

GLAT 1845  
1846

## Appendix A – Accelerometer Sensitivities



**GLAST LAT Project GASU/PDU 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	3	3000	1000
AZ1	3	AHKB25	2226C	3.030	30	3000	100
AZ2	6	16139	2226C	3.038	30	3000	100
AZ3	10	16139	2226C	3.027	30	3000	100
CX1		13048	2271AM20	12.43	3	3000	1000
AX1	3	16139	2226C	3.030	30	3000	100
AX2	6	AHKB25	2226C	3.038	30	3000	100
AX3	10	16139	2226C	3.027	30	3000	100
CY1		13048	2271AM20	12.43	3	3000	1000
AY1	3	AHKB25	2226C	3.030	30	3000	100
AY2	6	16139	2226C	3.038	30	3000	100
AY3	10	16139	2226C	3.027	30	3000	100

# Appendix B - Test Log

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GLAST LAT Project TEM/TPS Vibration Testing

## Test Log

Date	Time	Unit #	Axis	Sine or Random	Level [g]/[grms]	Frequency [Hz]	File Name	Remarks
7/14/05	9:30	1845	X	Pre	0.15	5-2000		
			X	Random	6.8	5-2000		
			X	Post	0.15	5-2000		
			Y					
			Y					
			Y					
		1846	X					
			X					
			X					
			Y					
			Y					
	12:00		Y					
7/15/05	10:50		Z					
			Z					
			Z					
		1845	Z					
			Z					
	12:00		Z					

## Appendix C – Procedure Variation



**GLAST LAT Project GASU/PDU Vibration Testing  
Installation Steps and Procedure Variations**

Date	Axis	Test Setup	Installation Step Description	RE/QA Approval
7/24/05	N/A	[Signature]	Incoming Visual inspection (e.g. ensure taped gaps are still sealed)	
	Z	[Signature]	Torque vibration fixture bolts to shaker to 25 ft-lbf (300 in-lbf)	
	Z	[Signature]	Torque GASU/PDU to vibration fixture to <del>107</del> in-lbf <sup>11</sup>	
	Z	[Signature]	Confirm accelerometer installation	
	X	[Signature]	Torque vibration fixture bolts to shaker to 25 ft-lbf	
	X	[Signature]	Torque GASU/PDU to vibration fixture to <del>107</del> in-lbf <sup>11</sup>	
	X	[Signature]	Confirm accelerometer installation	
	Y	[Signature]	Torque vibration fixture bolts to shaker to 25 ft-lbf	
	Y	[Signature]	Torque GASU/PDU to vibration fixture to <del>107</del> in-lbf <sup>11</sup>	
	Y	[Signature]	Confirm accelerometer installation	
Date	Axis	Test Setup	Test Variation Description	RE/QA Approval

## Appendix D – Test Data Package Checklist



**GLAST LAT Project GASU/PDU Vibration Testing**  
**Qualification/Acceptance Test Data Package Checklist**  
 (Items supplied by Wyle Labs at end of test)

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

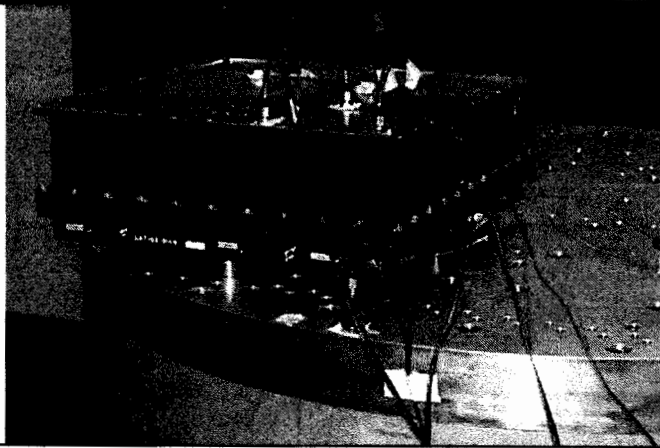


**TEST DATA**

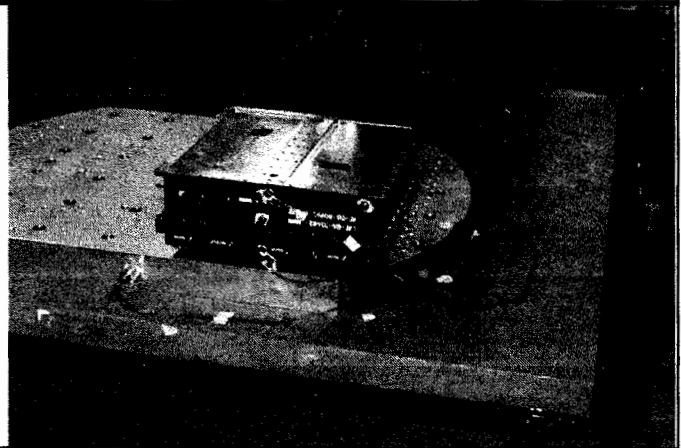
<b>DATE STARTED</b> 07-14-05	<b>CUSTOMER</b> Stanford Linear Accelerator	<b>TECHNICIAN (SIGNATURE)</b> <i>D. Wiltshire</i> WSC T-21			
<b>DATE COMPLETED</b> 07-14-05	<b>SPECIMEN DESCRIPTION</b> TEM / TPS, SIU / SIB	<b>ENGINEER (SIGNATURE)</b> <i>D. McChesney</i> WSC Q-02			
<b>TEMPERATURE</b> 74°F	<b>TYPE OF TEST</b> VISUAL EXAMINATION - Initial	<b>ENGINEER</b> <i>D. McChesney</i>			
<b>HUMIDITY</b> 36% R.H.	<b>MANUFACTURER</b> Stanford Linear Accelerator	<b>JOB NUMBER</b> 49995.52097			
<b>SPECIMEN NUMBER</b> 1 - 3	<b>TEST SPECIFICATION</b> SOP 6-08, REV. L				
<b>SPECIMEN NUMBER</b>	<b>SERIAL NUMBER</b>	<b>PART OR MODEL NUMBER</b>	<b>LOT NUMBER</b>	<b>DATE CODE</b>	<b>REMARKS</b>
1	GLAT 1845	-	-	-	
2	GLAT 1846	-	-	-	
3	-	-	-	-	Note: No discrepancies noted.

