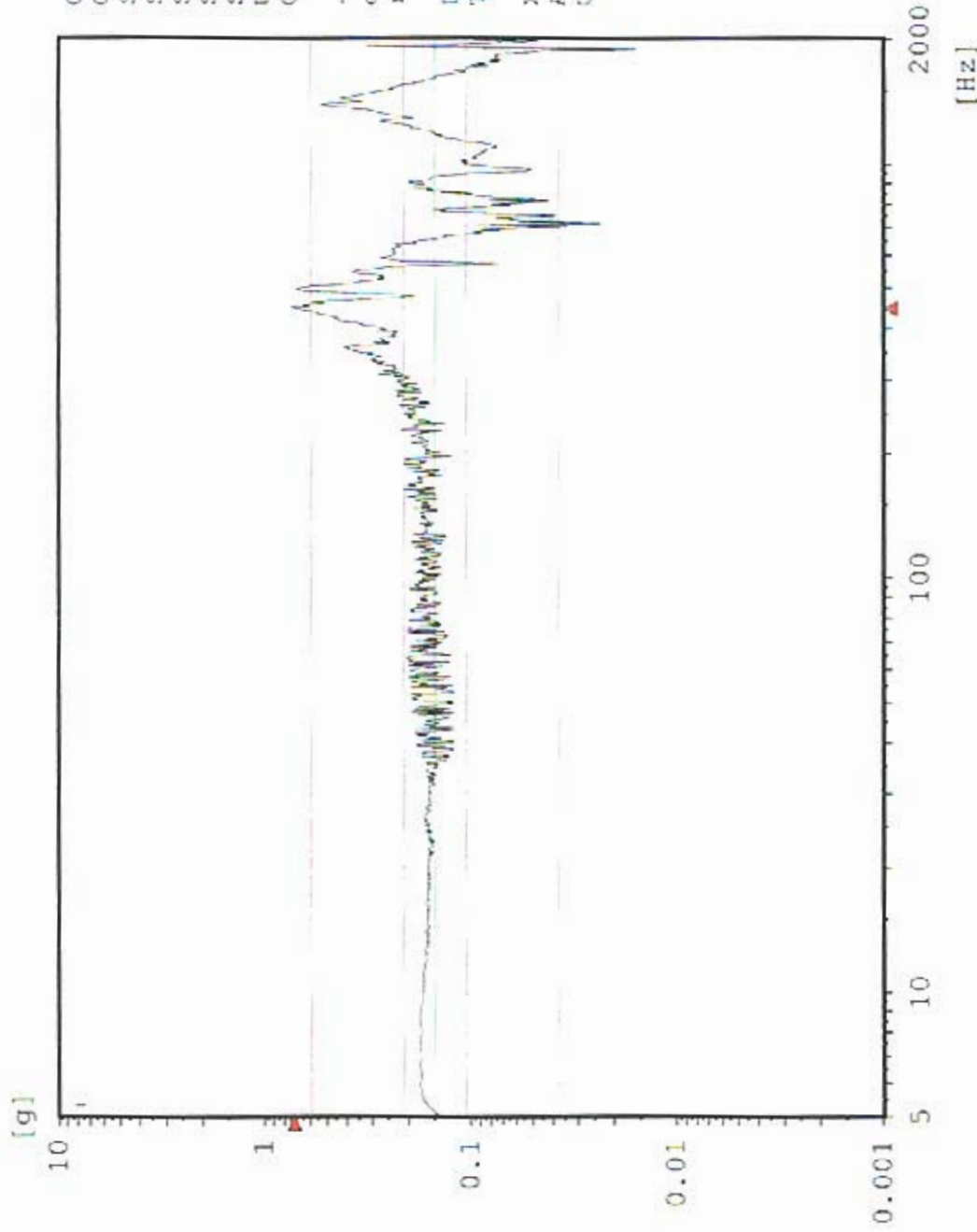
-- Testing time --  
 elapsed: 000:04:15  
 remaining: 000:00:00

Date: 06-27-05  
 Time: 12:11:58

X - axis Post Random  
 Acceptance Unit  
 GLAT 1843

### AX2 TPS CG

Sine  
Stanford Linear Accelerator  
J/N 49995.52072  
TEM / TPS



Chan.no: 10  
 Chan.type: M Filtered  
 Sweep type: logarithmic  
 Sweeps done: 1  
 Sweeps req.: 1  
 Sweep direct.: up  
 Sweep rate: 2.00 Oct/min  
 Unit: g  
 Contr.strat.: Closed loop

-- Testing time --  
 elapsed: 000:04:18  
 remaining: 000:00:00

Date: 06-27-05  
 Time: 12:11:58

X - axis Post Random  
 Acceptance Unit  
 GLAT 1843



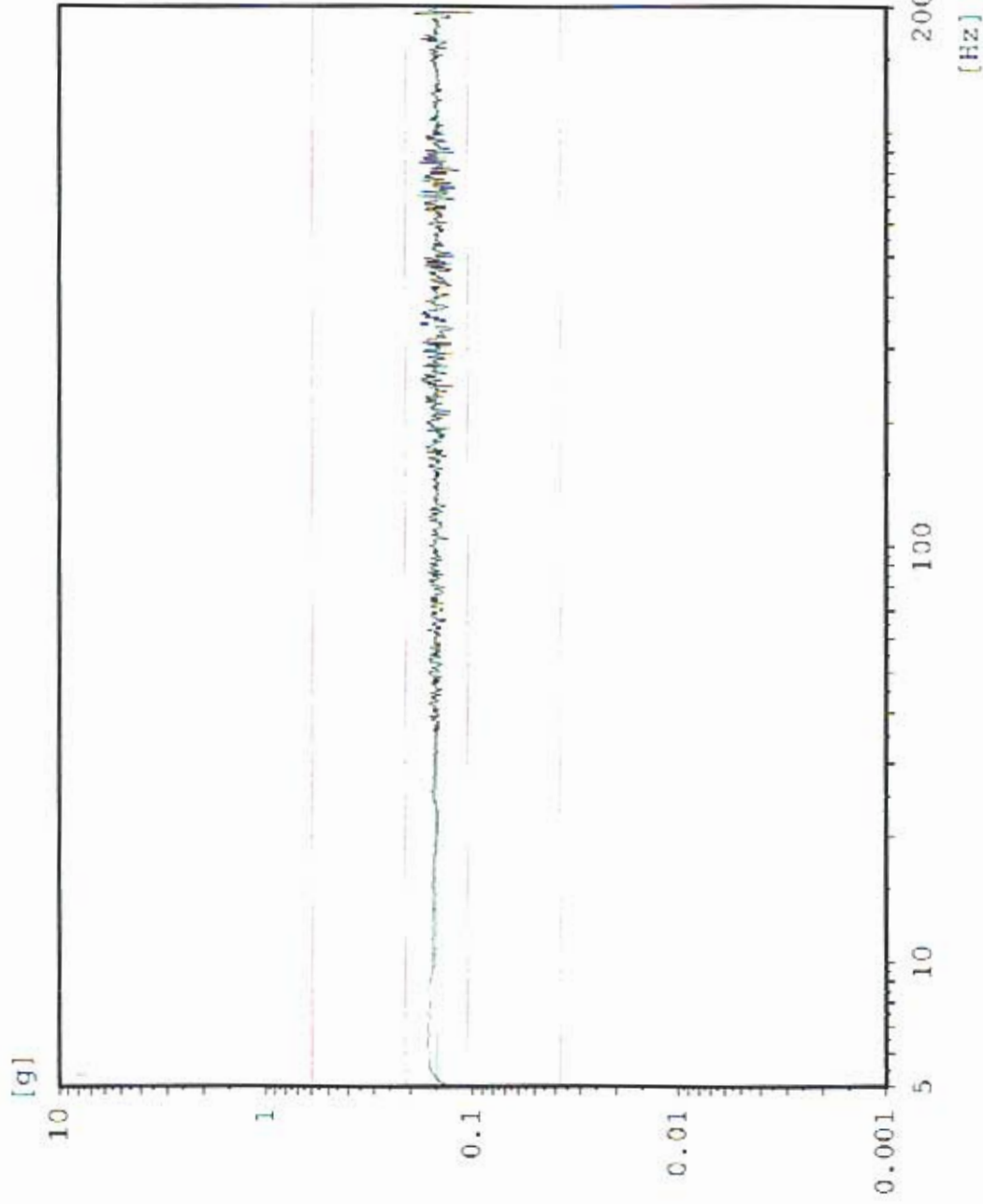
# CY1 Y-Axis Control

Sine

Stanford Linear Accelerator

J/N 49995.52072

TEM / TPS



Chan.no: 1  
Chan.type: CW Filtered  
Sweep type: logarithmic  
Sweeps done: 1  
Sweeps req.: 1  
Sweep direct.: up  
Sweep rate: 2.00 Oct./min  
Unit: g  
Contr.strat.: Closed loop

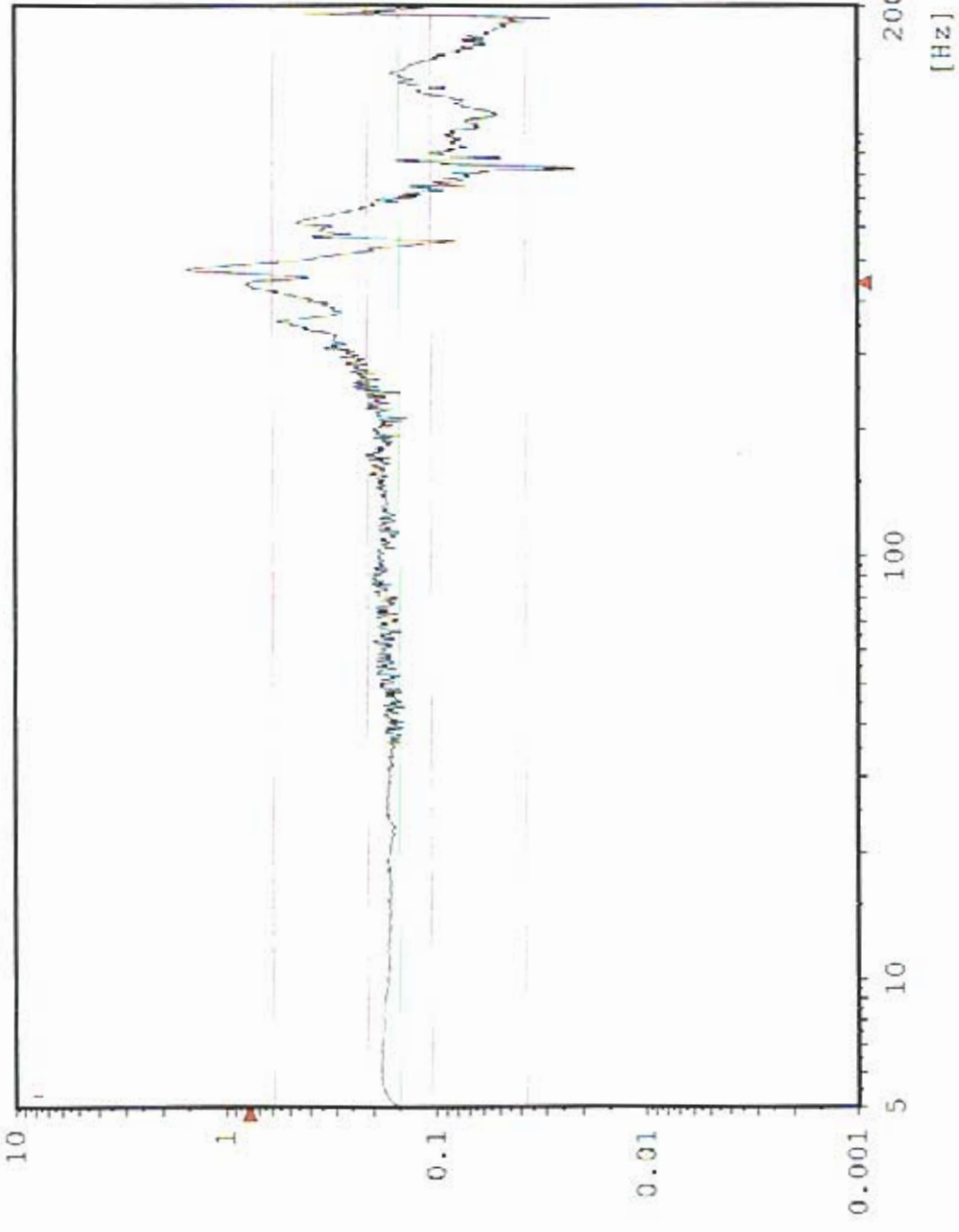
-- Testing time --  
elapsed: 000:04:18  
remaining: 000:00:00

Date: 06-27-05  
Time: 12:31:32

Y - axis Pre Random  
Acceptance Unit  
GLAT 1843

# AY3 TPS Top Center

Sine  
Stanford Linear Accelerator  
J/N 49995.52072  
TEM / TPS



Chan.no: 2  
 Chan.type: M Filtered  
 Sweep type: logarithmic  
 Sweeps done: 1  
 Sweeps req.: 1  
 Sweep direct.: up  
 Sweep rate: 2.00 Oct./min  
 Unit: g  
 Contr.strat.: Closed loop

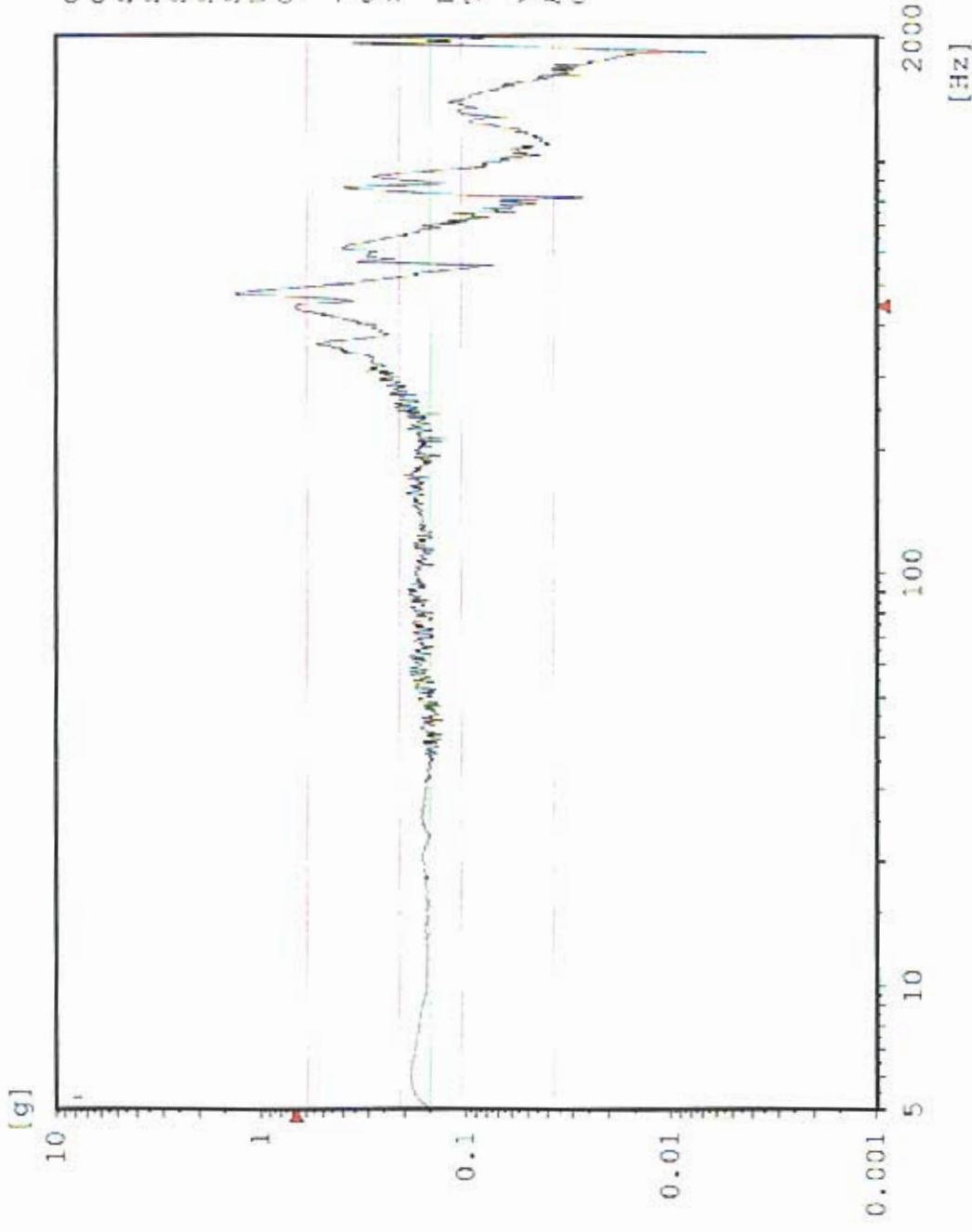
-- Testing time --  
 elapsed: 000:04:18  
 remaining: 000:00:00

Date: 06-27-05  
 Time: 12:31:32

Y - axis Pre Random  
 Acceptance Unit  
 GLAT 1843

# AY4 TPS Top Edge

Sine  
Stanford Linear Accelerator  
J/N 49995.52072  
TEM / TPS



Chan.no: 3  
 Chan.type: M Filtered  
 Sweep type: logarithmic  
 Sweeps done: 1  
 Sweeps req.: 1  
 Sweep direct.: up  
 Sweep rate: 2.00 Oct/min  
 Unit: g  
 Contr.strat.: Closed loop

-- Testing time --  
 elapsed: 000:04:18  
 remaining: 000:00:00

Date: 06-27-05  
 Time: 12:31:32

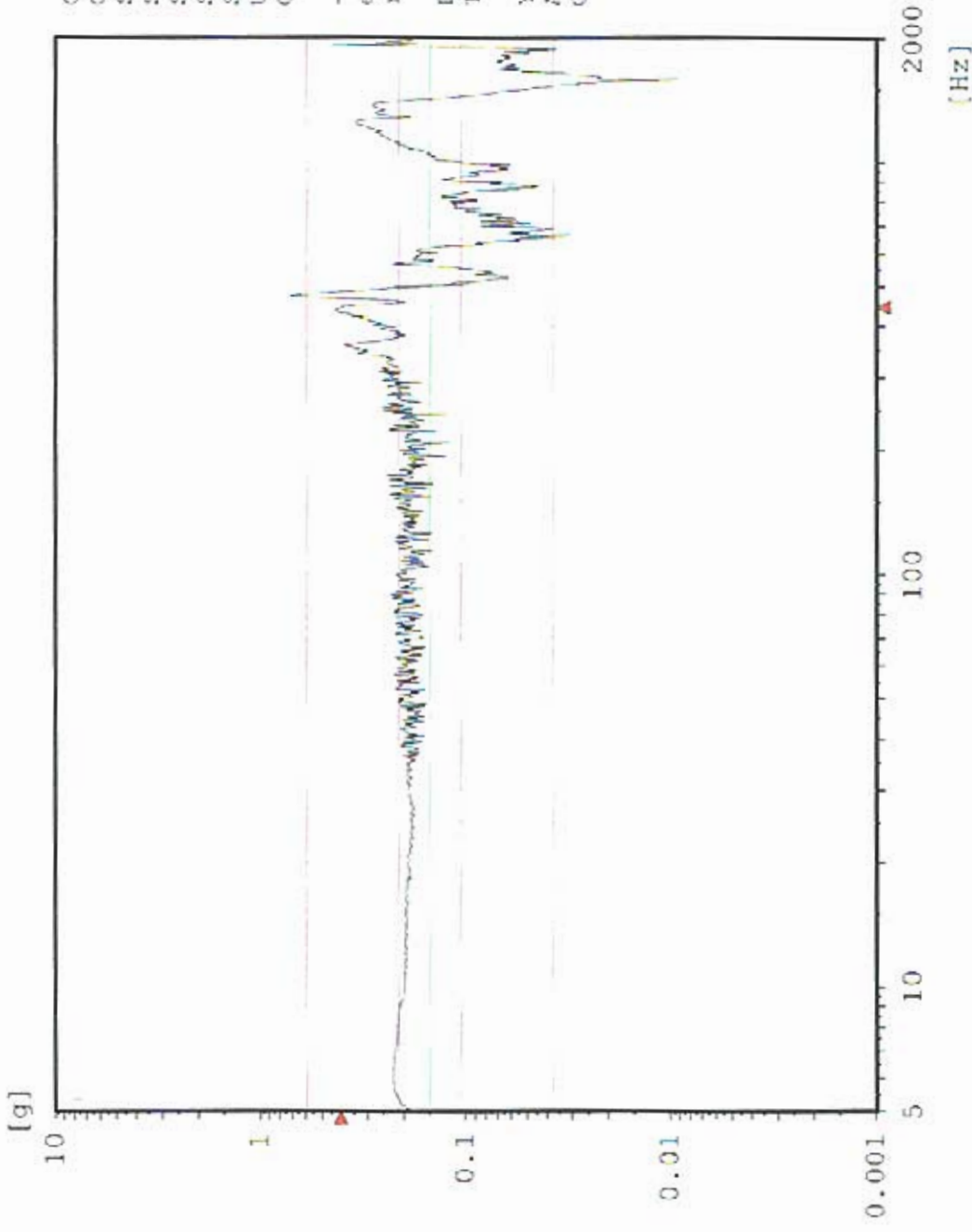
Y - axis Pre Random  
 Acceptance Unit  
 GLAT 1B43