## TEST DATA

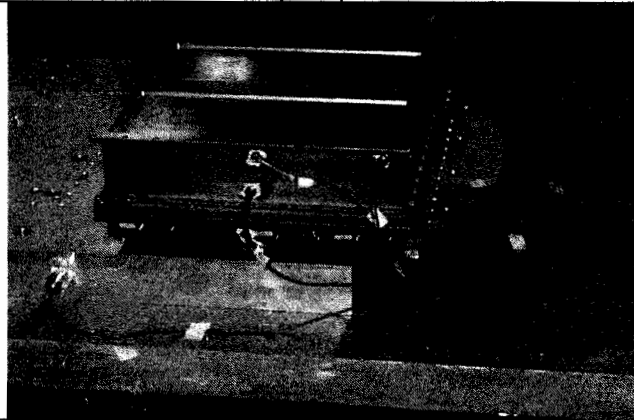
DATE STARTED 07-14-05	CUSTOMER Stanford Linear Accelerator	TECHNICIAN (SIGNATURE) <i>D. Wittshire</i> WSC T-21
DATE COMPLETED 07-14-05	SPECIMEN DESCRIPTION TEM & TPS, SIU / SIB { See Initial Visual }	ENGINEER (SIGNATURE) <i>Simech Esney</i> WSC Q-02
TEMPERATURE 74°F	TYPE OF TEST SET-UP - Detail	ENGINEER <i>Simech Esney</i>
HUMIDITY 36% R.H.	MANUFACTURER Stanford Linear Accelerator	JOB NUMBER 49995.52097
SPECIMEN NUMBER 1 - 3	TEST SPECIFICATION See Vibration Data	



Z - Axis



X - Axis



Y - Axis



## TEST DATA

<b>DATE STARTED</b> 07-14-05		<b>CUSTOMER</b> Stanford Linear Accelerator			<b>TECHNICIAN (SIGNATURE)</b> <i>D. Wiltshire</i> [WSC] [T-21]	
<b>DATE COMPLETED</b> 07-15-05		<b>SPECIMEN DESCRIPTION</b> TEM / TPS, SIU / SIB { See Initial Visual }			<b>ENGINEER (SIGNATURE)</b> <i>S. McChesney</i> [WSC] [U-02]	
<b>TEMPERATURE</b> 74°F		<b>TYPE OF TEST</b> <b>VIBRATION - Sine and Random - Non-Op.</b>			<b>ENGINEER</b> <i>S. McChesney</i>	
<b>HUMIDITY</b> 36% R.H.		<b>MANUFACTURER</b> Stanford Linear Accelerator			<b>JOB NUMBER</b> 49995.52097	
<b>SPECIMEN NUMBER</b> 1 - 3		<b>TEST SPECIFICATION</b> SLAC LAT-TD-05649 & Customer Instruction				
SPECIMEN NUMBER	DATE	AXIS	TIME START	TIME STOP	VIBRATION FREQUENCIES AND LEVELS	REMARKS
1	07-14-05	X	0933	+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
		X	0947	+0:01:00		Random Accept.
		X	1000	+0:04:18		Sine Search
		Y	1019	+0:04:18		Sine Search
		Y	1033	+0:01:00		Random Accept.
1		Y	1040	+0:04:18		Sine Search
2		X	1105	+0:04:18		Sine Search
		X	1120	+0:01:00		Random Accept.
		X	1127	+0:04:18		Sine Search
		Y	1142	+0:04:18		Sine Search
		Y	1154	+0:01:00	Random Accept.	
2	07-14-05	Y	1202	+0:04:18	Sine Search	
3	07-15-05	Z	0943	+0:01:00	<i>specimen #3            SIU Test only            (non-flt. box)</i>	Random Accept.
3	07-15-05	Z	1025	+0:01:00		Random Accept.



## TEST DATA

<b>DATE STARTED</b> 07-14-05		<b>CUSTOMER</b> Stanford Linear Accelerator				<b>TECHNICIAN (SIGNATURE)</b> <i>D. Wiltshire</i> <span style="border: 1px solid black; padding: 2px;">MSC T-21</span>	
<b>DATE COMPLETED</b> 07-15-05		<b>SPECIMEN DESCRIPTION</b> TEM / TPS, SIU / SIB { See Initial Visual }				<b>ENGINEER (SIGNATURE)</b> <i>Wm Chesney</i> <span style="border: 1px solid black; padding: 2px;">MSC Q-02</span>	
<b>TEMPERATURE</b> 74°F		<b>TYPE OF TEST</b> <b>VIBRATION - Sine and Random – Non-Op.</b>				<b>ENGINEER</b> <i>Wm Chesney</i>	
<b>HUMIDITY</b> 36% R.H.		<b>MANUFACTURER</b> Stanford Linear Accelerator				<b>JOB NUMBER</b> 49995.52097	
<b>SPECIMEN NUMBER</b> 1 - 3		<b>TEST SPECIFICATION</b> SLAC LAT-TD-05649 & Customer Instruction					
SPECIMEN NUMBER	DATE	AXIS	TIME START	TIME STOP	VIBRATION FREQUENCIES AND LEVELS	REMARKS	
1	07-15-05	Z	1050	+0:04:18	Sine - Search 20 - 2000Hz @ 0.15g 2 octaves / minute 1 sweep up / axis	Sine Search	
			1100	+0:01:01		Random Accept.	
1			1112	+0:04:18		Sine Search	
2		<b>Z</b>	1130	+0:04:18	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	
			1144	+0:01:01		Random Accept.	
2		Z	1150	+0:04:18		Sine Search	
3		X	1231	+0:01:00		Random Accept.	
		Y	1243	+0:01:00		Random Accept.	
		X	1304	+0:01:00		Random Accept.	
3	07-15-05	Y	1314	+0:01:00		Random Accept.	
						Note: Specimens were returned to customer for a post test evaluation	