# Sine AY1 TEM Center Edge

Stanford Linear Accelerator

J/N 49995.52072

TEM / TPS



Chan.no: 5  
 Chan.type: M Filtered  
 Sweep type: logarithmic  
 Sweeps done: 1  
 Sweeps req.: 1  
 Sweep direct.: up  
 Sweep rate: 2.00 Oct/min  
 Unit: g  
 Contr.strat.: Closed loop

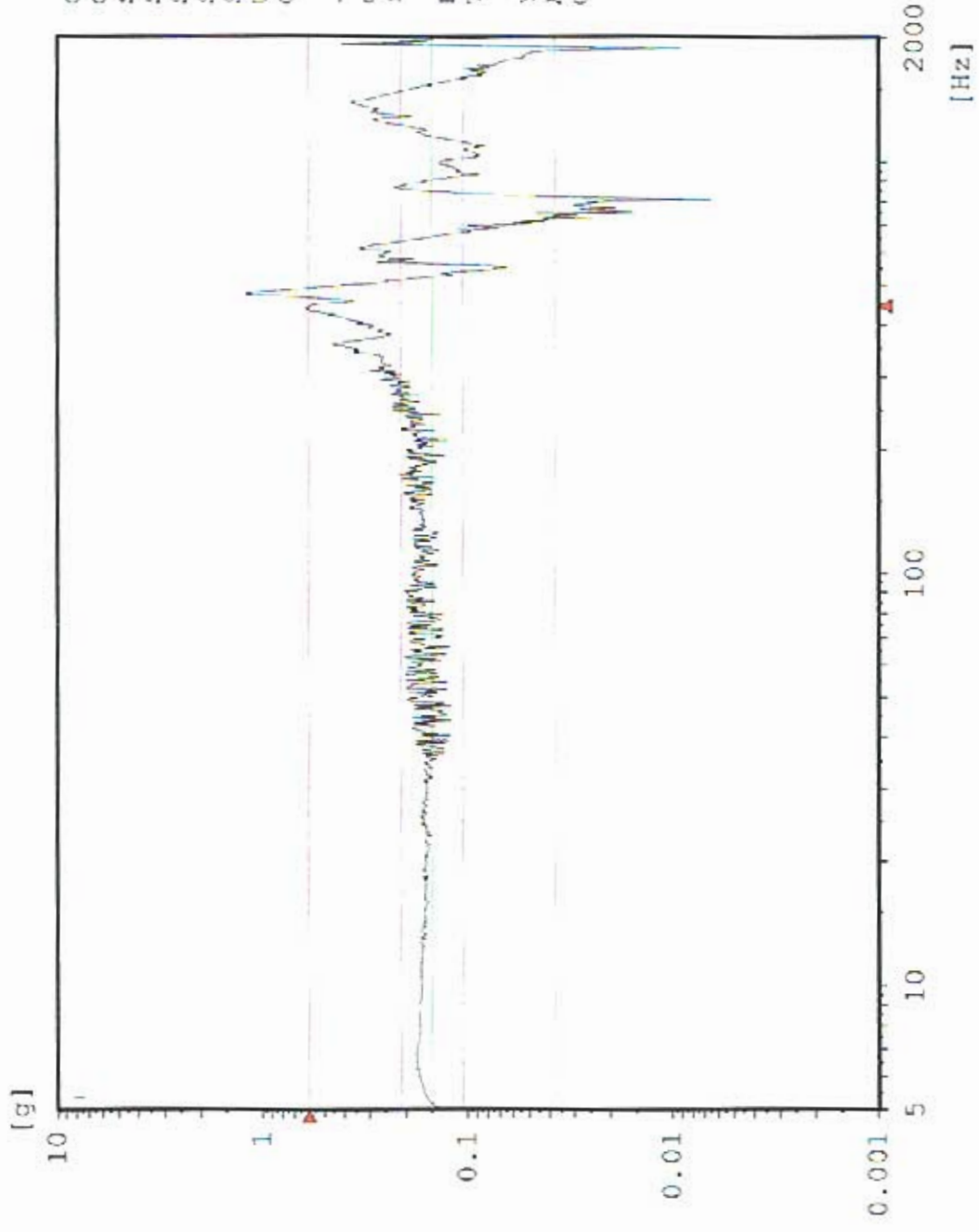
-- Testing time --  
 elapsed: 000:04:18  
 remaining: 000:00:00

Date: 06-27-05  
 Time: 12:31:32

Y - axis: Pre Random  
 Acceptance Unit  
 GLAT 1B43

# AY2 TPS CG

Sine  
Stanford Linear Accelerator  
J/N 49995.52072  
TEM / TPS



Chan.no: 10  
 Chan.type: M Filtered  
 Sweep type: logarithmic  
 Sweeps done: 1  
 Sweeps req.: 1  
 Sweep direct.: up  
 Sweep rate: 2.00 Oct/min  
 Unit: g  
 Contr.strat.: Closed loop

-- Testing time --  
 elapsed: 000:04:18  
 remaining: 000:00:00

Date: 06-27-05  
 Time: 12:31:32

Y - axis Pre Random  
 Acceptance Unit  
 GLAT 1B43

# CY1 Y-Axis Control

Random

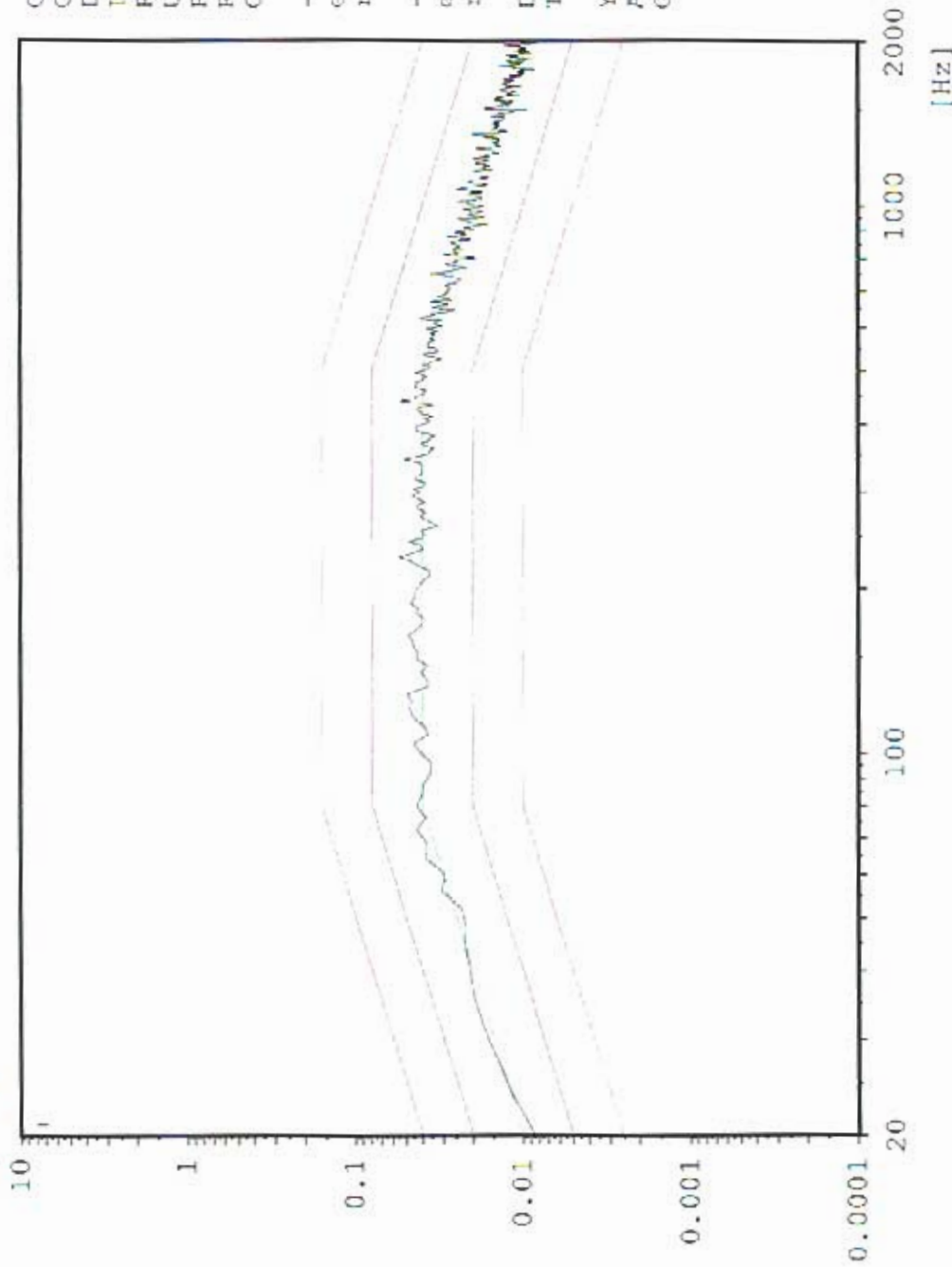
Stanford Linear Accelerator

J/N 49995.52072

TEM & TPS



[g<sup>2</sup>/Hz]



Chan.no: 1  
Chan.type: C  
DOF: 126  
Level: 0.0 dB  
Resolution: 4 Hz  
Unit: g<sup>2</sup>/Hz  
RMS (act.): 6.829 g  
RMS (req.): 6.787 g  
Contr.strat.: Closed loop

-- Time on act. level --  
elapsed: 000:01:00  
remaining: 000:00:00

-- Time total --  
elapsed: 000:02:54  
remaining: 000:00:00

Date: 06-27-05  
Time: 12:41:53

Y - Axis  
Acceptance Unit  
GLAT 1843

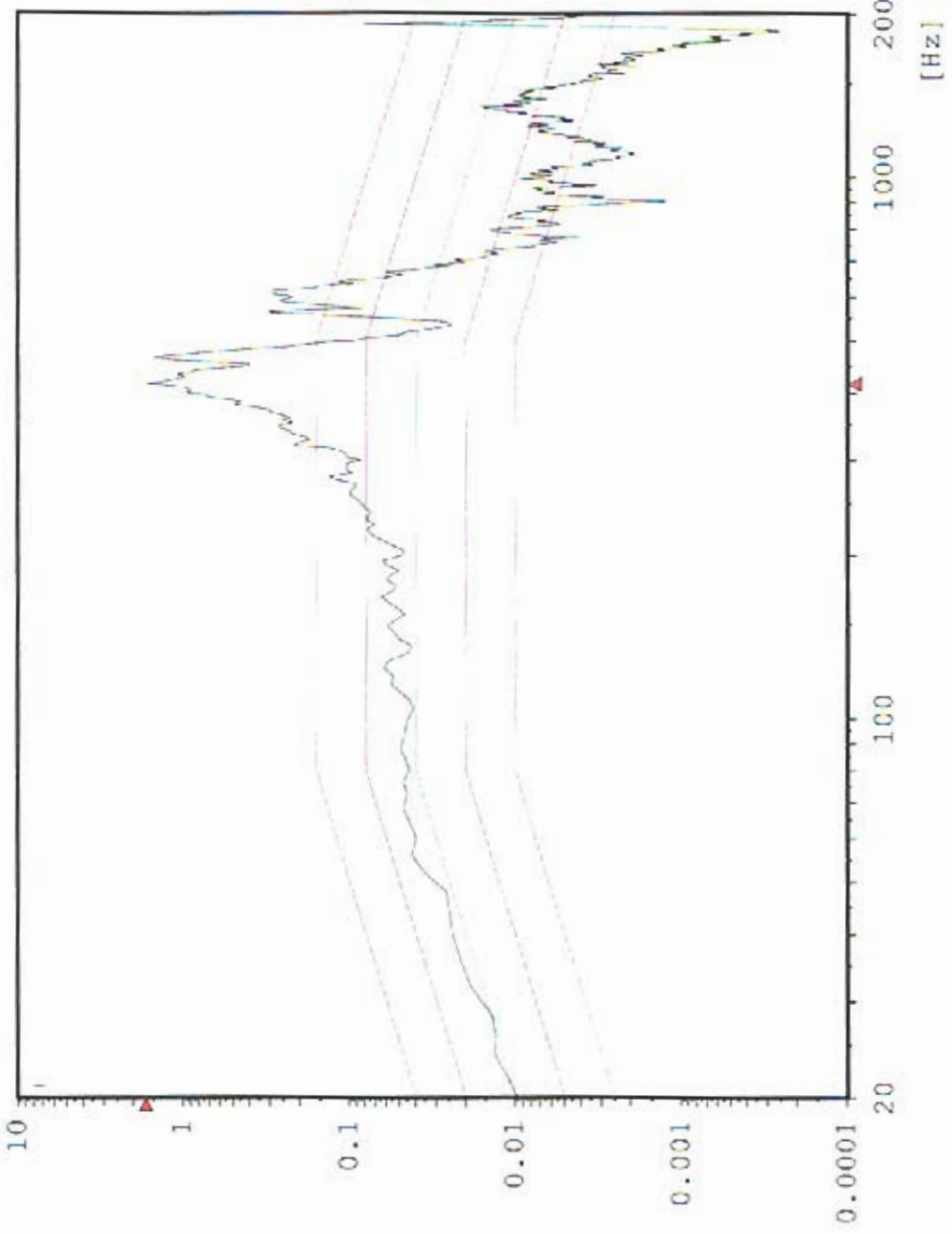
Max: 416 Hz 1.699 g<sup>2</sup>/Hz

### Random AY3 TPS Top Center

Stanford Linear Accelerator  
J/N 49995.52072  
TEM & TPS



[g<sup>2</sup>/Hz]



Chan.no: 2  
 Chan.type: M  
 DOF: 100  
 Level: 0.0 dB  
 Resolution: 4 Hz  
 Unit: g<sup>2</sup>/Hz  
 RMS (act.): 12.7 g  
 RMS (req.): 6.787 g  
 Contr.strat.: Closed loop

-- Time on act. level --  
 elapsed: 000:01:00  
 remaining: 000:00:00

-- Time total --  
 elapsed: 000:02:54  
 remaining: 000:00:00

Date: 06-27-05  
 Time: 12:41:53

Y - Axis  
 Acceptance Unit  
 GLAT 1843

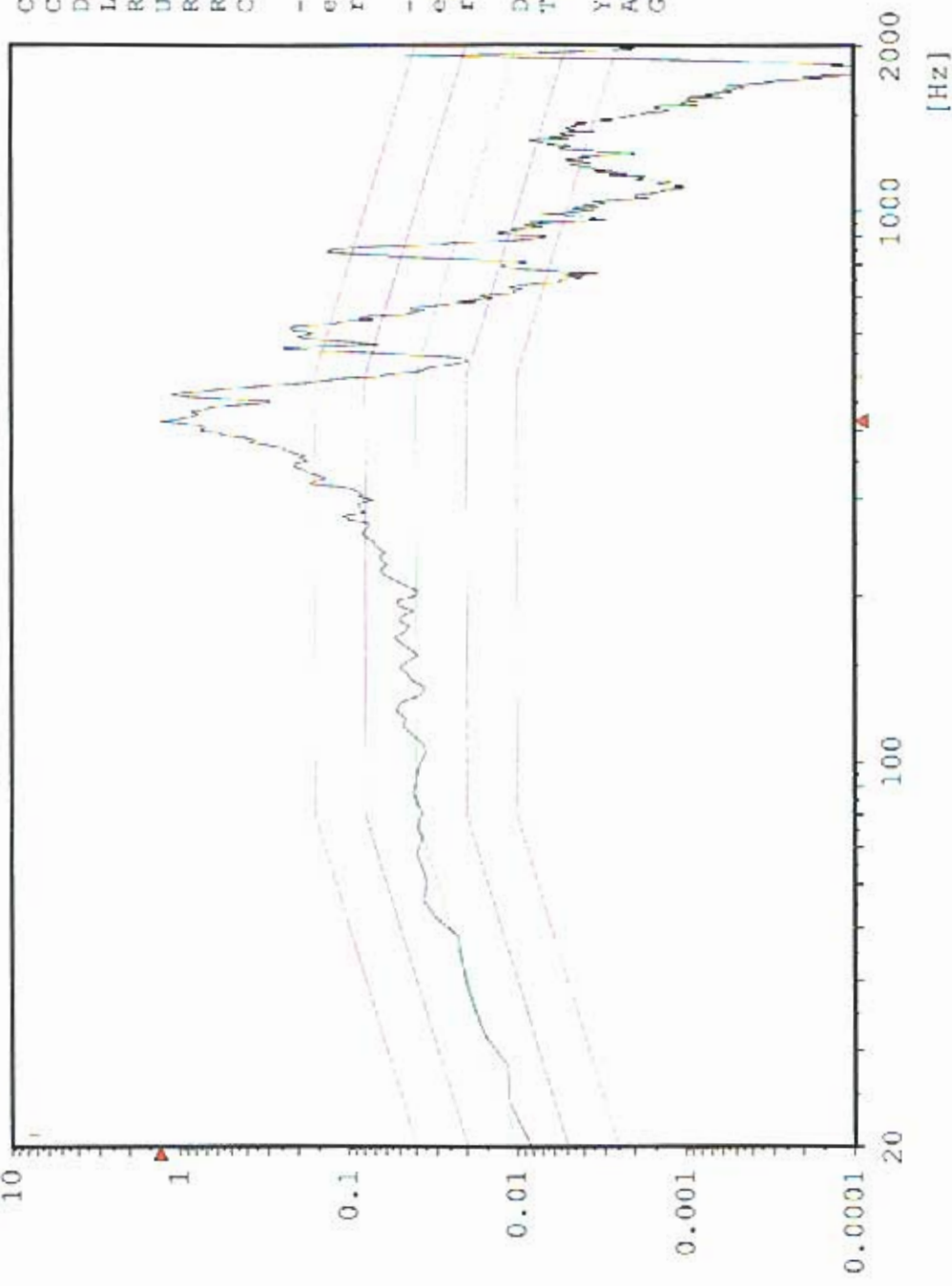
Max: 416 Hz 1.329 g<sup>2</sup>/Hz

### Random AY4 TPS Top Edge

Stanford Linear Accelerator  
J/N 49995.52072  
TEM & TPS



[g<sup>2</sup>/Hz]



Chan.no: 3  
 Chan.type: M  
 DCF: 100  
 Level: 0.0 dB  
 Resolution: 4 Hz  
 Unit: g<sup>2</sup>/Hz  
 RMS (act.): 11.32 g  
 RMS (req.): 6.787 g  
 Contr.strat.: Closed loop

-- Time on act. level --  
 elapsed: 000:01:00  
 remaining: 000:00:00

-- Time total --  
 elapsed: 000:02:54  
 remaining: 000:00:00

Date: 06-27-05  
 Time: 12:41:53

Y - Axis  
 Acceptance Unit  
 GLAT 1843



Max: 416 Hz 0.4839 g<sup>2</sup>/Hz

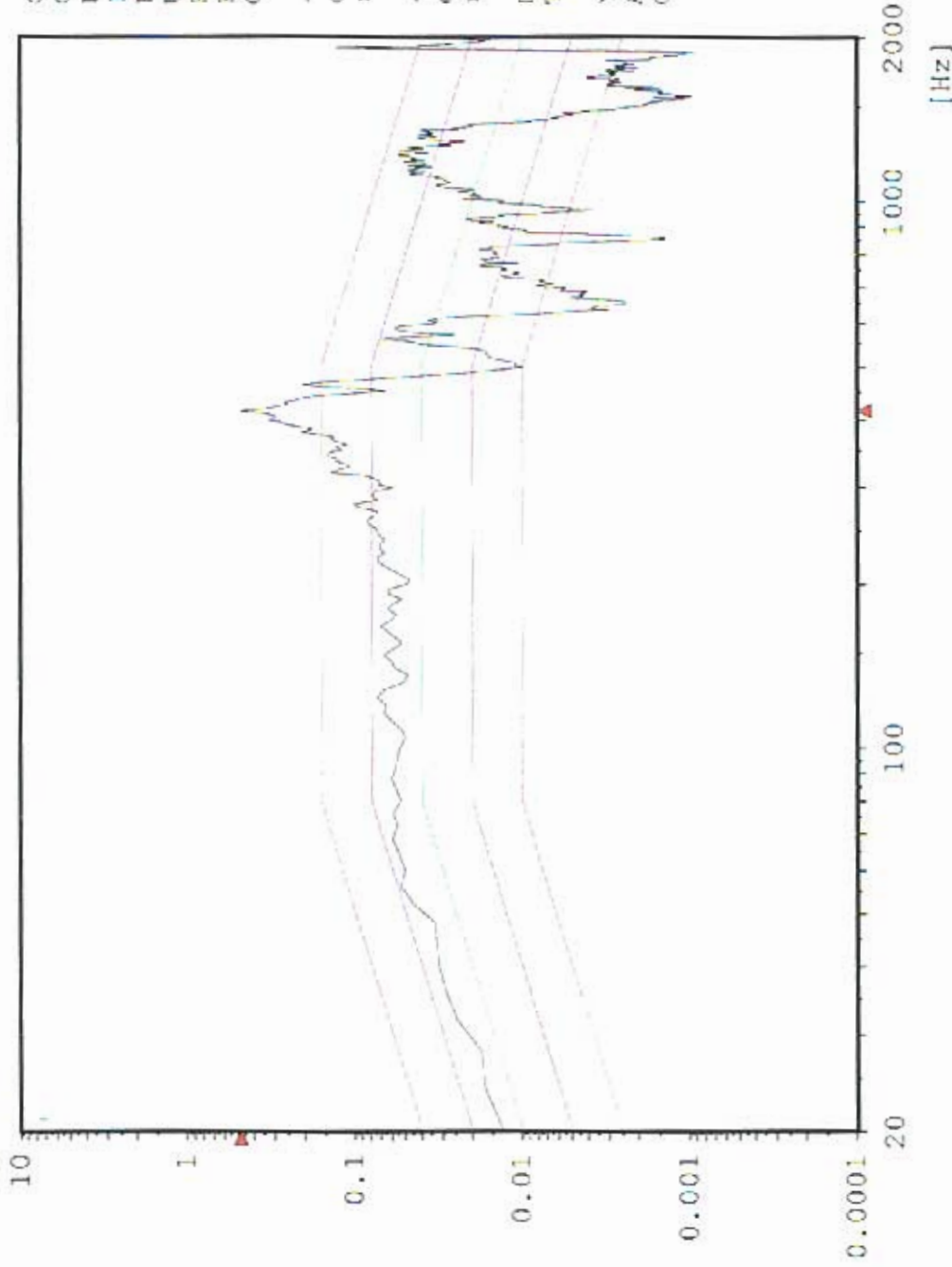
### Random AY1 TEM Center Edge

Stanford Linear Accelerator

J/N 49995.52072

TEM & TPS

[g<sup>2</sup>/Hz]



Chan.no: 5  
Chan.type: M  
DOF: 100  
Level: 0.0 dB  
Resolution: 4 Hz  
Unit: g<sup>2</sup>/Hz  
RMS (act.): 8.649 g  
RMS (req.): 6.787 g  
Contr.strat.: Closed loop

-- Time on act. level --  
elapsed: 000:01:00  
remaining: 000:00:00

-- Time total --  
elapsed: 000:02:54  
remaining: 000:00:00

Date: 06-27-05  
Time: 12:41:53

Y - Axis  
Acceptance Unit  
GLAT 1843

Cursor: 416 Hz 1.014 g<sup>2</sup>/Hz

### AY2 TPS CG

Random

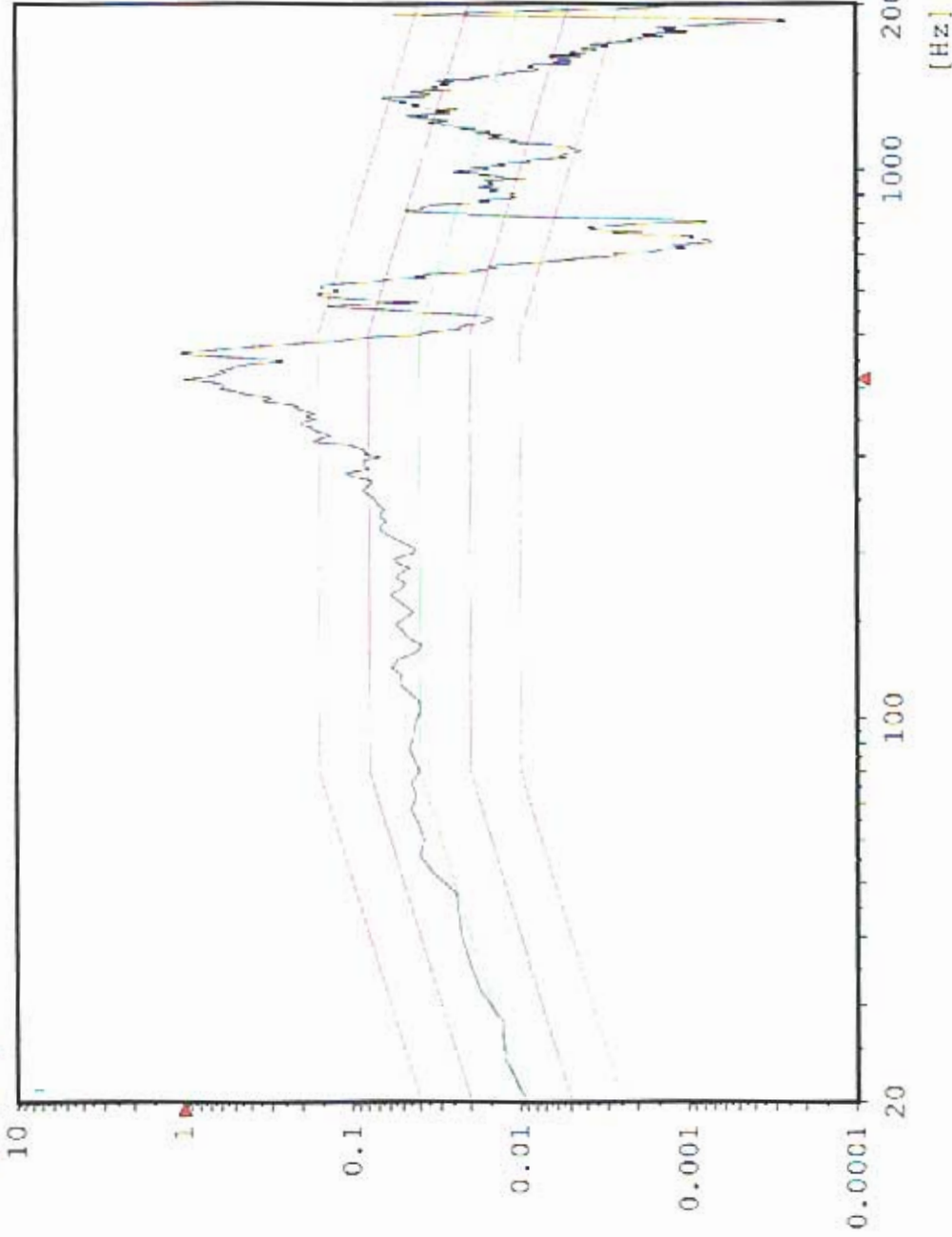
Stanford Linear Accelerator

J/N 49995.52072

TEM & TPS



[g<sup>2</sup>/Hz]



Chan.no: 10  
Chan.type: M  
DOF: 100  
Level: 0.6 dB  
Resolution: 4 Hz  
Unit: g<sup>2</sup>/Hz  
RMS (act.): 10.83 g  
RMS (req.): 6.787 g  
Contr.strat.: Closed loop

-- Time on act. level --  
elapsed: 000:01:00  
remaining: 000:00:00

-- Time total --  
elapsed: 000:02:54  
remaining: 000:00:00

Date: 06-27-05  
Time: 12:41:53

Y - Axis  
Acceptance Unit  
GLAT 1843

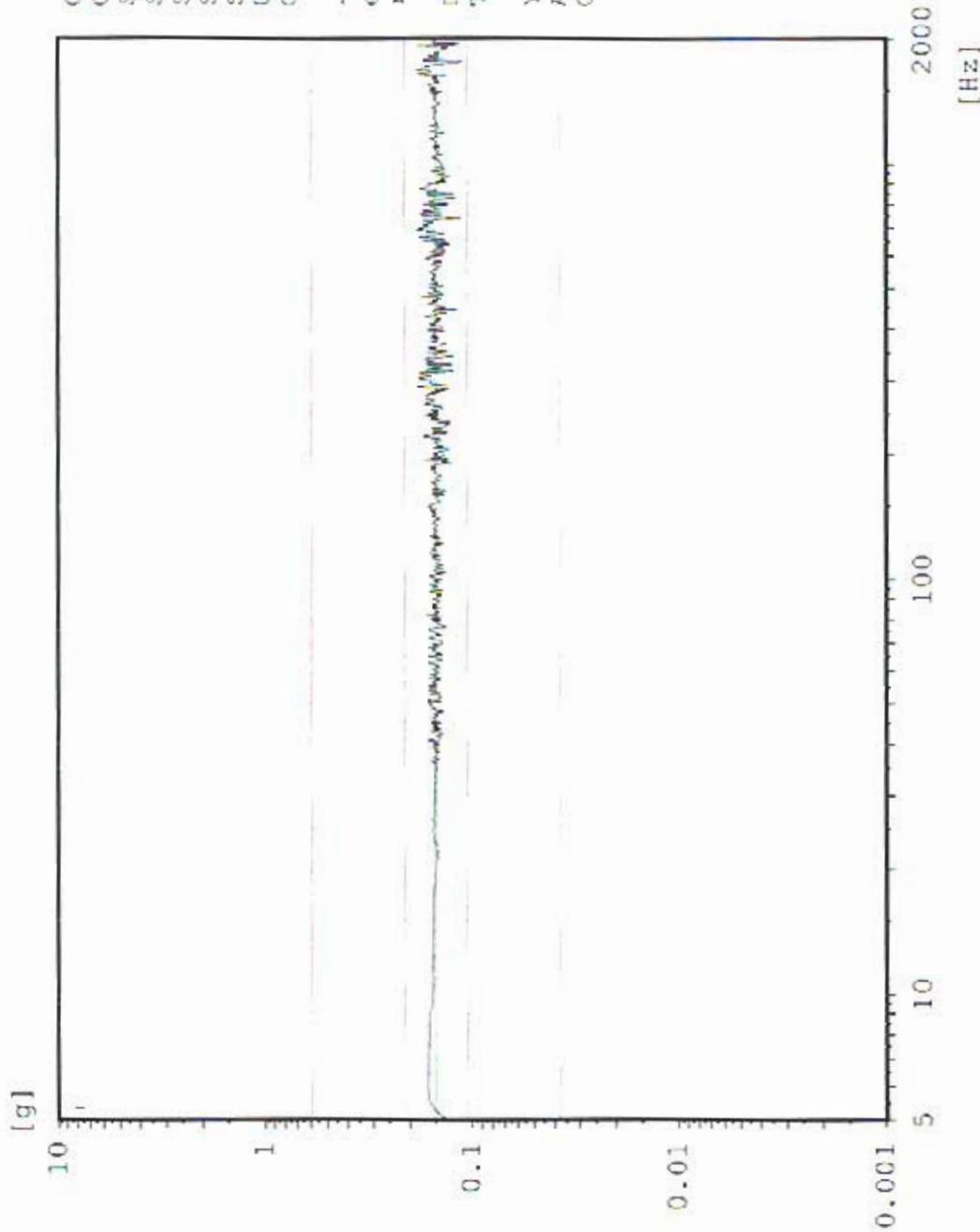
# CY1 Y-Axis Control

Sine

Stanford Linear Accelerator

J/N 49995.52072

TEM / TPS



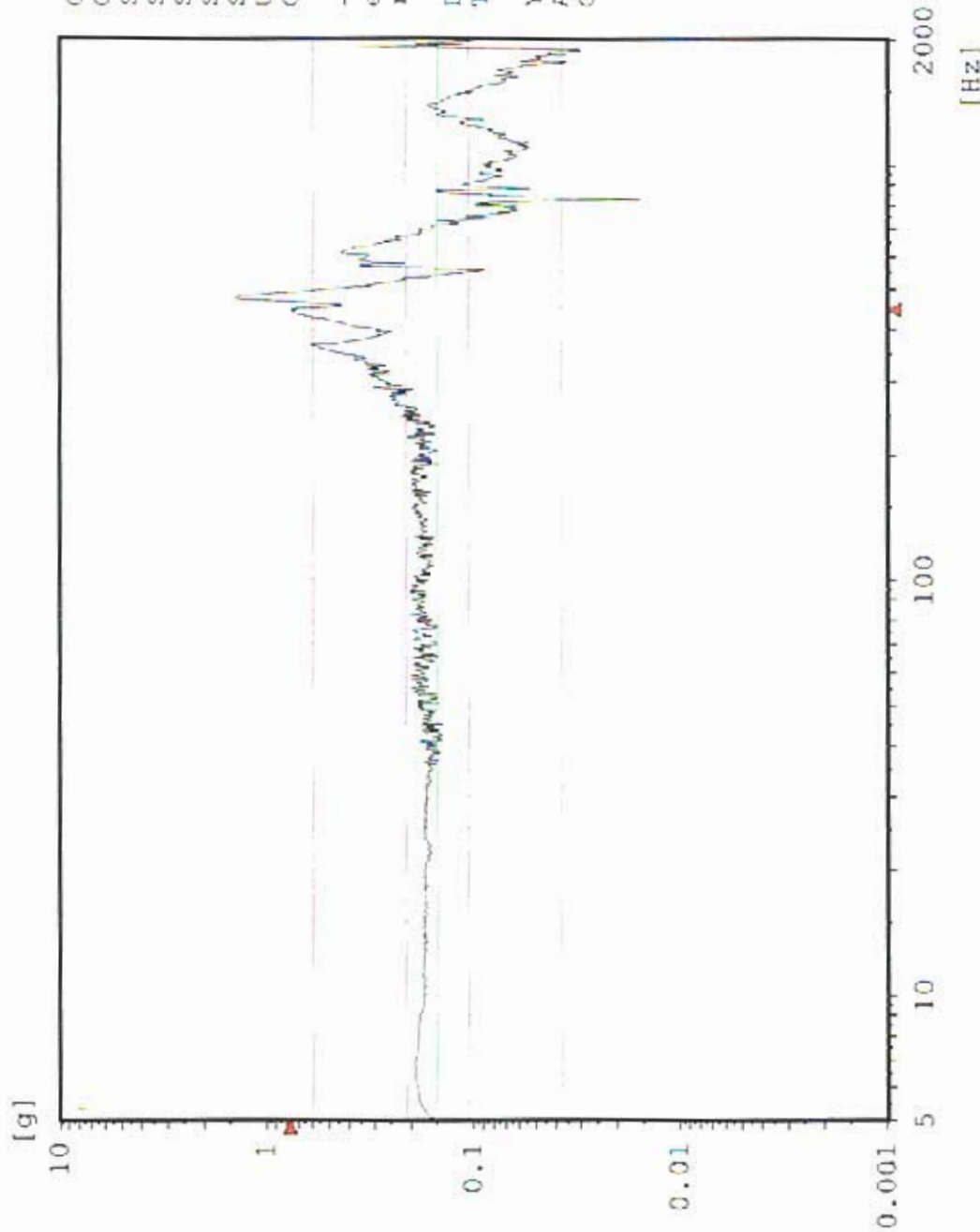
Chan.no: 1  
Chan.type: CW Filtered  
Sweep type: logarithmic  
Sweeps done: 1  
Sweeps req.: 1  
Sweep direct.: up  
Sweep rate: 2.00 Oct./min  
Unit: g  
Contr.strat.: Closed loop

-- Testing time --  
elapsed: 000:04:18  
remaining: 000:00:00

Date: 06-27-05  
Time: 12:51:11

# AY3 TPS Top Center

Sine  
Stanford Linear Accelerator  
J/N 49995.52072  
TEM / TPS



Chan.no: 2  
 Chan.type: M Filtered  
 Sweep type: logarithmic  
 Sweeps done: 1  
 Sweeps req.: 1  
 Sweep direct.: up  
 Sweep rate: 2.00 Oct/min  
 Unit: g  
 Contr.strat.: Closed loop

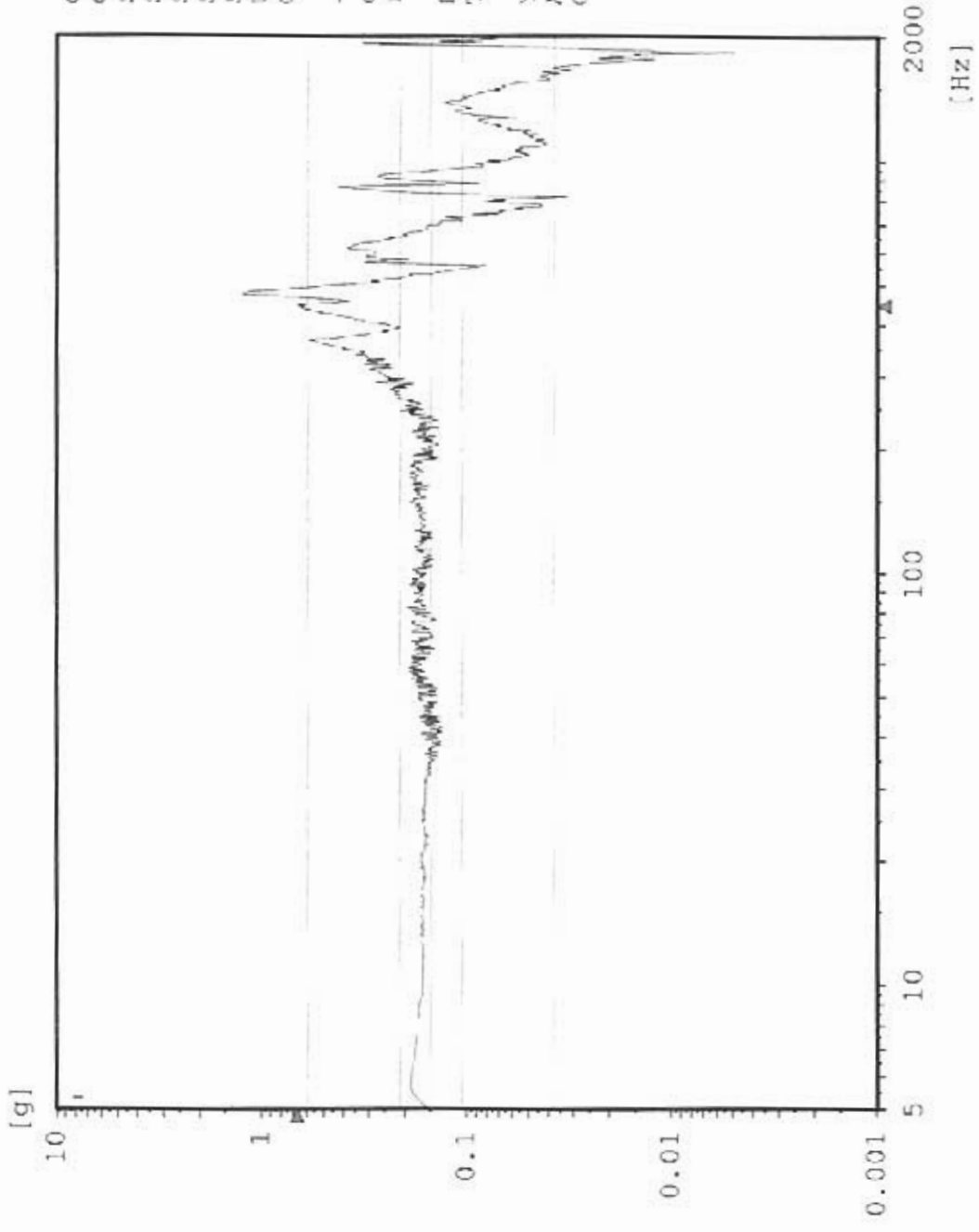
-- Testing time --  
 elapsed: 000:04:18  
 remaining: 000:00:00

Date: 06-27-05  
 Time: 12:51:11

Y - axis Post Random  
 Acceptance Unit  
 GLAT 1843

# AY4 TPS Top Edge

Sine  
Stanford Linear Accelerator  
J/N 49995.52072  
TEM / TPS



Chan.no: 3  
 Chan.type: M Filtered  
 Sweep type: logarithmic  
 Sweeps done: 1  
 Sweeps req.: 1  
 Sweep direct.: up  
 Sweep rate: 2.00 Oct/min  
 Unit: g  
 Contr.strat.: Closed loop