**EQUIPMENT LIST**

JOB NUMBER 49995.52097

TEST DESCRIPTION Random & Sine Vibration

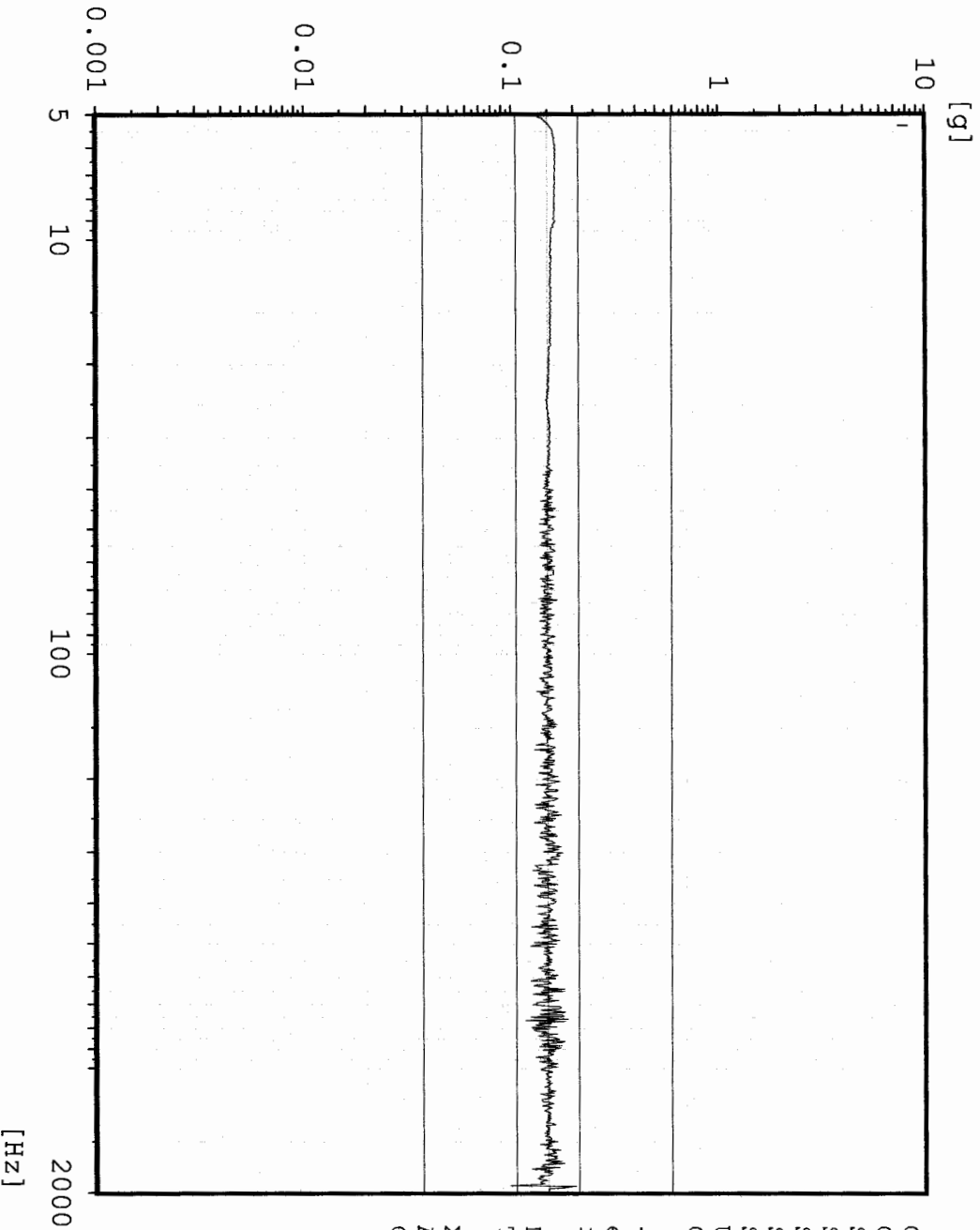
EQUIPMENT DESCRIPTION	MANUFACTURER	MODEL NUMBER	ASSET NUMBER	RANGE	ACCURACY	CALIBRATION DATE	CALIBRATION PERIOD
Vibration System	Unholtz-Dickie	T1000	4-6242	17,500 Force Lbs: 2Hz -3KHz	± 10%	07-14-05	T.O.T
Accelerometer	Endevco Corp.	2271A	4-42129	1,000 g's Max: 2Hz - 5.5KHz	± 5%	11-01-04	1 Yr.
	Endevco Corp.	2226C	4-42130	1,000 g's Max: 3Hz - 6KHz	± 5%	06-23-05	1 Yr.
	Endevco Corp.	2226C	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.	2226C	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%	03-04-05	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	4-6461	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.