-- Testing time --  
 elapsed: 000:04:18  
 remaining: 000:00:00

Date: 06-27-05  
 Time: 12:51:11

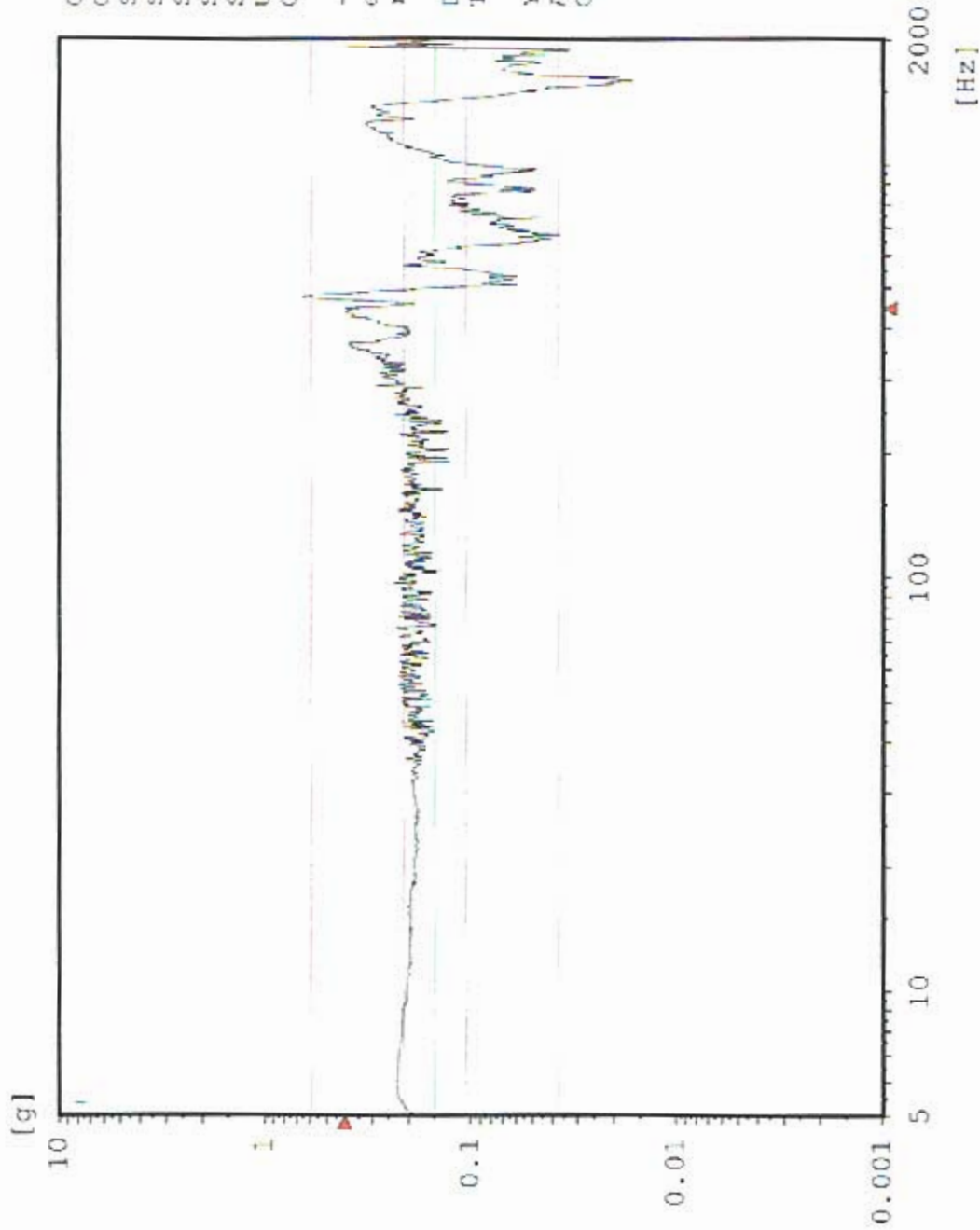
Y - axis Post Random  
 Acceptance Unit  
 GLAT 1843

# Sine AY1 TEM Center Edge

Stanford Linear Accelerator

J/N 49995.52072

TEM / TPS



Chan.no: 5  
 Chan.type: M Filtered  
 Sweep type: logarithmic  
 Sweeps done: 1  
 Sweeps req.: 1  
 Sweep direct.: up  
 Sweep rate: 2.00 Oct/min  
 Unit: g  
 Contr.strat.: Closed loop

-- Testing time --  
 elapsed: 000:04:18  
 remaining: 000:00:00

Date: 06-27-05  
 Time: 12:51:11

Y - axis Post Random  
 Acceptance Unit  
 CLAT 1843

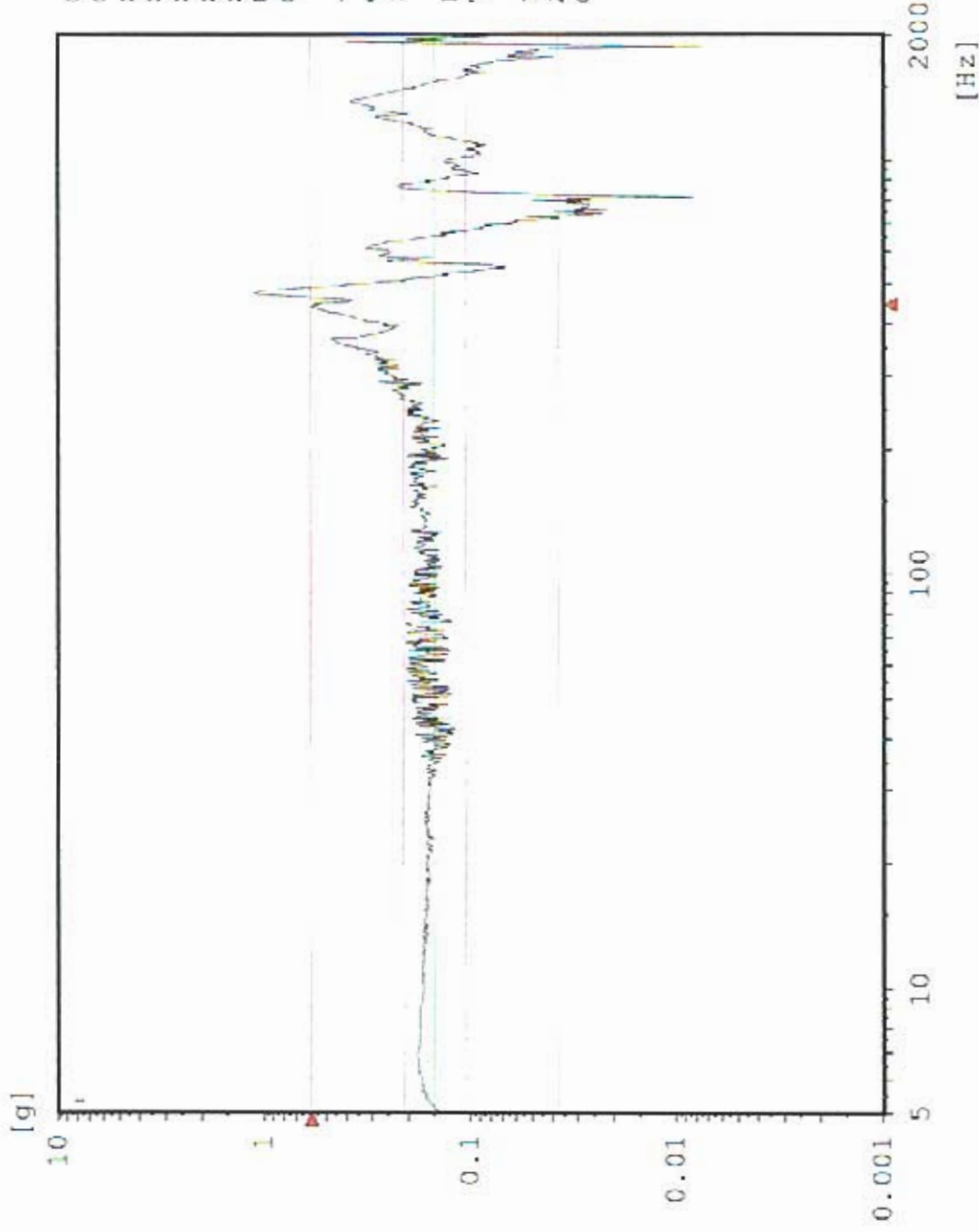
# AY2 TPS CG

Sine

Stanford Linear Accelerator

J/N 49995.52072

TEM / TPS



Chan.no: 10 M Filtered  
 Chan.type: logarithmic  
 Sweep type: logarithmic  
 Sweeps done: 1  
 Sweeps req.: 1  
 Sweep direct.: up  
 Sweep rate: 2.00 Oct/min  
 Unit: g  
 Contr.strat.: Closed loop

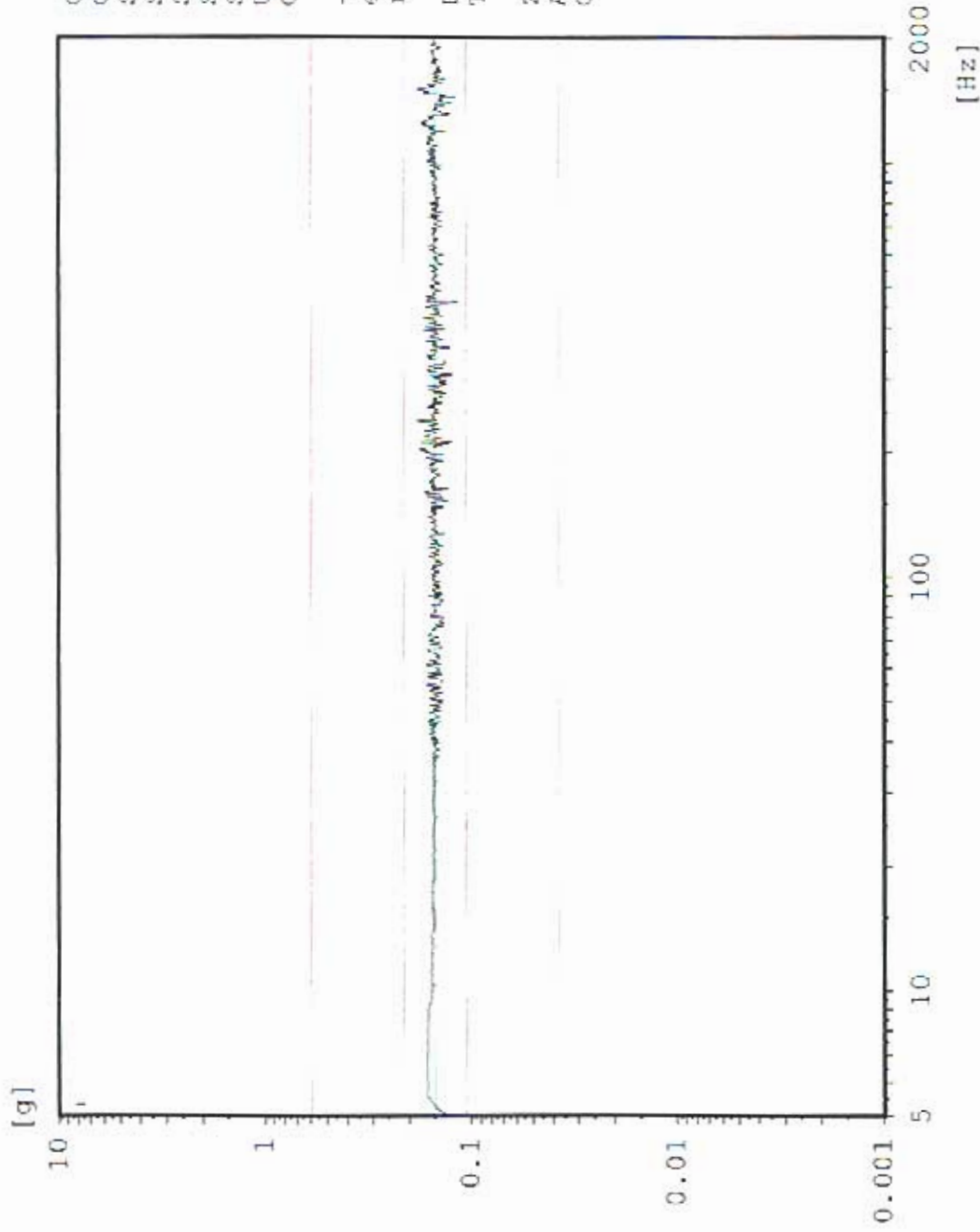
-- Testing time --  
 elapsed: 000:04:18  
 remaining: 000:00:00

Date: 06-27-05  
 Time: 12:51:11

Y - axis Post Random  
 Acceptance Unit  
 GLAT 1843

# Sine CZ1 Z-Axis Control

Stantford Linear Accelerator  
J/N 49995.52072  
TEM / TPS



Chan.no: 1  
Chan.type: CW Filtered  
Sweep type: logarithmic  
Sweeps done: 1  
Sweeps req.: 1  
Sweep direct.: up  
Sweep rate: 2.00 Oct/min  
Unit: g  
Contr.strat.: Closed loop

-- Testing time --  
elapsed: 000:04:18  
remaining: 000:00:00

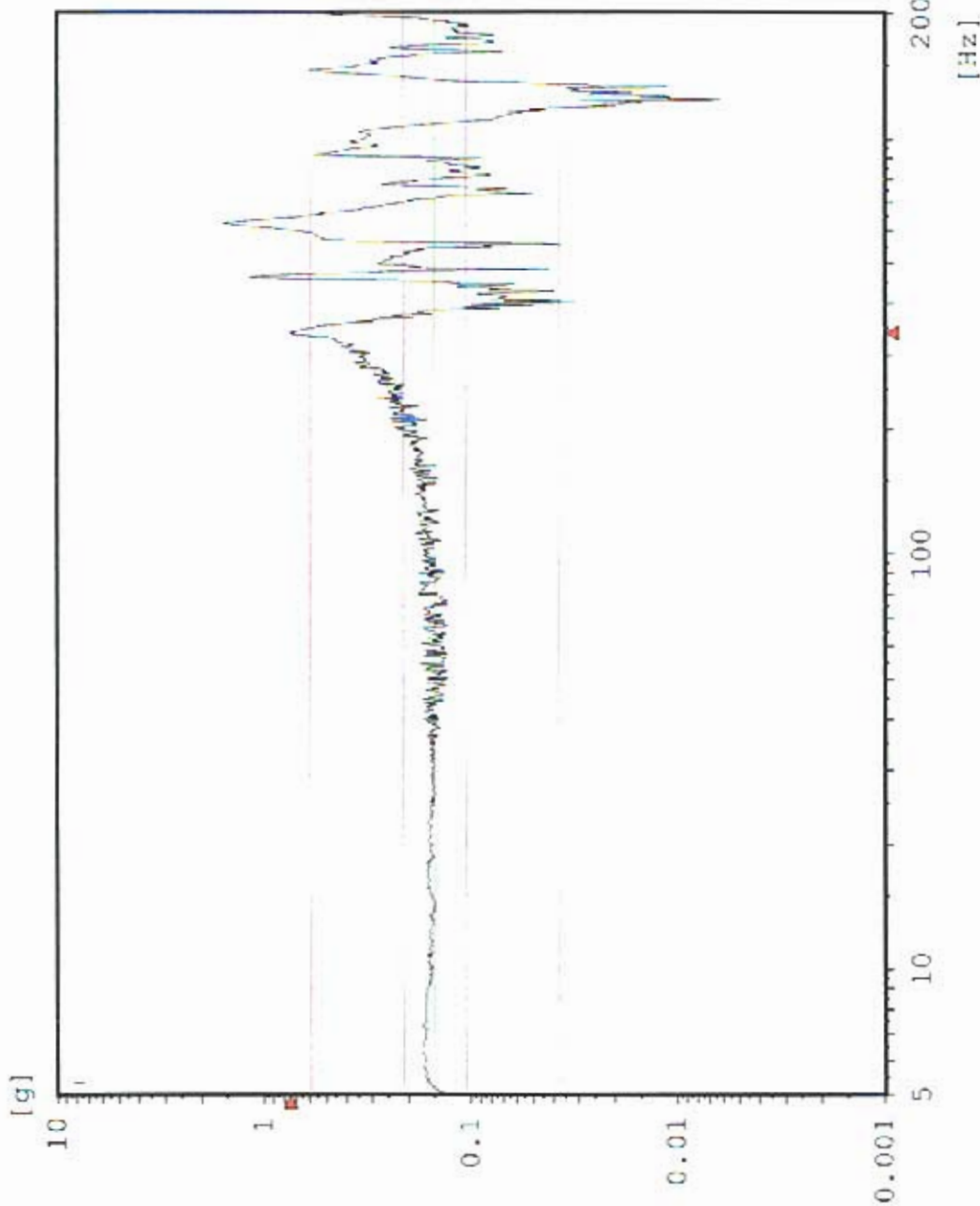
Date: 06-27-05  
Time: 14:42:37

Z - axis Pre Random  
Acceptance Unit  
GLAT 1843



# AZ4 TPS Boss 2

Sine  
Stanford Linear Accelerator  
J/N 49995.52072  
TEM / TPS



Chan.no: 2  
 Chan.type: M Filtered  
 Sweep type: logarithmic  
 Sweeps done: 1  
 Sweeps req.: 1  
 Sweep direct.: up  
 Sweep rate: 2.00 Oct/min  
 Unit: g  
 Contr.strat.: Closed loop

-- Testing time --  
 elapsed: 000:04:18  
 remaining: 000:00:00

Date: 06-27-05  
 Time: 14:42:37

Z - axis Pre Random  
 Acceptance Unit  
 GLAT 1843

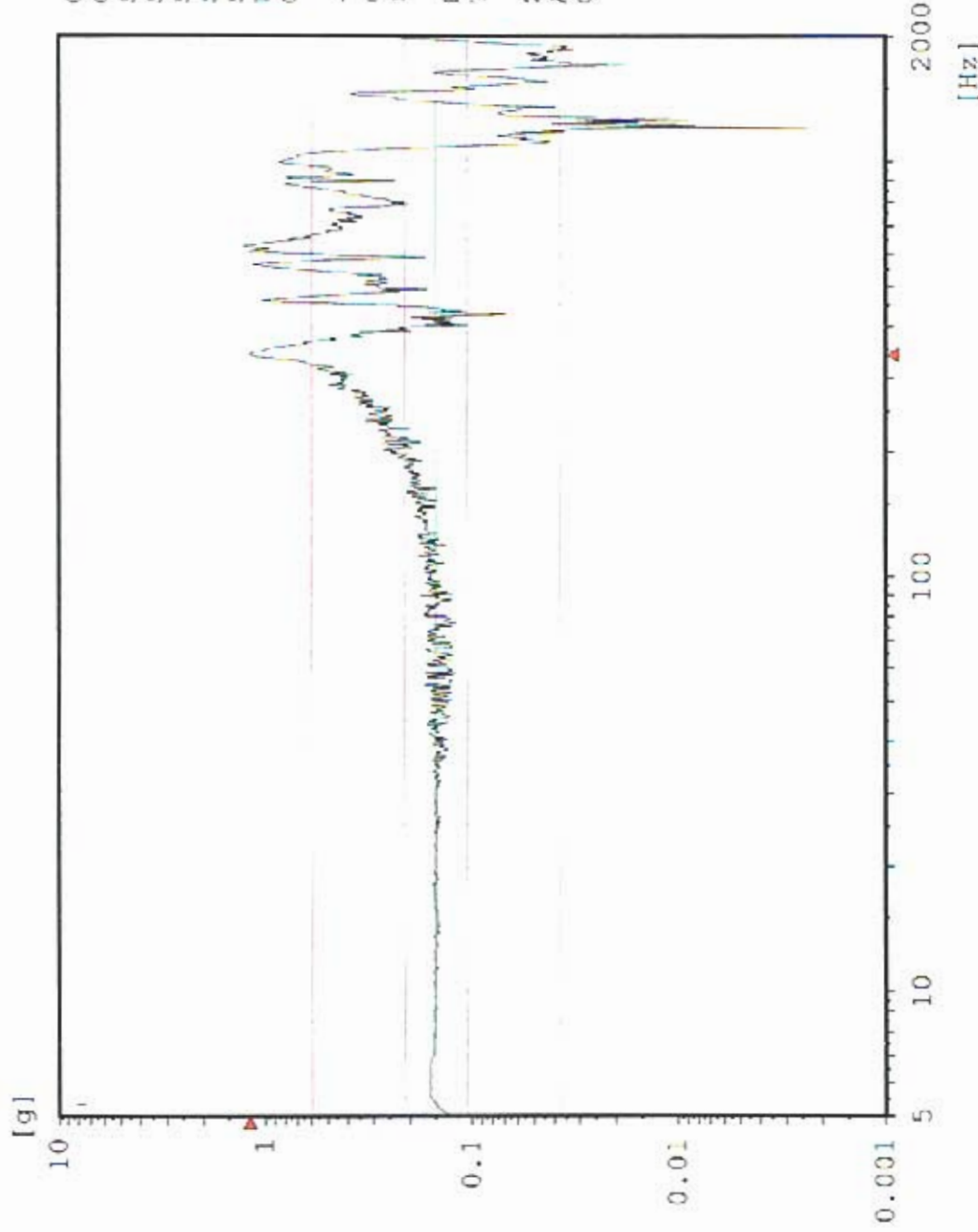
### AZ3 TPS Boss 1

Sine

Stanford Linear Accelerator

J/N 49995.52072

TEM / TPS



Chan.no: 3  
 Chan.type: M Filtered  
 Sweep type: logarithmic  
 Sweeps done: 1  
 Sweeps req.: 1  
 Sweep direct.: up  
 Sweep rate: 2.00 Oct/min  
 Unit: g  
 Contr.strat.: Closed loop