# Sine CX1 X-Axis Control

Stanford Linear Accelerator

J/N 49995.52097

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

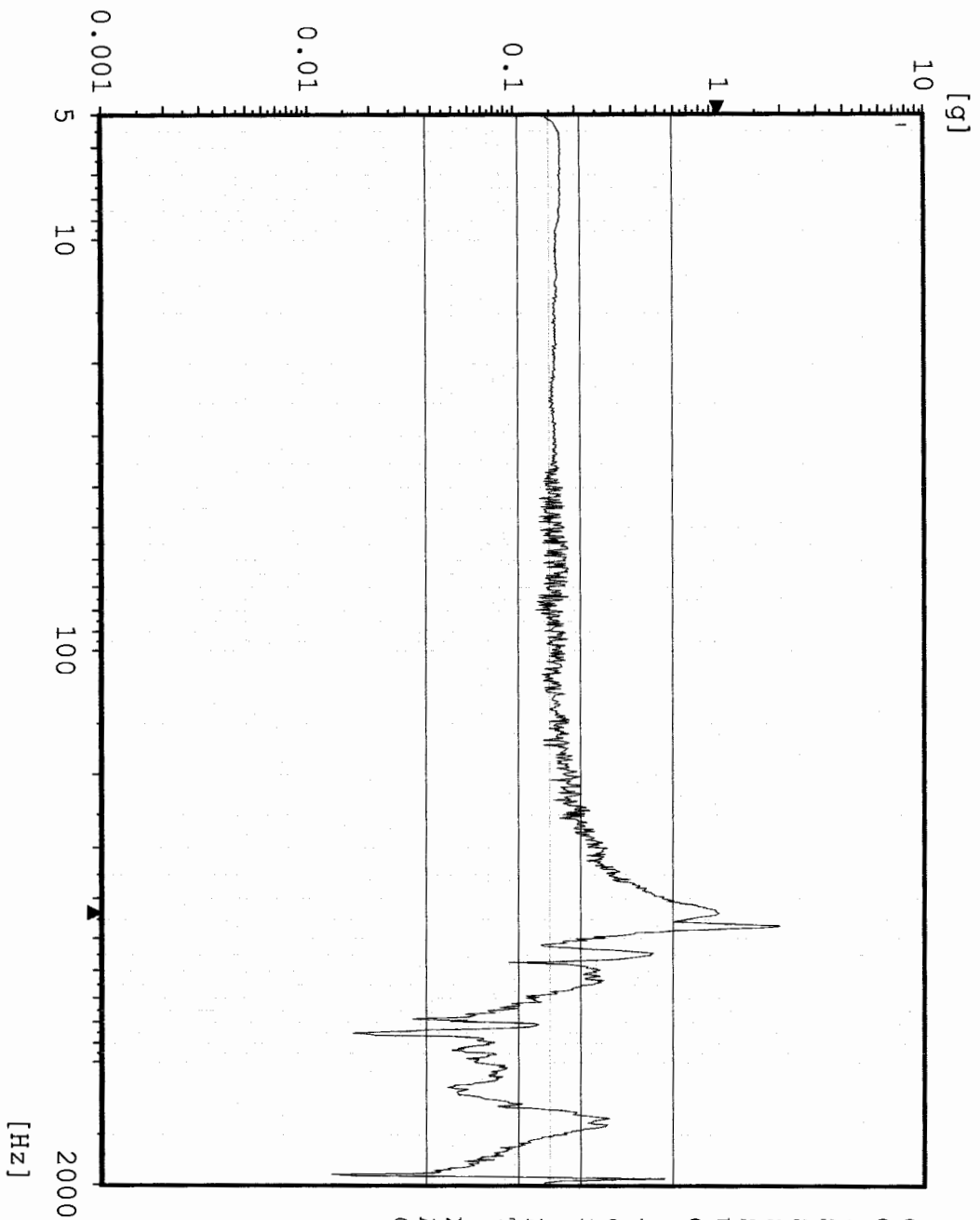
-- Testing time --  
elapsed: 000:04:18  
remaining: 000:00:00

Date: 07-14-05  
Time: 11:09:54

X - axis Pre Random  
Acceptance Unit  
GLAT 1846

# Sine AX3 TPS top center

Stanford Linear Accelerator  
J/N 49995.52097  
TEM / TPS



Chan.no: 2 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

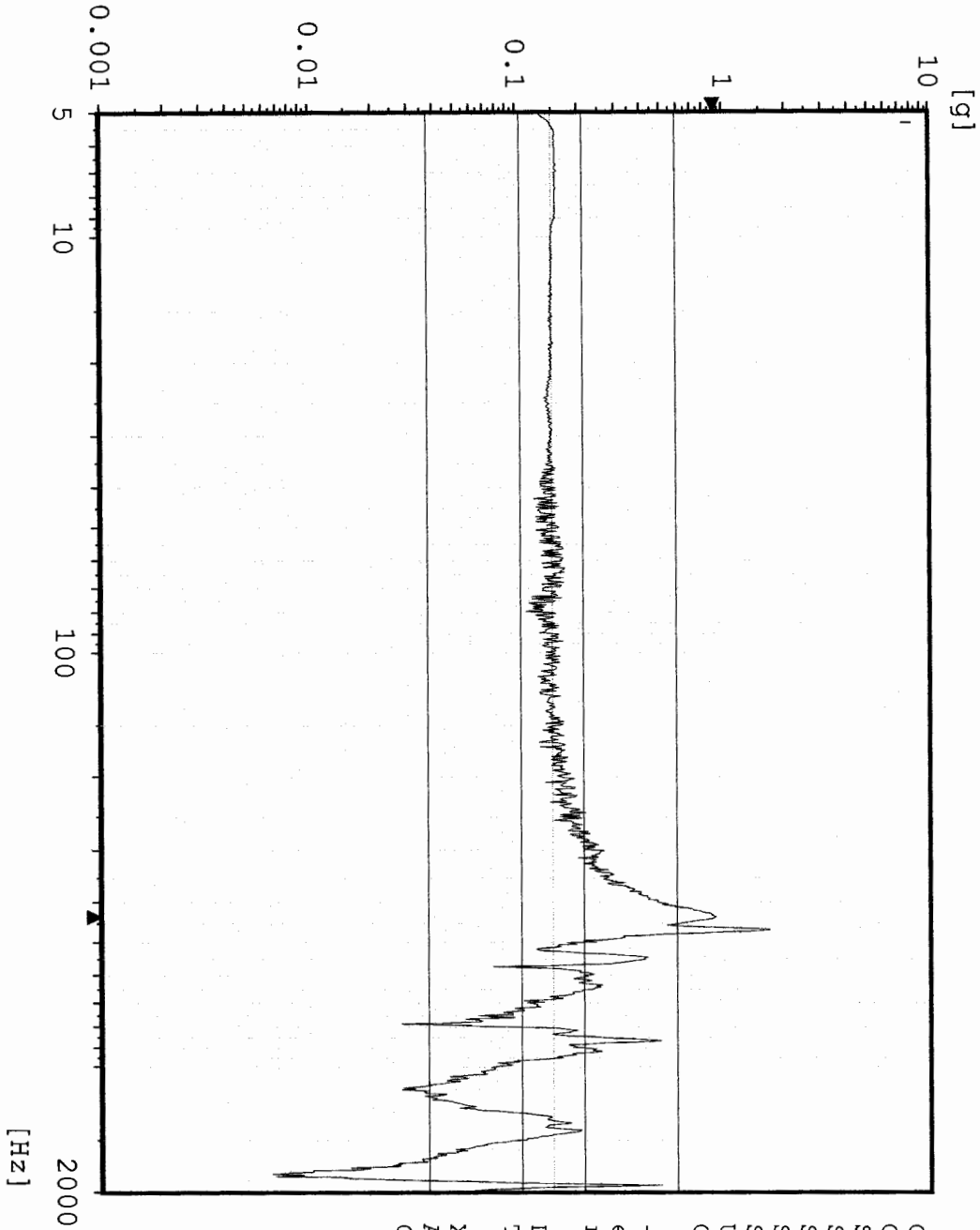
-- Testing time --  
 elapsed: 000:04:18  
 remaining: 000:00:00

Date: 07-14-05  
 Time: 11:09:54

X - axis Pre Random  
 Acceptance Unit  
 GIAT 1846

# Sine AX4 TPS top edge

Stanford Linear Accelerator  
J/N 49995.52097  
TEM / TPS



```

Chan.no: 3 M 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: 07-14-05
Time: 11:09:54

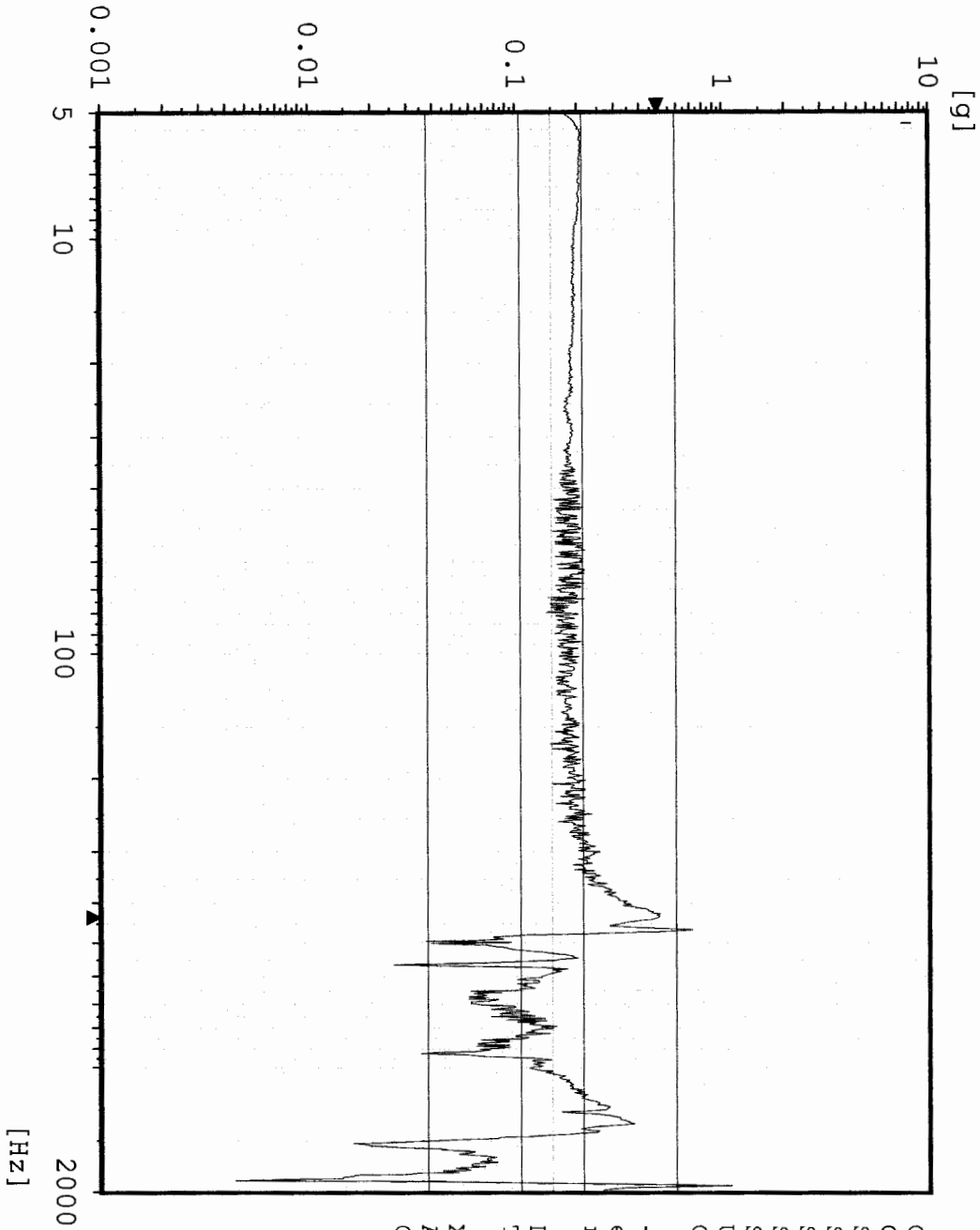
X - axis Pre Random
Acceptance Unit
GLAT 1846
  