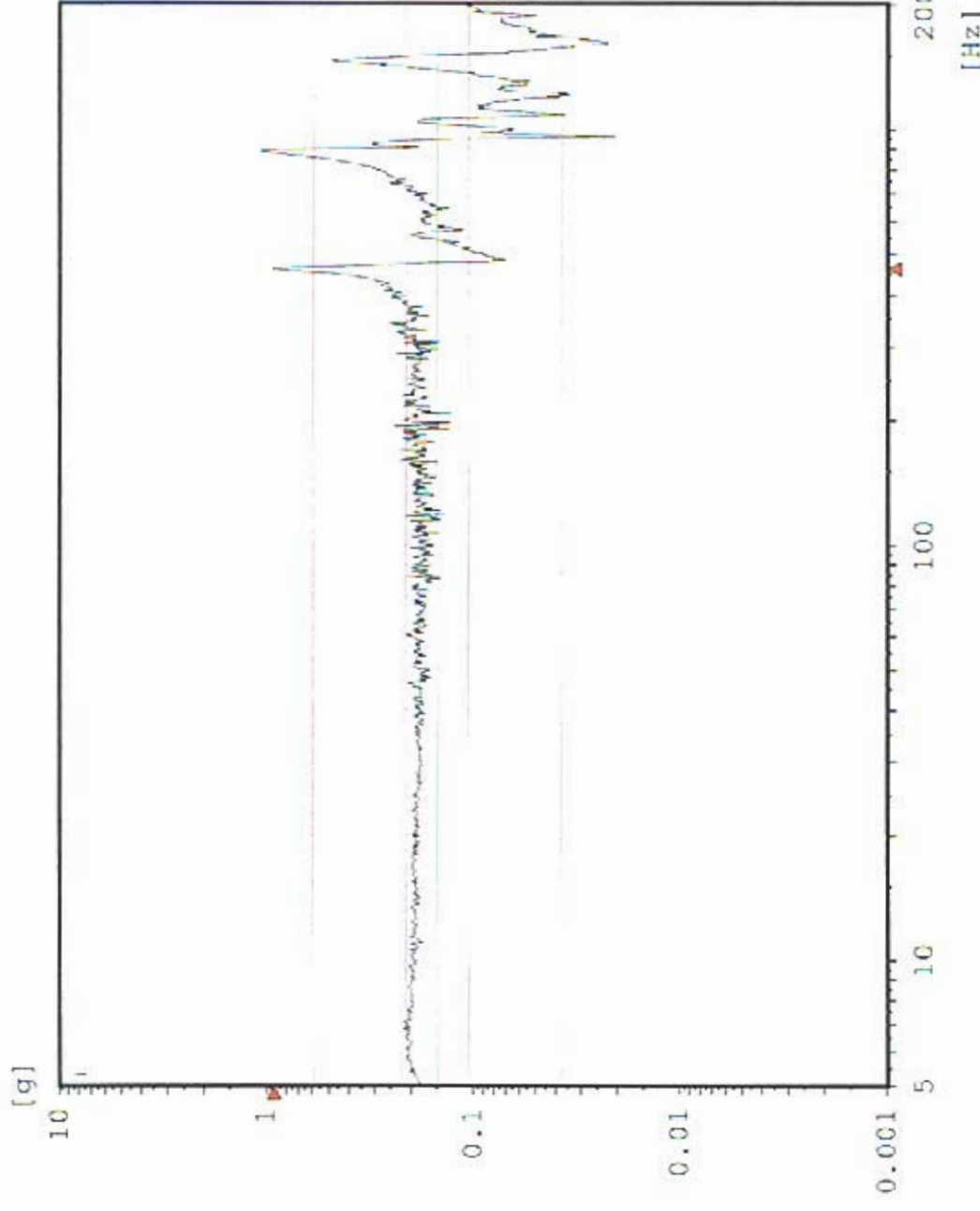
-- Testing time --  
 elapsed: 000:04:18  
 remaining: 000:00:00

Date: 06-27-05  
 Time: 14:42:37

Z - axis Pre Random  
 Acceptance Unit  
 GLAT 1843

# Sine AZ5 TEM Bottom Edge

Stanford Linear Accelerator  
J/N 49995.52072  
TEM / TPS



Chan.no: 5  
 Chan.type: M Filtered  
 Sweep type: logarithmic  
 Sweeps done: 1  
 Sweeps req.: 1  
 Sweep direct.: up  
 Sweep rate: 2.00 Oct/min  
 Unit: g  
 Contr.strat.: Closed loop

-- Testing time --  
 elapsed: 000:04:18  
 remaining: 000:00:00

Date: 06-27-05  
 Time: 14:42:37

Z - axis Pre Random  
 Acceptance Unit  
 GLAT 1843

# AZ1 TPS Edge Center

Sine  
Stanford Linear Accelerator  
J/N 49995.52072  
TEM / TPS

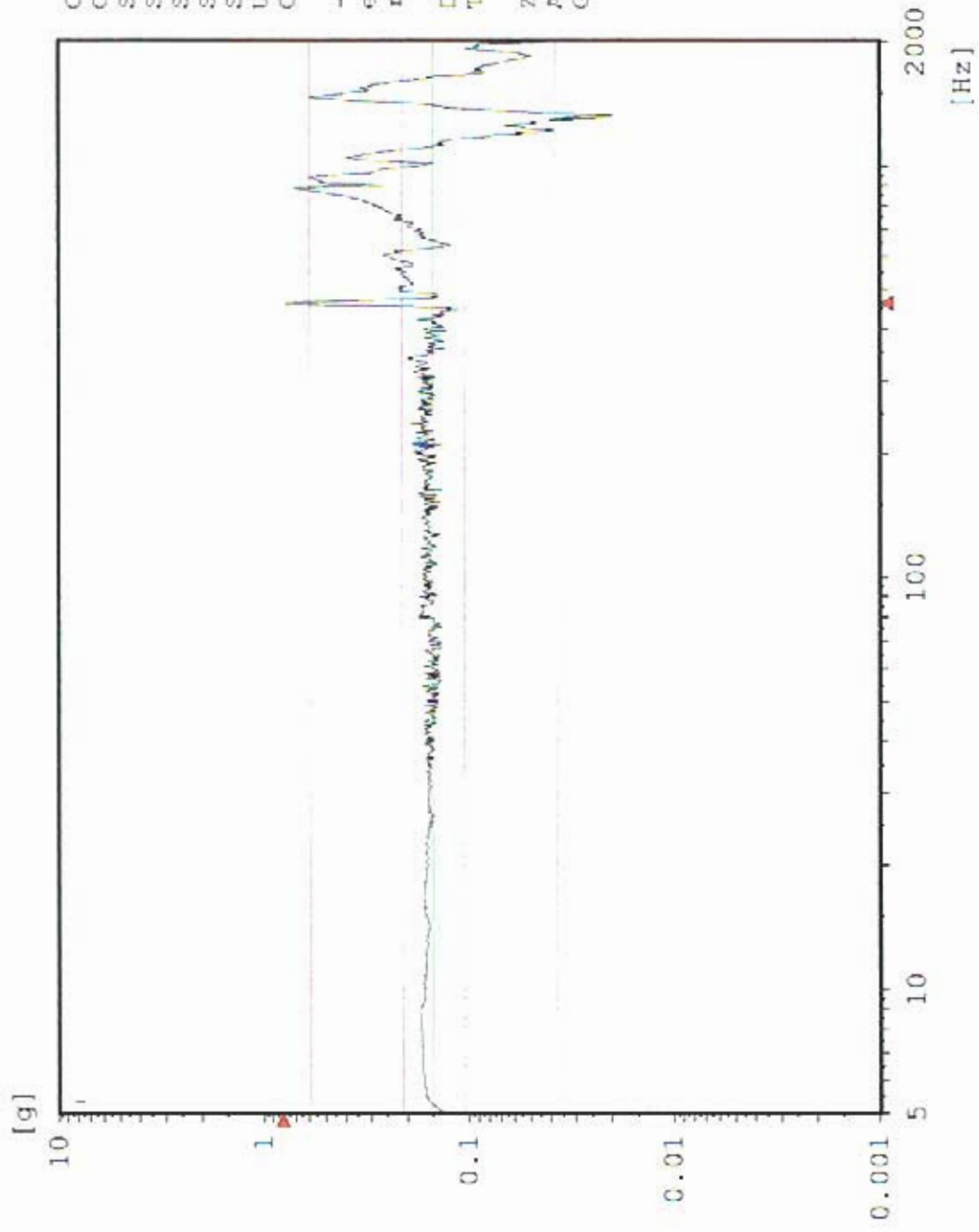


Chan.no: 6  
Chan.type: M Filtered  
Sweep type: logarithmic  
Sweeps done: 1  
Sweeps req.: 1  
Sweep direct.: up  
Sweep rate: 2.00 Oct/min  
Unit: g  
Contr.strat.: Closed loop

-- Testing time --  
elapsed: 000:04:13  
remaining: 000:00:00

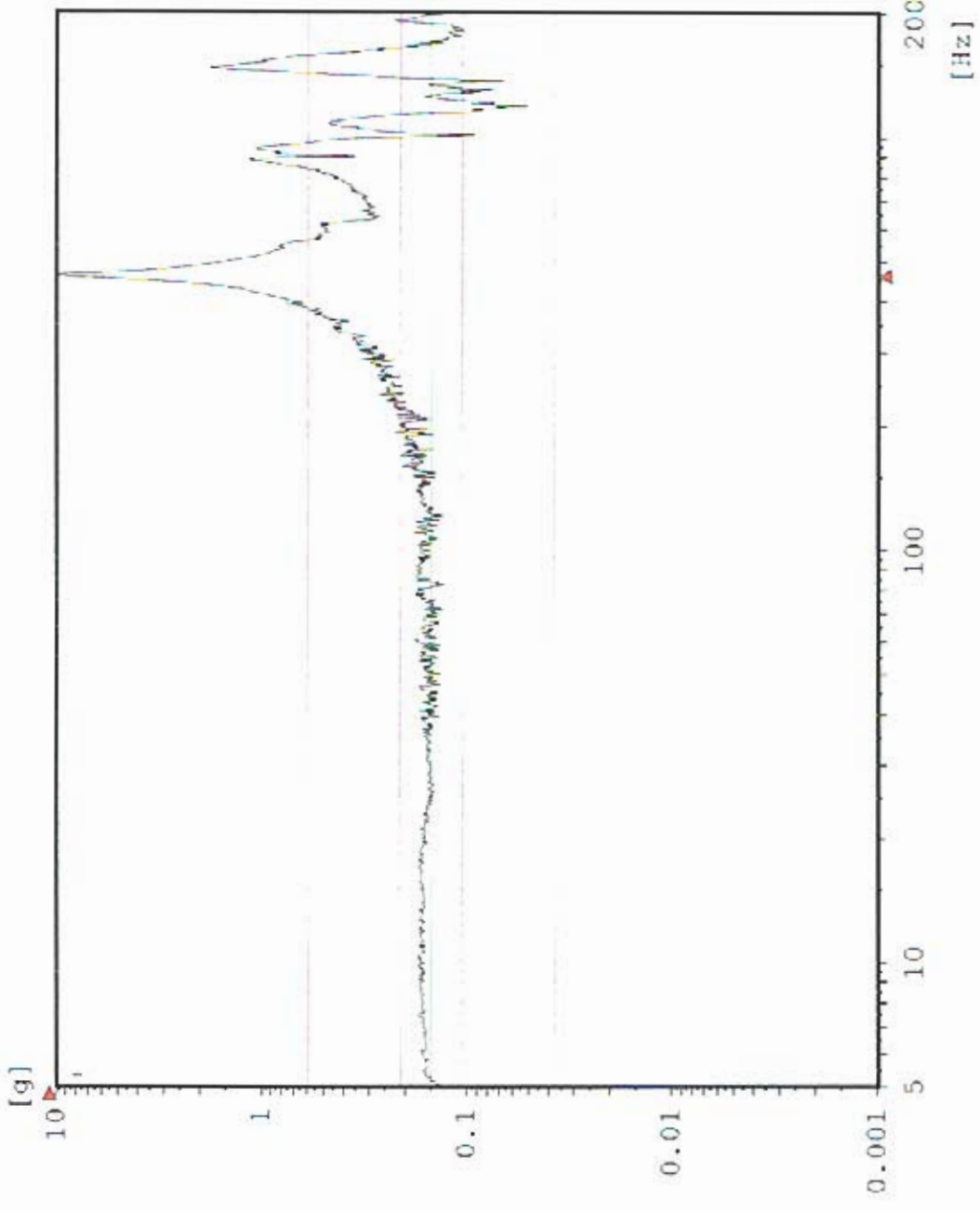
Date: 06-27-05  
Time: 14:42:37

Z - axis Pre Random  
Acceptance Unit  
GLAI 1843



### AZ6 TEM Bottom Center

Sine  
Stanford Linear Accelerator  
J/N 49995.52072  
TEM / TPS



Chan.no: 8  
 Chan.type: M Filtered  
 Sweep type: logarithmic  
 Sweeps done: 1  
 Sweeps req.: 1  
 Sweep direct.: up  
 Sweep rate: 2.00 Oct/min  
 Unit: g  
 Contr.strat.: Closed loop

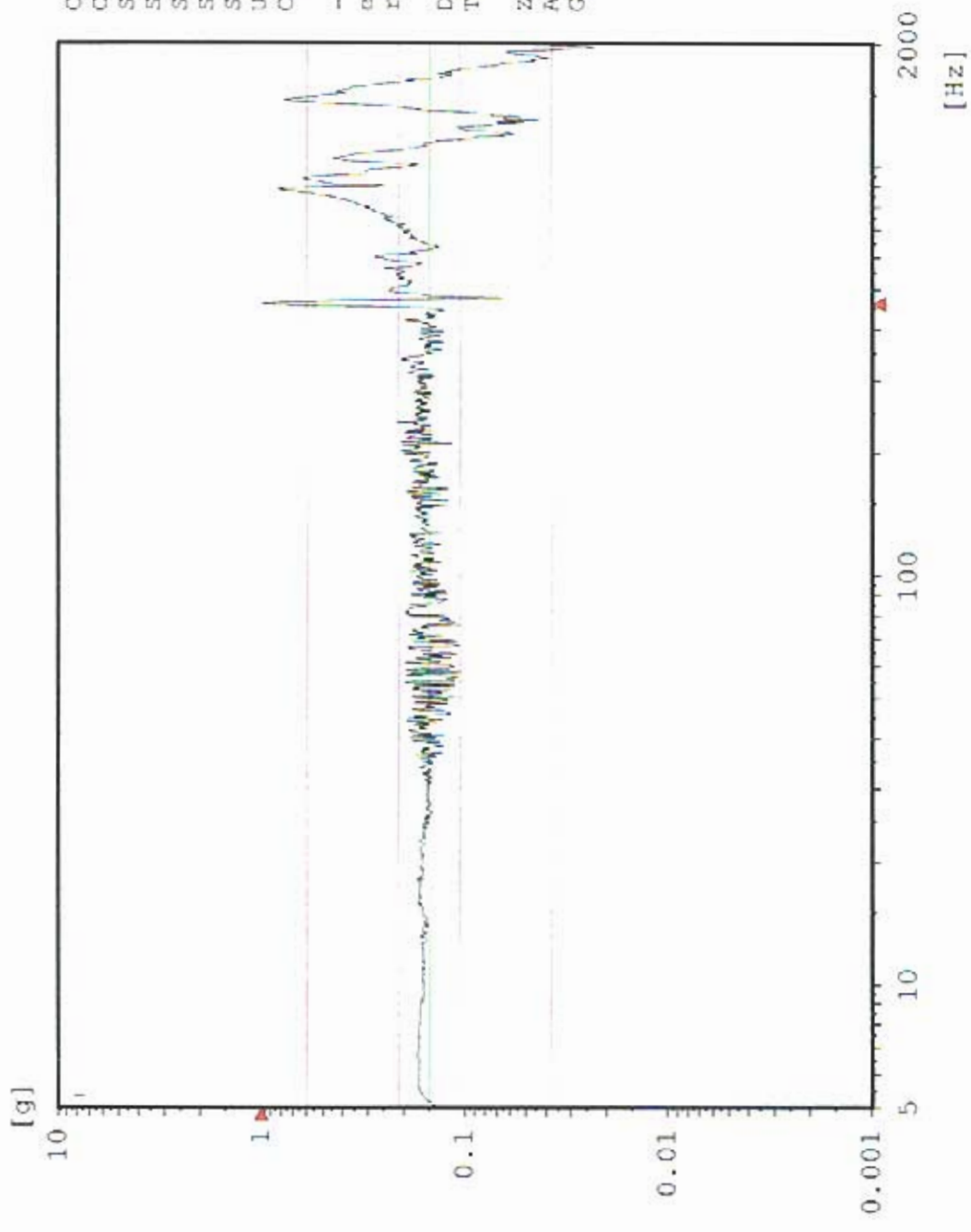
-- Testing time --  
 elapsed: 000:04:18  
 remaining: 000:00:00

Date: 06-27-05  
 Time: 14:42:37

Z - axis Pre Random  
 Acceptance Unit  
 GLAT 1843

### AZ2 TPS Corner

Sine  
Stanford Linear Accelerator  
J/N 49995.52072  
TEM / TPS



Chan.no: 10  
 Chan.type: M Filtered  
 Sweep type: logarithmic  
 Sweeps done: 1  
 Sweeps req.: 1  
 Sweep direct.: up  
 Sweep rate: 2.00 Oct/min  
 Unit: g  
 Contr.strat.: Closed loop

-- Testing time --  
 elapsed: 000:04:18  
 remaining: 000:00:00

Date: 06-27-05  
 Time: 14:42:37

Z - axis Pre Random  
 Acceptance Unit  
 GLAT 1843

# CZ1 Z-Axis Control

Random

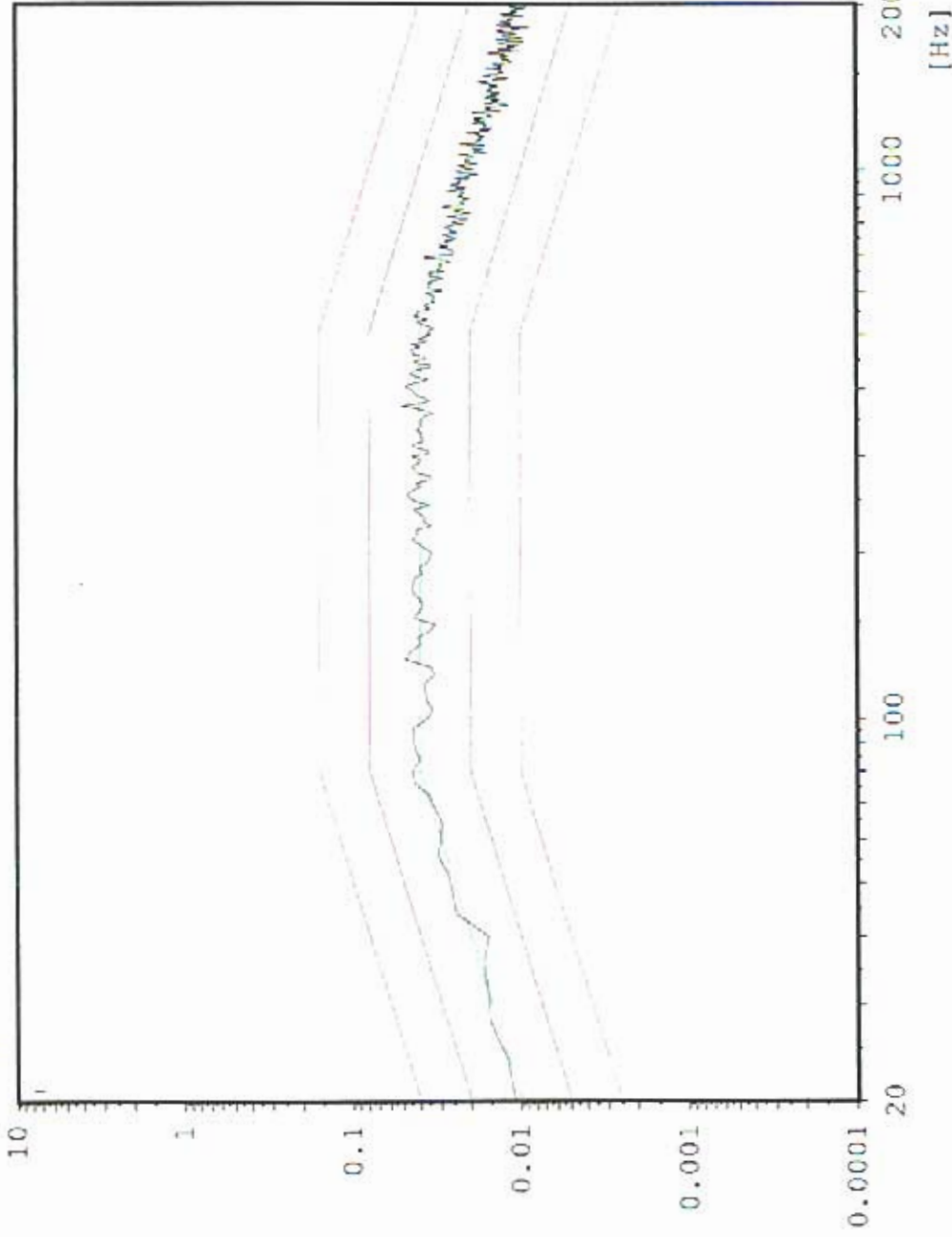
Stanford Linear Accelerator

J/N 49995.52072

TEM & TPS



[g<sup>2</sup>/Hz]



Chan.No: 1  
Chan.type: C  
DOF: 126  
Level: 0.0 dB  
Resolution: 4 Hz  
Unit: g<sup>2</sup>/Hz  
RMS (act.): 6.822 g  
RMS (req.): 6.737 g  
Contr.strat.: Closed loop

-- Time on act. level --  
elapsed: 000:01:00  
remaining: 000:00:00

-- Time total --  
elapsed: 000:02:54  
remaining: 000:00:00

Date: 06-27-05  
Time: 14:51:04

Z - Axis  
Acceptance Unit  
GLAT 1843

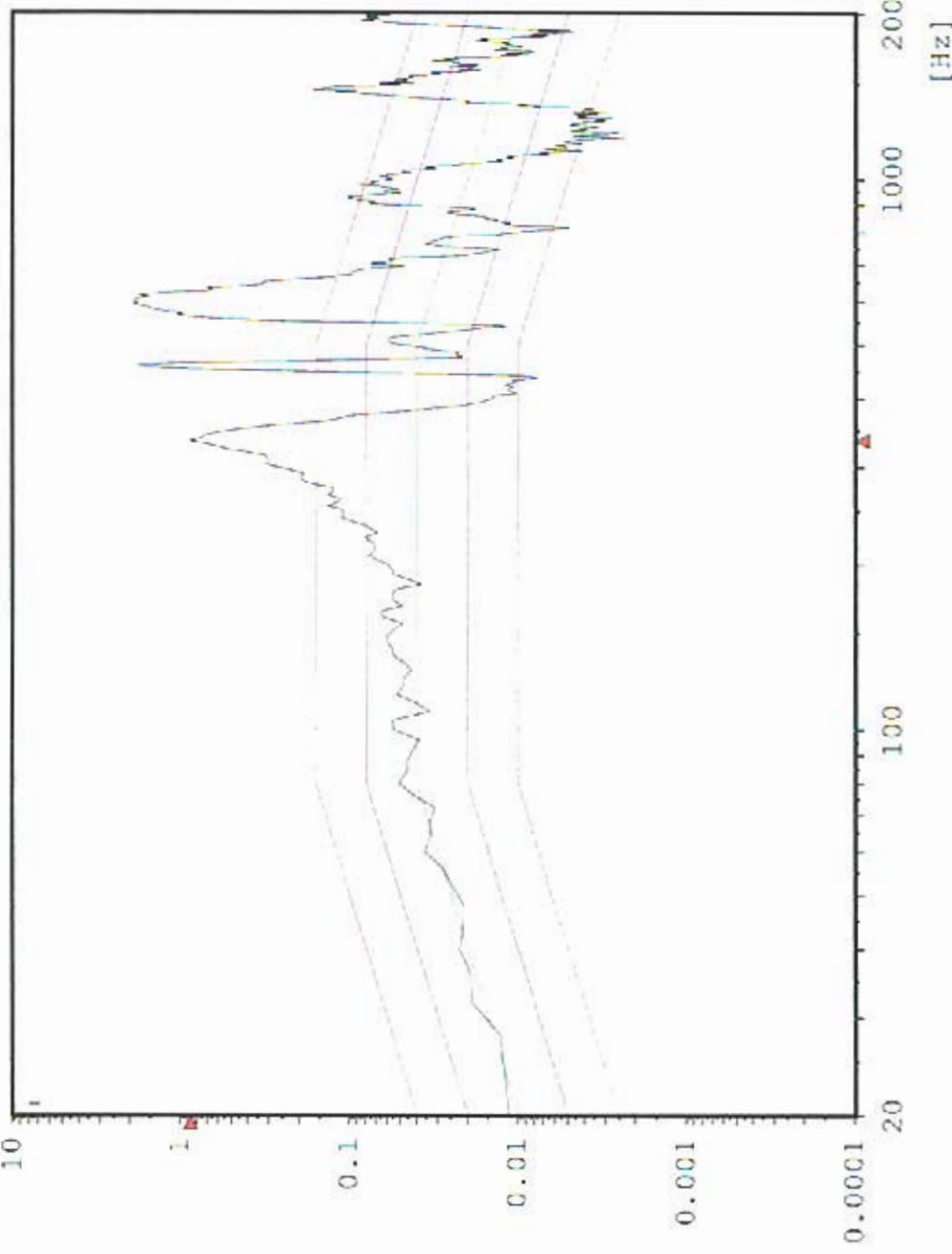
Cursor: 336 Hz 0.883 g<sup>2</sup>/Hz

### AZ4 TPS Boss 2

Random  
Stanford Linear Accelerator  
J/N 49995.52072  
TEM & TPS



[g<sup>2</sup>/Hz]



Chan.no: 2  
Chan.type: M  
DCF: 100  
Level: 0.0 dB  
Resolution: 4 Hz  
Unit: g<sup>2</sup>/Hz  
RMS (act.): 15.43 g  
RMS (req.): 6.787 g  
Contr.strat.: Closed loop

-- Time on act. level --  
elapsed: 000:01:00  
remaining: 000:00:00

-- Time total --  
elapsed: 000:02:54  
remaining: 000:00:00

Date: 06-27-05  
Time: 14:51:04

Z - Axis  
Acceptance Unit  
GLAT 1843

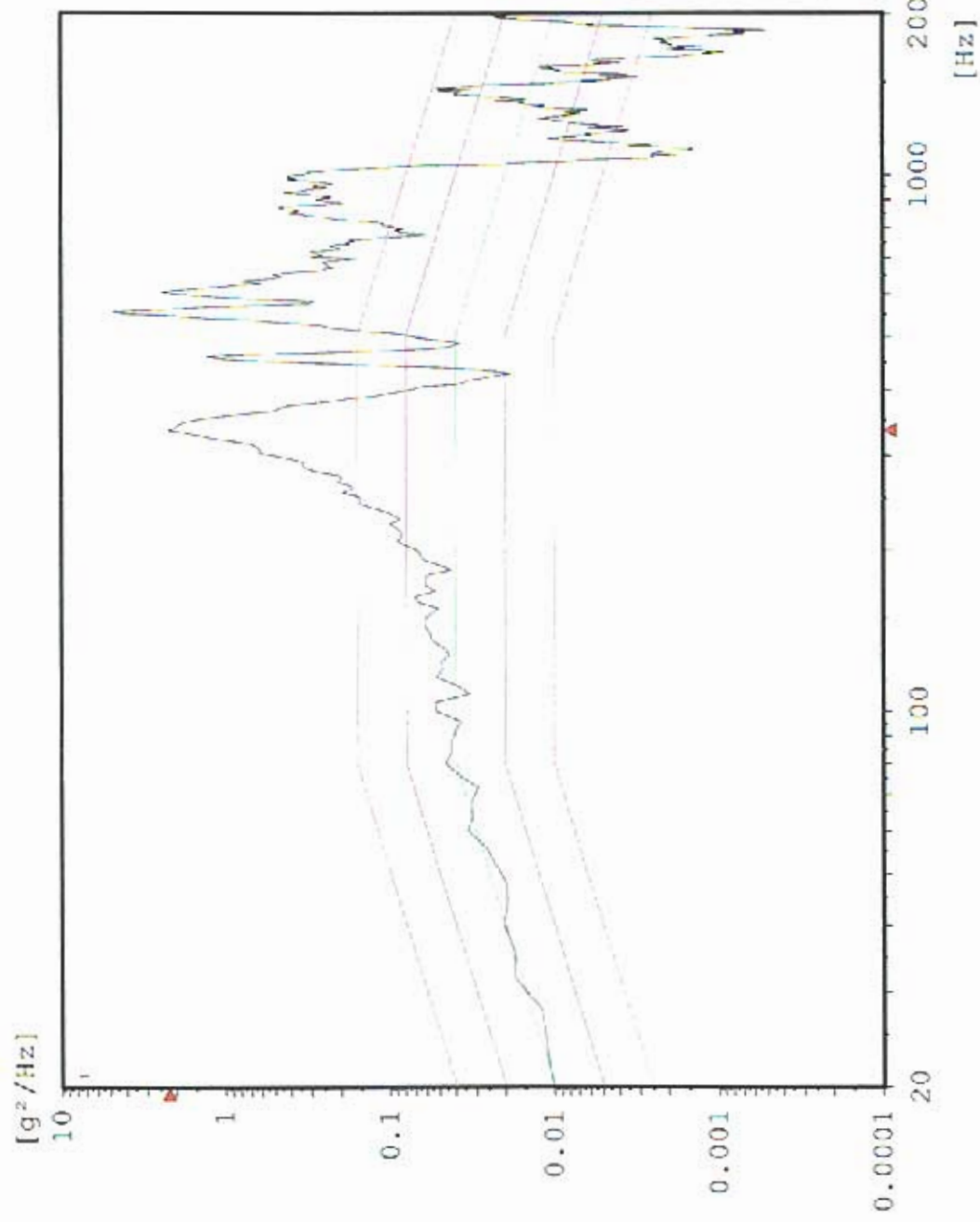


Cursor: 336 Hz 2.239 g<sup>2</sup>/Hz

### AZ3 TPS Boss 1

Random

Stanford Linear Accelerator  
J/N 49995.52072  
TEM & TPS



Chan.no: 3  
 Chan.type: M  
 DOF: 100  
 Level: 0.0 dB  
 Resolution: 4 Hz  
 Unit: g<sup>2</sup>/Hz  
 RMS (act.): 20.35 g  
 RMS (req.): 6.787 g  
 Contr.strat.: Closed loop

-- Time on act. level --  
 elapsed: 000:01:00  
 remaining: 000:00:00

-- Time total --  
 elapsed: 000:02:54  
 remaining: 000:00:00

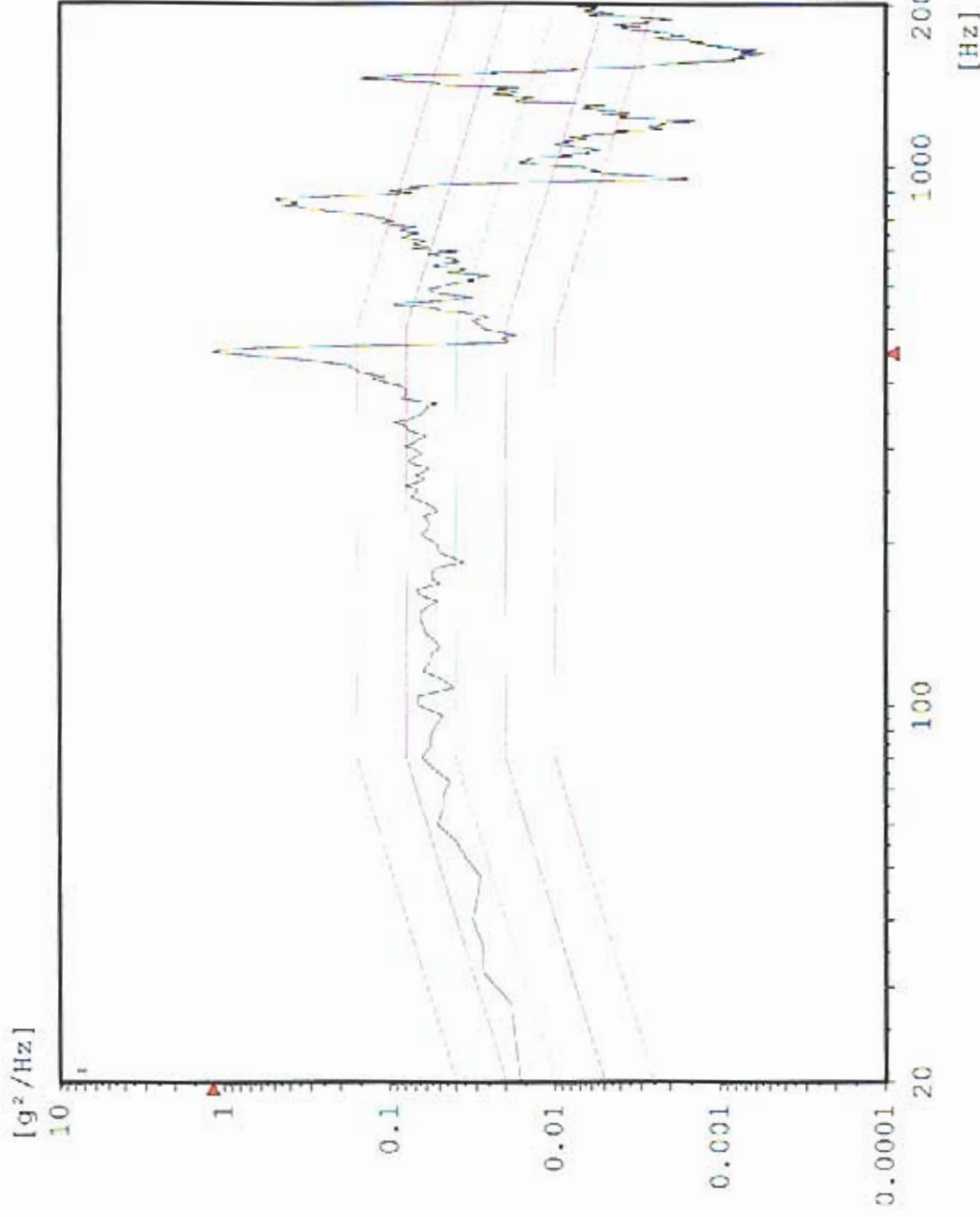
Date: 06-27-05  
 Time: 14:51:04

Z - Axis  
 Acceptance Unit  
 GLAT 1843

Max: 452 Hz 1.191 g<sup>2</sup>/Hz

### Random AZ5 TEM Bottom Edge

Stanford Linear Accelerator  
J/N 49995.52072  
TEM & TPS



Chan.no: 5  
Chan.Type: M  
DOF: 100  
Level: 0.0 dB  
Resolution: 4 Hz  
Unit: g<sup>2</sup>/Hz  
RMS (act.): 10.38 g  
RMS (req.): 6.787 g  
Contr.strat.: Closed loop

-- Time on act. level --  
elapsed: 000:01:00  
remaining: 000:00:00

-- Time total --  
elapsed: 000:02:54  
remaining: 000:00:00

Date: 06-27-05  
Time: 14:51:04

Z - Axis  
Acceptance Unit  
GLAT 1843

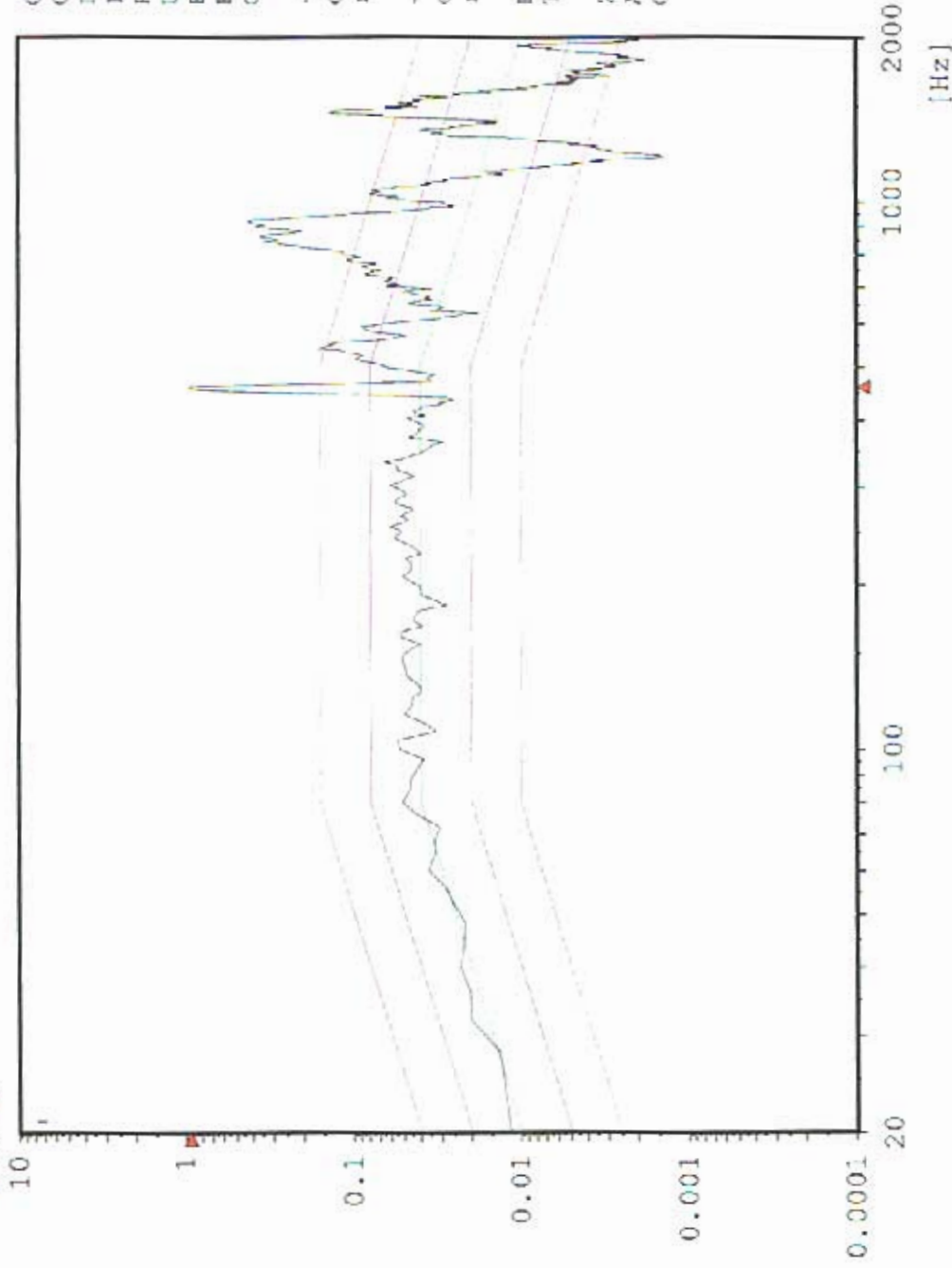
Max: 460 Hz 0.9479 g<sup>2</sup>/Hz

### Random AZ1 TPS Edge Center

Stanford Linear Accelerator  
J/N 49995.52072  
TEM & TPS



[g<sup>2</sup>/Hz]



Chan.no: 6  
Chan.type: M  
DOF: 100  
Level: 0.0 dB  
Resolution: 4 Hz  
Unit: g<sup>2</sup>/Hz  
RMS (act.): 10.76 g  
RMS (req.): 6.787 g  
Contr.strat.: Closed loop