```

# Sine AXI TEM center edge

Stanford Linear Accelerator

J/N 49995.52097

TEM / TPS



[g]

[Hz]

Chan.no: 5 M 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: 07-14-05  
 Time: 11:09:54

X - axis Pre Random  
 Acceptance Unit  
 GLAT 1846

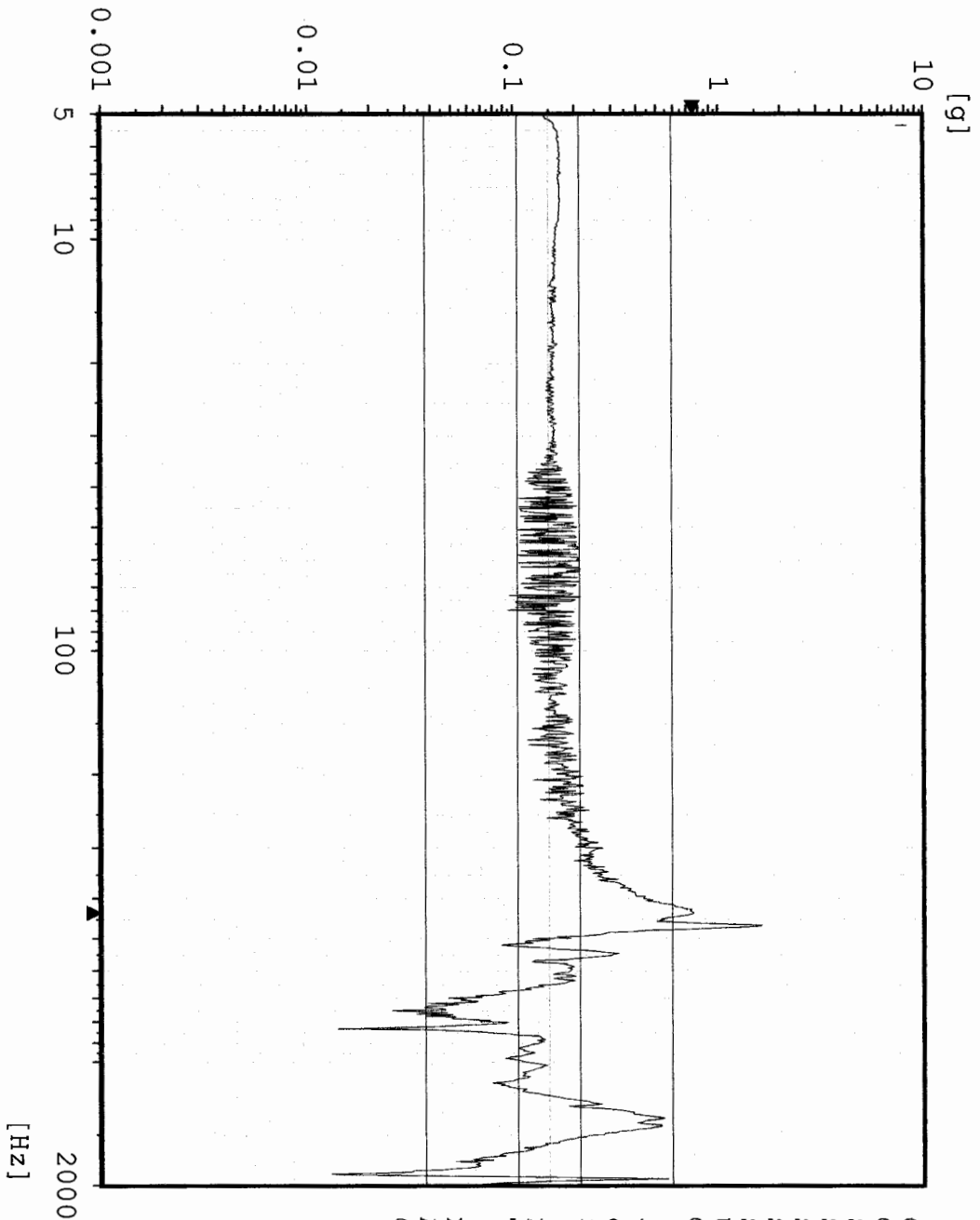
Sine

AX2 TPS CG

Stanford Linear Accelerator

J/N 49995.52097

TEM / TPS



Chan.no: 10 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: 07-14-05  
 Time: 11:09:54