-- Time on act. level --  
elapsed: 000:01:00  
remaining: 000:00:00

-- Time total: --  
elapsed: 000:02:54  
remaining: 000:00:00

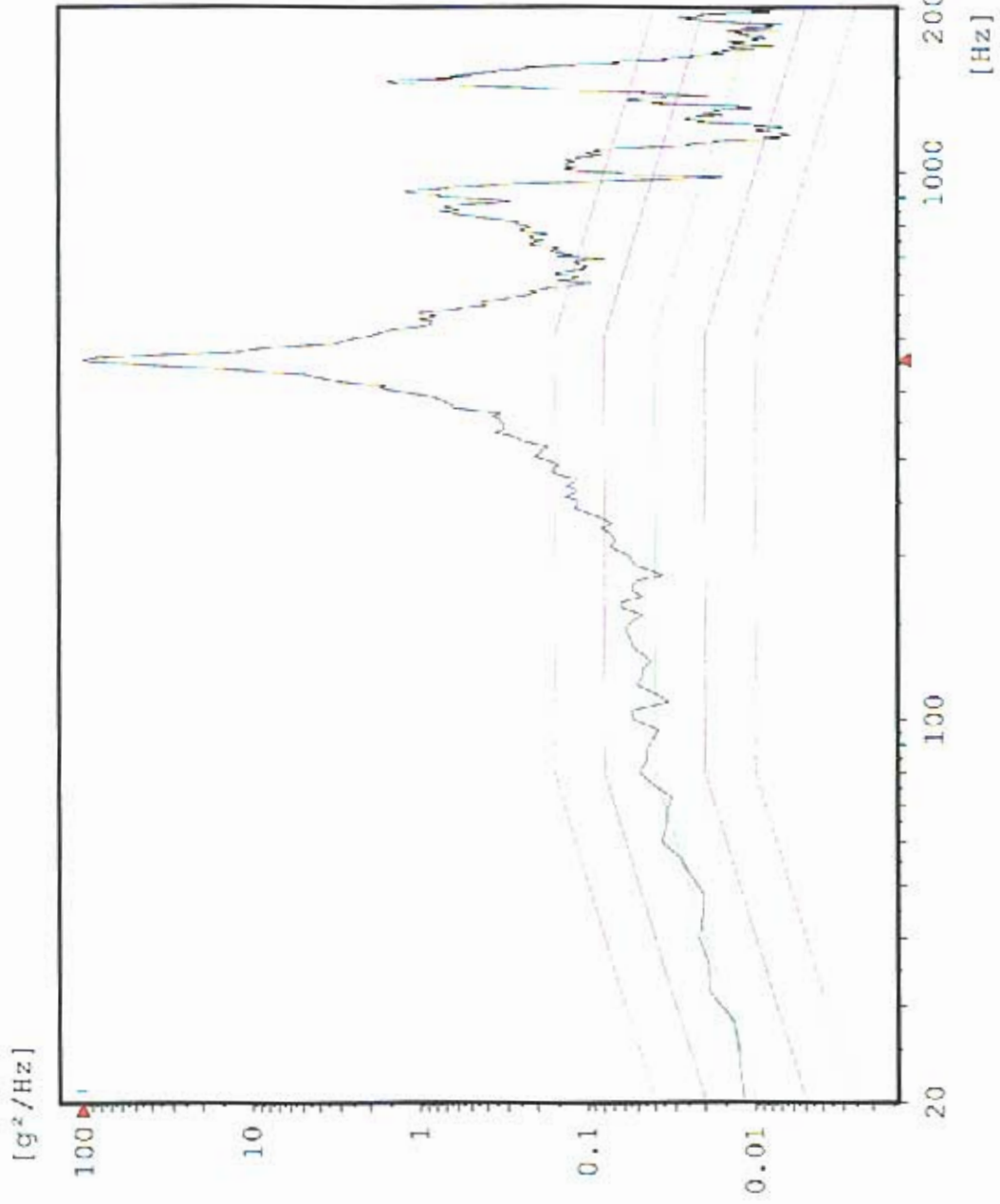
Date: 06-27-05  
Time: 14:51:04

Z - Axis  
Acceptance Unit  
GLAT 1843

Max: 456 Hz 104.9 g<sup>2</sup>/Hz

### Random AZ6 TEM Bottom Center

Stanford Linear Accelerator  
J/N 49995.52072  
TEM & TPS



Chan.no: 8  
 Chan.type: M  
 DOF: 100  
 Level: 0.0 dB  
 Resolution: 4 Hz  
 Unit: g<sup>2</sup>/Hz  
 RMS (act.): 50.65 g  
 RMS (req.): 6.787 g  
 Contr.strat.: Closed loop

-- Time on act. level --  
 elapsed: 000:01:00  
 remaining: 000:00:00

-- Time total --  
 elapsed: 000:02:54  
 remaining: 000:00:00

Date: 06-27-05  
 Time: 14:51:04

Z - Axis  
 Acceptance Unit  
 SLAT 1843

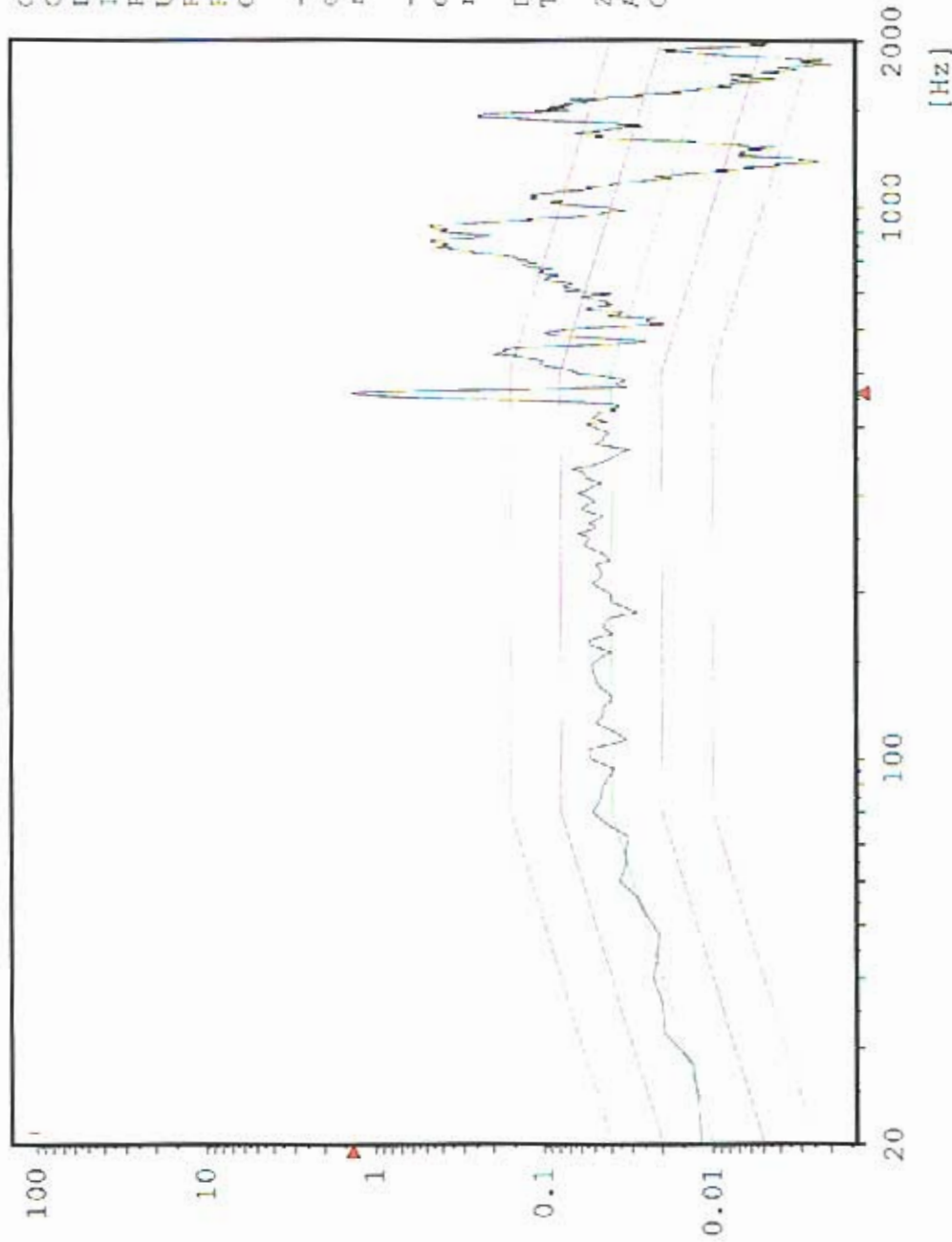
Max: 460 Hz 1.377 g<sup>2</sup>/Hz

### Random AZ2 TPS Corner

Random  
Stanford Linear Accelerator  
J/N 49995.52072  
TEM & TPS



[g<sup>2</sup>/Hz]



Chan.no: 10  
Chan.type: M  
DOF: 100  
Level: 0.0 dB  
Resolution: 4 Hz  
Unit: g<sup>2</sup>/Hz  
RMS (act.): 12.03 g  
RMS (req.): 6.787 g  
Contr.strat.: Closed loop

-- Time on act. level --  
elapsed: 000:01:00  
remaining: 000:00:00

-- Time total --  
elapsed: 000:02:54  
remaining: 000:00:00

Date: 06-27-05  
Time: 14:51:04

Z - Axis  
Acceptance Unit  
GLAT 1843

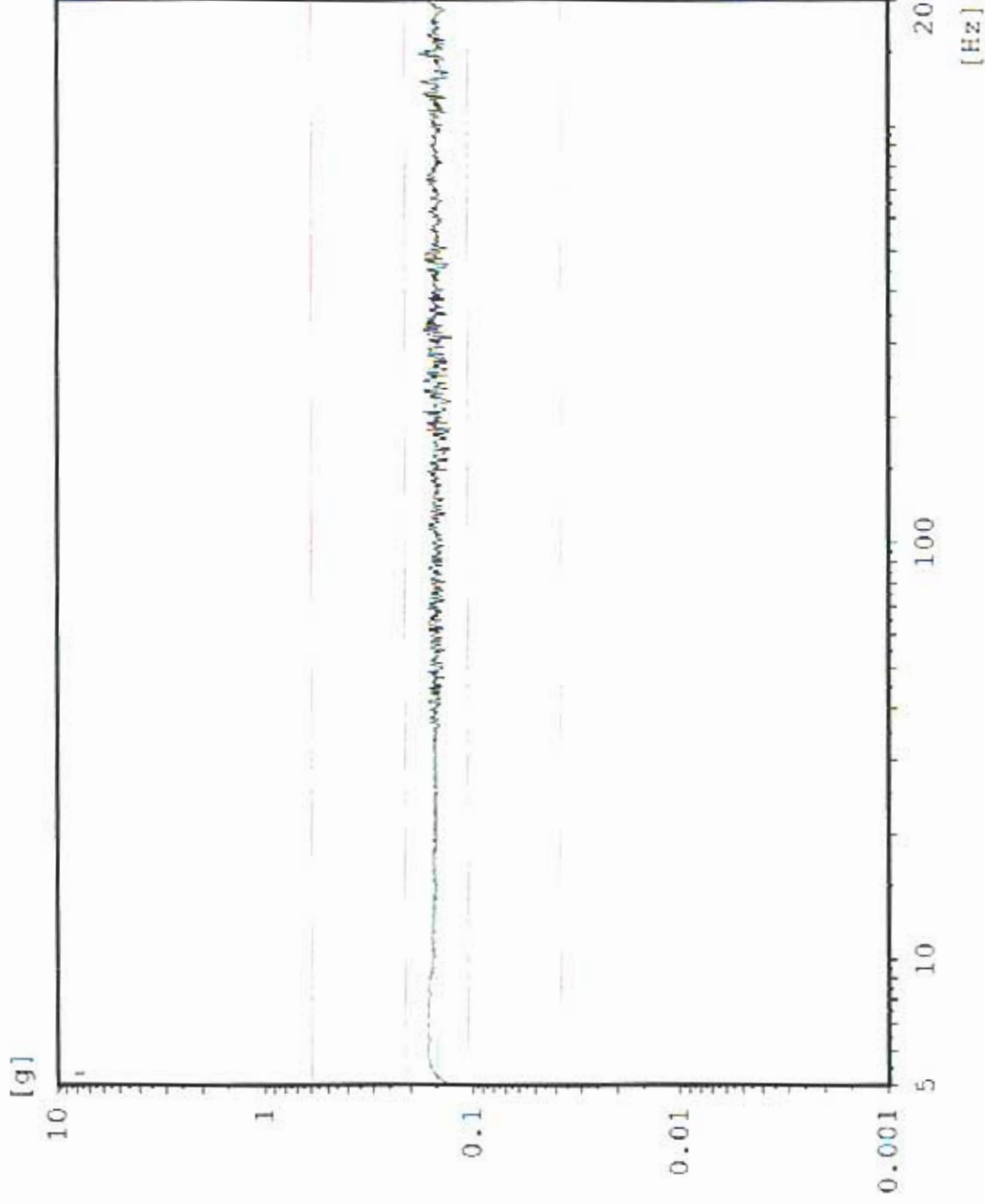
Sine

### CZ1 Z-Axis Control

Stanford Linear Accelerator

J/N 49995.52072

TEM / TPS



Chan.no: 1  
Chan.type: CW Filtered  
Sweep type: logarithmic  
Sweeps done: 1  
Sweeps req.: 1  
Sweep direct.: up  
Sweep rate: 2.00 Oct/min  
Unit: g  
Contr.strat.: Closed loop

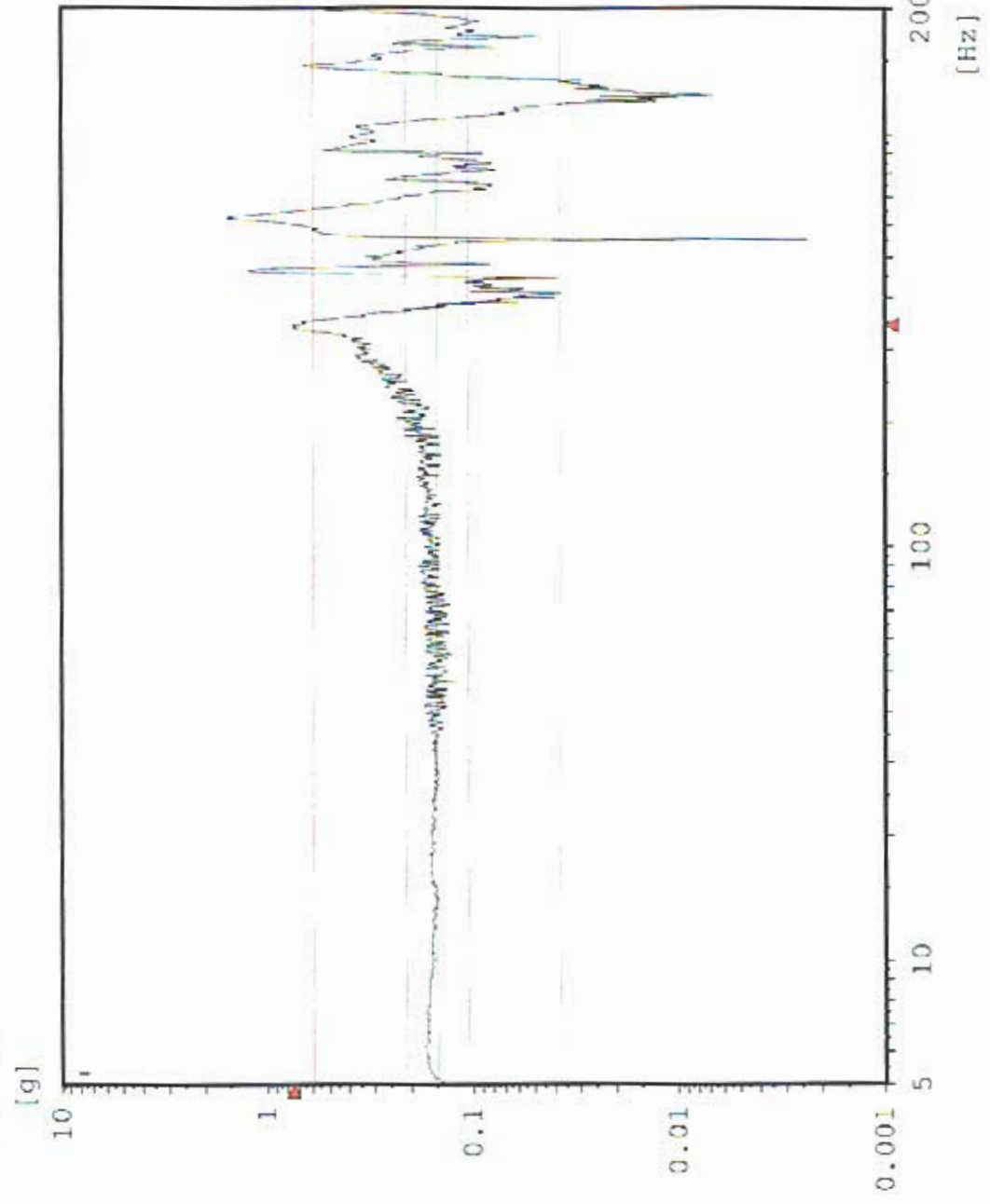
-- Testing time --  
elapsed: 000:04:18  
remaining: 000:00:00

Date: 06-27-05  
Time: 15:02:08

Z - axis Post Random  
Acceptance Unit  
GLAT 1843

# AZ4 TPS Boss 2

Sine  
Stanford Linear Accelerator  
J/N 49995.52072  
TEM / TPS



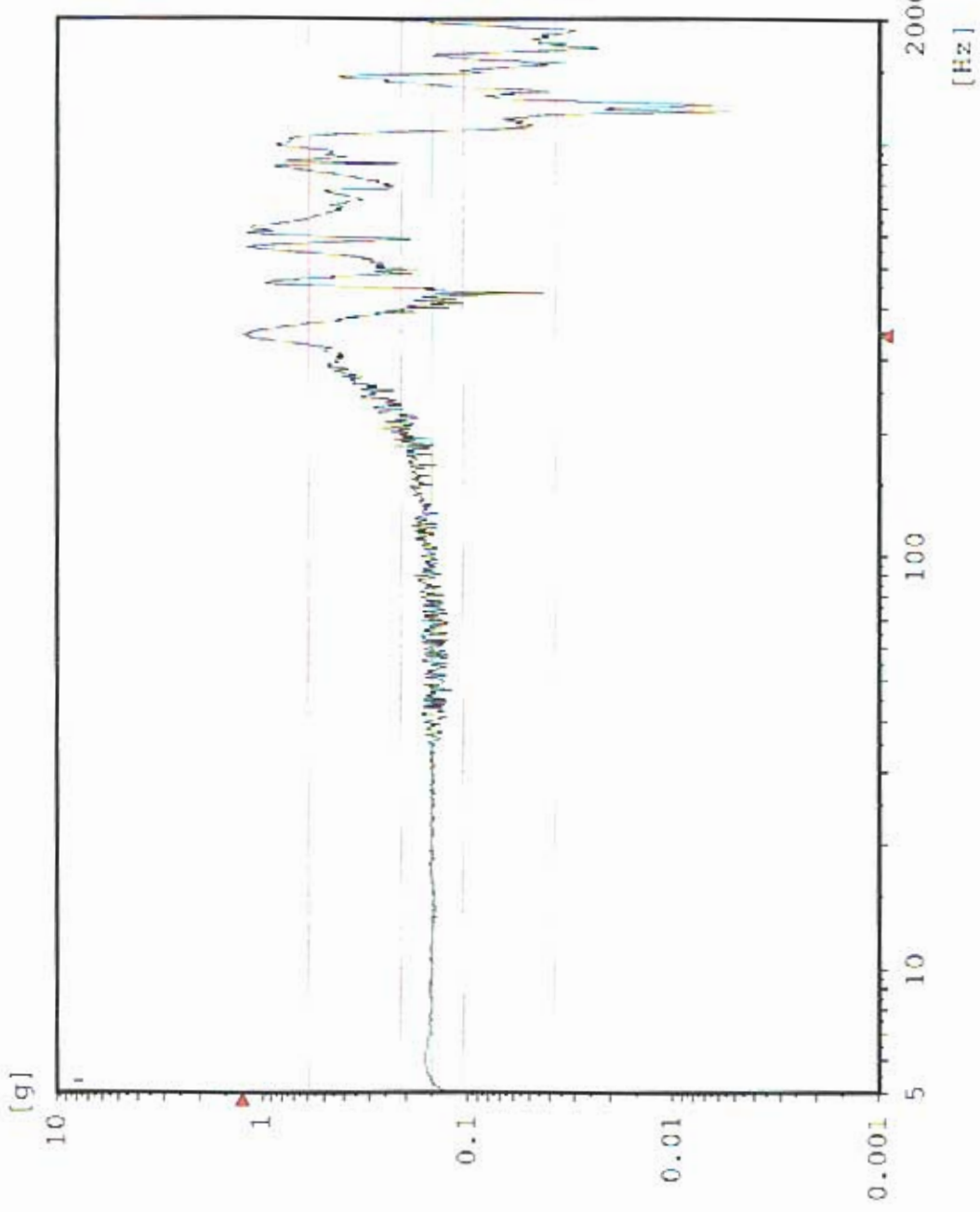
Chan.no: 2  
 Chan.type: M Filtered  
 Sweep type: logarithmic  
 Sweeps done: 1  
 Sweeps req.: 1  
 Sweep direct.: up  
 Sweep rate: 2.00 Oct/min  
 Unit: g  
 Contr.strat.: Closed loop

-- Testing time --  
 elapsed: 000:04:18  
 remaining: 000:00:00  
 Date: 06-27-05  
 Time: 15:02:08

Z - axis Post Random  
 Acceptance Unit  
 GLAT 1843

### AZ3 TPS Boss 1

Sine  
Stanford Linear Accelerator  
J/N 49995.52072  
TEM / TPS



Chan.no: 3  
 Chan.type: M Filtered  
 Sweep type: logarithmic  
 Sweeps done: 1  
 Sweeps req.: 1  
 Sweep direct.: up  
 Sweep rate: 2.00 Oct/min  
 Unit: g  
 Contr.strat.: Closed loop