X - axis Pre Random  
 Acceptance Unit  
 GIAT 1846

Random

# CX1 X-Axis Control

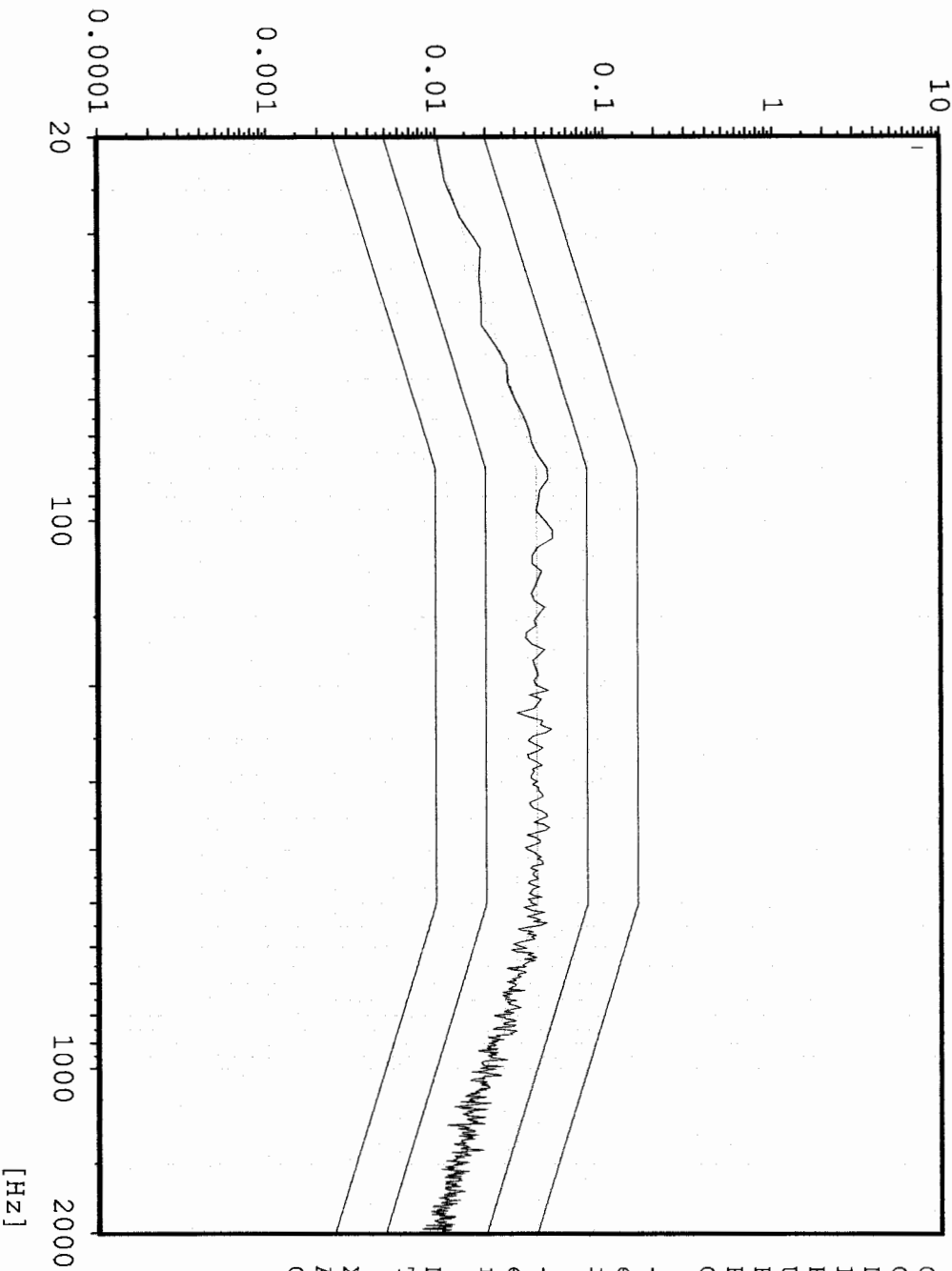
Stanford Linear Accelerator

J/N 49995.52097

TEM & TPS



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



```

Chan.no:      1
Chan.type:    C
DOF:          126
Level:        0.0 dB
Resolution:   4 Hz
Unit:         g2/Hz
RMS (act.):   6.82 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:      000:02:55
remaining:    000:00:00
  
```

```

Date:         07-14-05
Time:         11:21:02
  
```

```

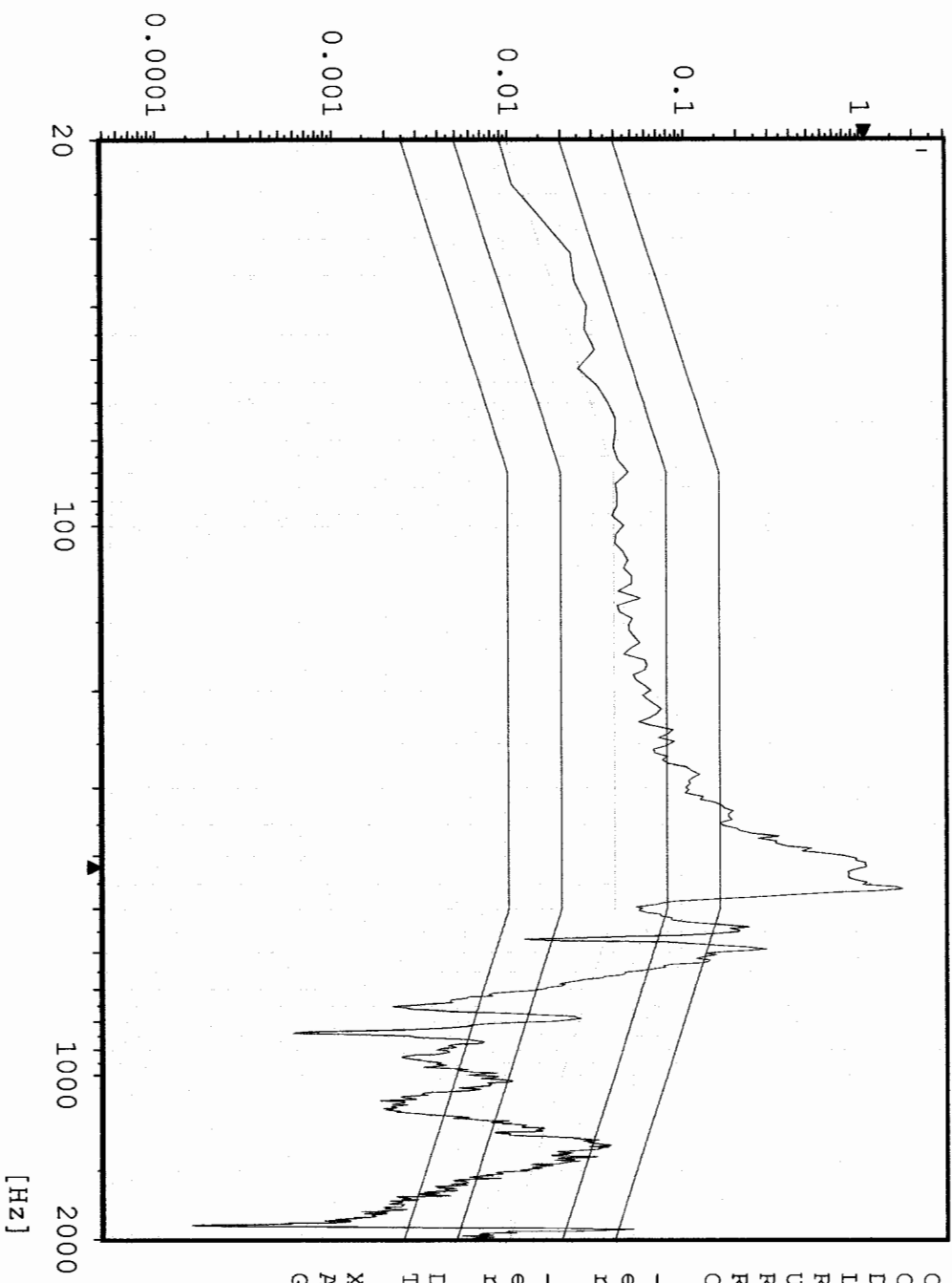
X - Axis
Acceptance Unit
GLAT 1846
  