-- Testing time --  
 elapsed: 000:04:18  
 remaining: 000:06:00  
 Date: 06-27-05  
 Time: 15:02:08

Z - axis Post Random  
 Acceptance Unit  
 GLAT 1843

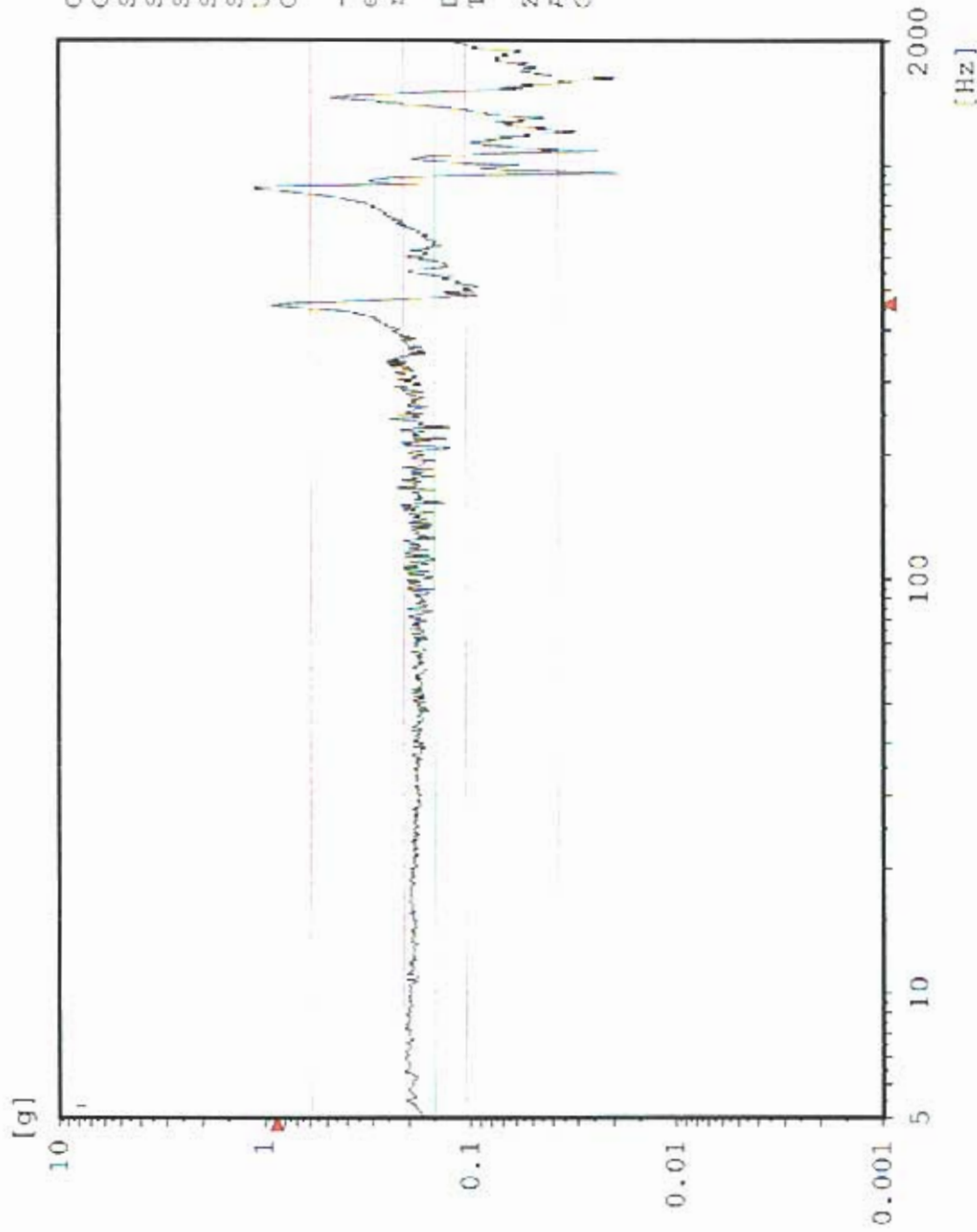


# Sine AZ5 TEM Bottom Edge

Stanford Linear Accelerator

J/N 49995.52072

TEM / TPS



Chan.no: 5  
 Chan.type: M Filtered  
 Sweep type: logarithmic  
 Sweeps done: 1  
 Sweeps req.: 1  
 Sweep direct.: up  
 Sweep rate: 2.00 Oct/min  
 Unit: g  
 Contr.strat.: Closed loop

-- Testing time --  
 elapsed: 000:04:18  
 remaining: 000:00:00

Date: 06-27-05  
 Time: 15:02:08

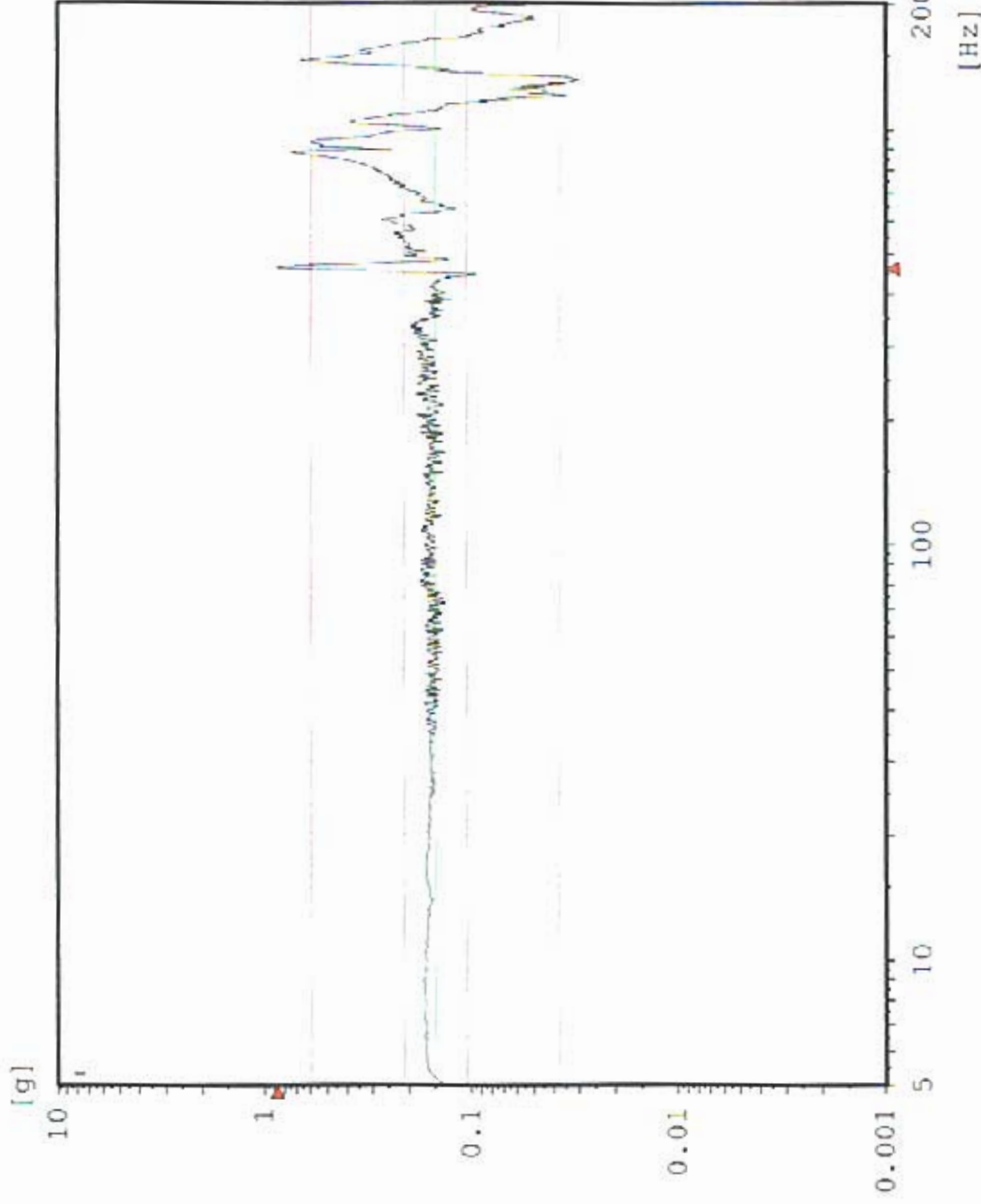
Z - axis Post Random  
 Acceptance Unit  
 GLAT 1843

# Sine AZ1 TPS Edge Center

Stanford Linear Accelerator

J/N 4995.52072

TEM / TPS



Chan.no: 6  
 Chan.type: M Filtered  
 Sweep type: logarithmic  
 Sweeps done: 1  
 Sweeps req.: 1  
 Sweep direct.: up  
 Sweep rate: 2.00 Oct/min  
 Unit: g  
 Contr.strat.: Closed loop

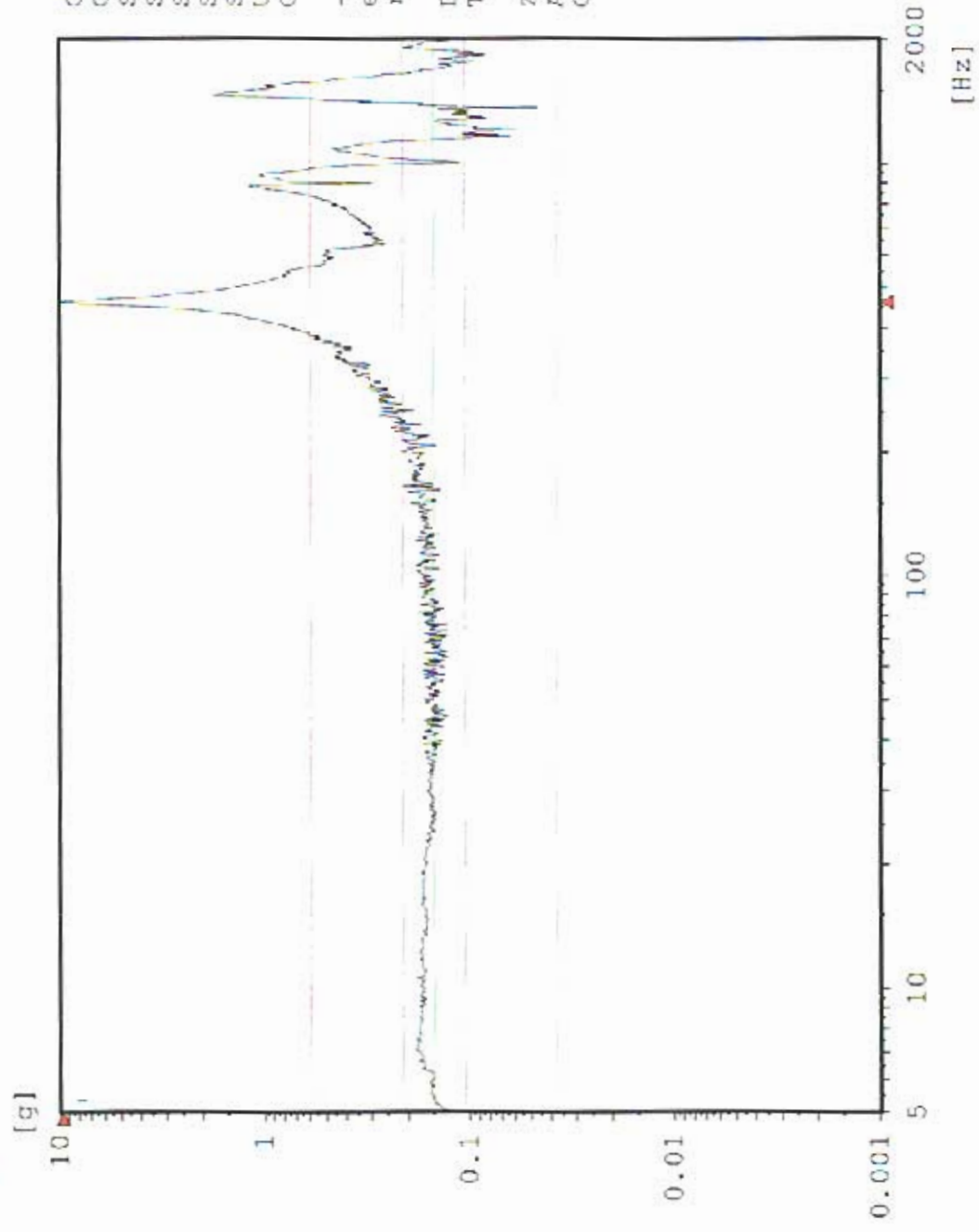
-- Testing time --  
 elapsed: 000:04:18  
 remaining: 000:00:00

Date: 06-27-05  
 Time: 15:02:08

Z - axis Post Random  
 Acceptance Unit  
 GLAT 1843

# Sine AZ6 TEM Bottom Center

Stanford Linear Accelerator  
J/N 49995.52072  
TEM / TPS



Chan.no: 8  
 Chan.type: M Filtered  
 Sweep type: logarithmic  
 Sweeps done: 1  
 Sweeps req.: 1  
 Sweep direct.: up  
 Sweep rate: 2.00 Oct/min  
 Unit: g  
 Contr.strat.: Closed loop

-- Testing time --  
 elapsed: 000:04:18  
 remaining: 000:00:00

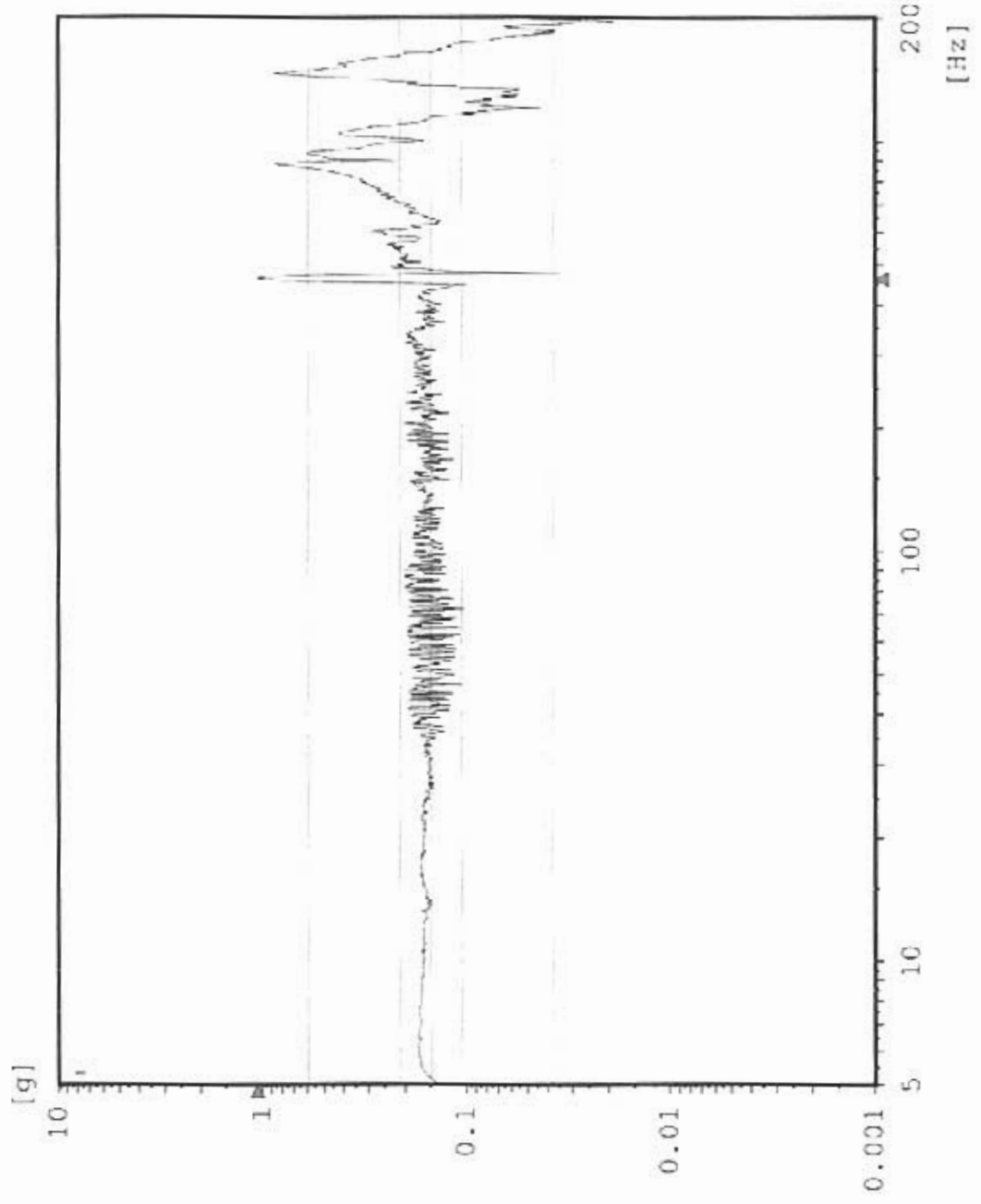
Date: 06-27-05  
 Time: 15:02:08

Z - axis Post Random  
 Acceptance Unit  
 GLAT 1843

Max: 462.5 Hz 1.066 g

### AZ2 TPS Corner

Sine  
Stanford Linear Accelerator  
J/N 49995.52072  
TEM / TPS



Chan.no: 10  
 Chan.type: M Filtered  
 Sweep type: logarithmic  
 Sweeps done: 1  
 Sweeps req.: 1  
 Sweep direct.: up  
 Sweep rate: 2.06 Oct/min  
 Unit: g  
 Contr.strat.: Closed loop

-- Testing time --  
 elapsed: 000:04:18  
 remaining: 000:00:00

Date: 06-27-05  
 Time: 15:02:08

Z - axis Post Random  
 Acceptance Unit  
 GLAT 1843



**EQUIPMENT LIST**

JOB NUMBER 49995.52072

TEST DESCRIPTION Random & Sine Vibration

EQUIPMENT DESCRIPTION	MANUFACTURER	MODEL NUMBER	ASSET NUMBER	RANGE	ACCURACY	CALIBRATION DATE	CALIBRATION PERIOD
Vibration System	Unholtz-Dickie	T 1000	4-6242	17,500 Force Lbs; 2Hz - 3KHz	± 10%	06-27-05	T.O.T
Accelerometer	Endevco Corp.	2271A	4-42129	1,000 g's Max; 2Hz - 5.5KHz	± 5%	11-01-04	1 Yr.
	Endevco Corp.	2228C	4-42130	1,000 g's Max; 3Hz - 6KHz	± 5%	06-23-05	1 Yr.
	Endevco Corp.	2228C	4-64096	1,000 g's Max; 3Hz - 6KHz	± 5%	04-14-05	1 Yr.
	Endevco Corp.	2222C	4-42138	1,000 g's Max; 5Hz - 8KHz	± 5%	06-23-05	1 Yr.
	Endevco Corp.	2228C	4-64082	1,000 g's Max; 3Hz - 6KHz	± 5%	04-14-05	1 Yr.
	Endevco Corp.	2220D	4-6442	1,000 g's Max; 2Hz - 10KHz	± 5%	08-26-04	1 Yr.
	Endevco Corp.	2222C	4-42143	1,000 g's Max; 5Hz - 8KHz	± 5%	11-01-04	1 Yr.
Charge Amp.	Unholtz-Dickie	D22-8	4-64032	Freq. Response: 5Hz - 5KHz	± 2%	03-04-06	6 Mo.
	Unholtz-Dickie	D22-8	4-6539	Freq. Response: 5Hz - 5KHz	± 2%	03-04-05	6 Mo.
	Unholtz-Dickie	D22-8	4-6540	Freq. Response: 5Hz - 5KHz	± 2%	03-04-05	6 Mo.
	Unholtz-Dickie	D22-8	4-6458	Freq. Response: 5Hz - 5KHz	± 2%	03-04-05	6 Mo.
	Unholtz-Dickie	D22-8	4-6559	Freq. Response: 5Hz - 5KHz	± 2%	03-04-05	6 Mo.
	Unholtz-Dickie	D22-8	4-6548	Freq. Response: 5Hz - 5KHz	± 2%	03-04-05	6 Mo.
	Unholtz-Dickie	D22-8	4-6457	Freq. Response: 5Hz - 5KHz	± 2%	03-04-05	6 Mo.
Digital Vibration Control System	M + P International / Agilent	VXi E8408A	4-62092	Freq. Range: 23KHz Sample Rate: 51.2Ksa/sec. Dynamic Range: 90dB Voltage: 10v Pk Resolution: 20 Bit / 3200 lines Channels: 16; COLA: 1v Pk	± 1%	03-14-05	2 Yr.