```

# Random AX4 TPS Top Center

Stanford Linear Accelerator  
J/N 49995.52097  
TEM & TPS



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



```

Chan.no:      2
Chan.type:    M
DOF:         100
Level:       0.0 dB
Resolution:   4 Hz
Unit:        g2/Hz
RMS (act.):   12.22 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:      000:02:55
remaining:    000:00:00

```

```

Date:         07-14-05
Time:         11:21:02

```

```

X - Axis
Acceptance Unit
GIAT 1846

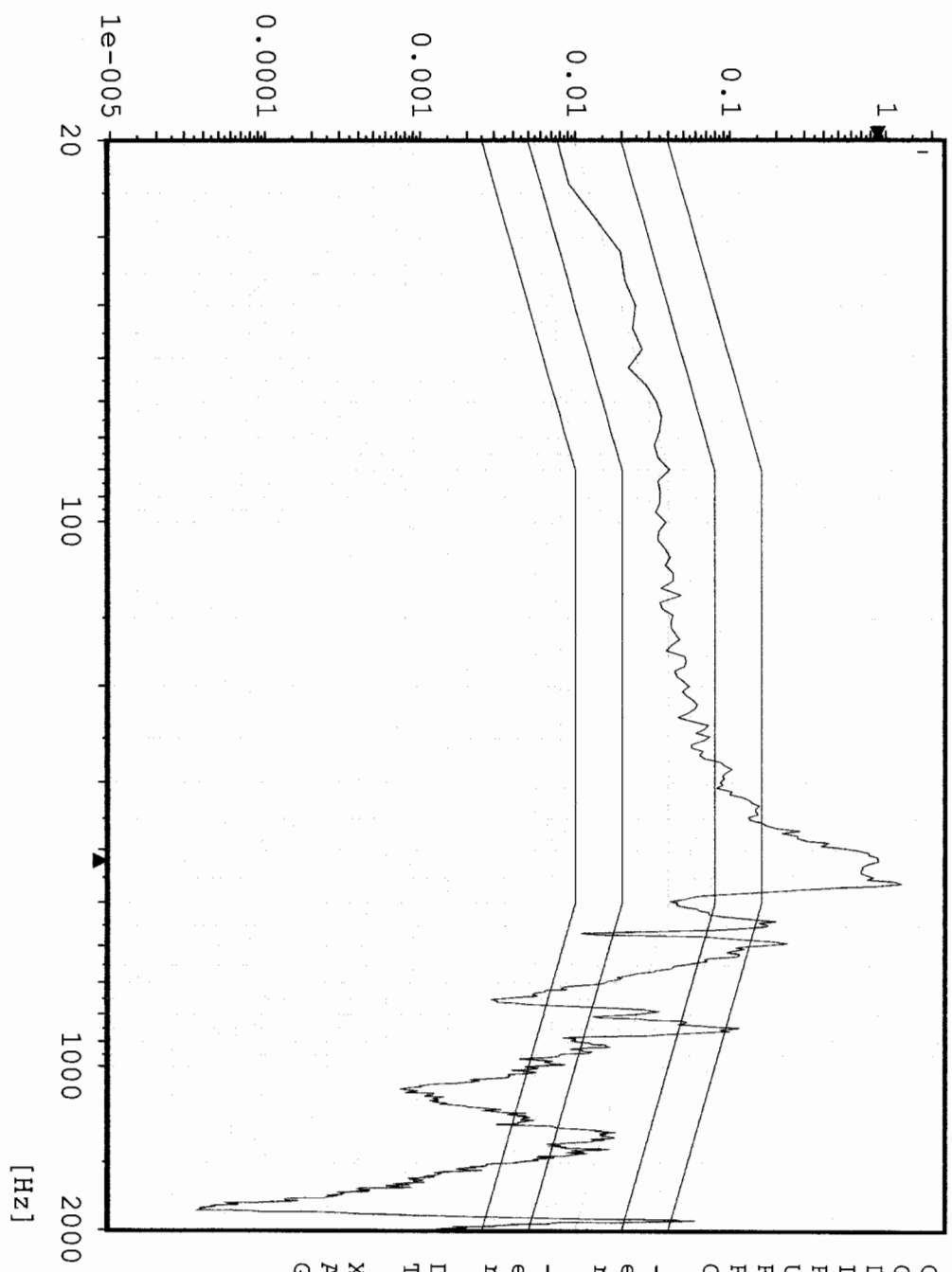
```



# Random AX3 TPS Top Edge

Stanford Linear Accelerator  
J/N 49995.52097  
TEM & TPS

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



Chan.no: 3  
 Chan.type: M  
 DOF: 100  
 Level: 0.0 dB  
 Resolution: 4 Hz  
 Unit: g<sup>2</sup>/Hz  
 RMS (act.): 11.09 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: 000:02:55  
 remaining: 000:00:00

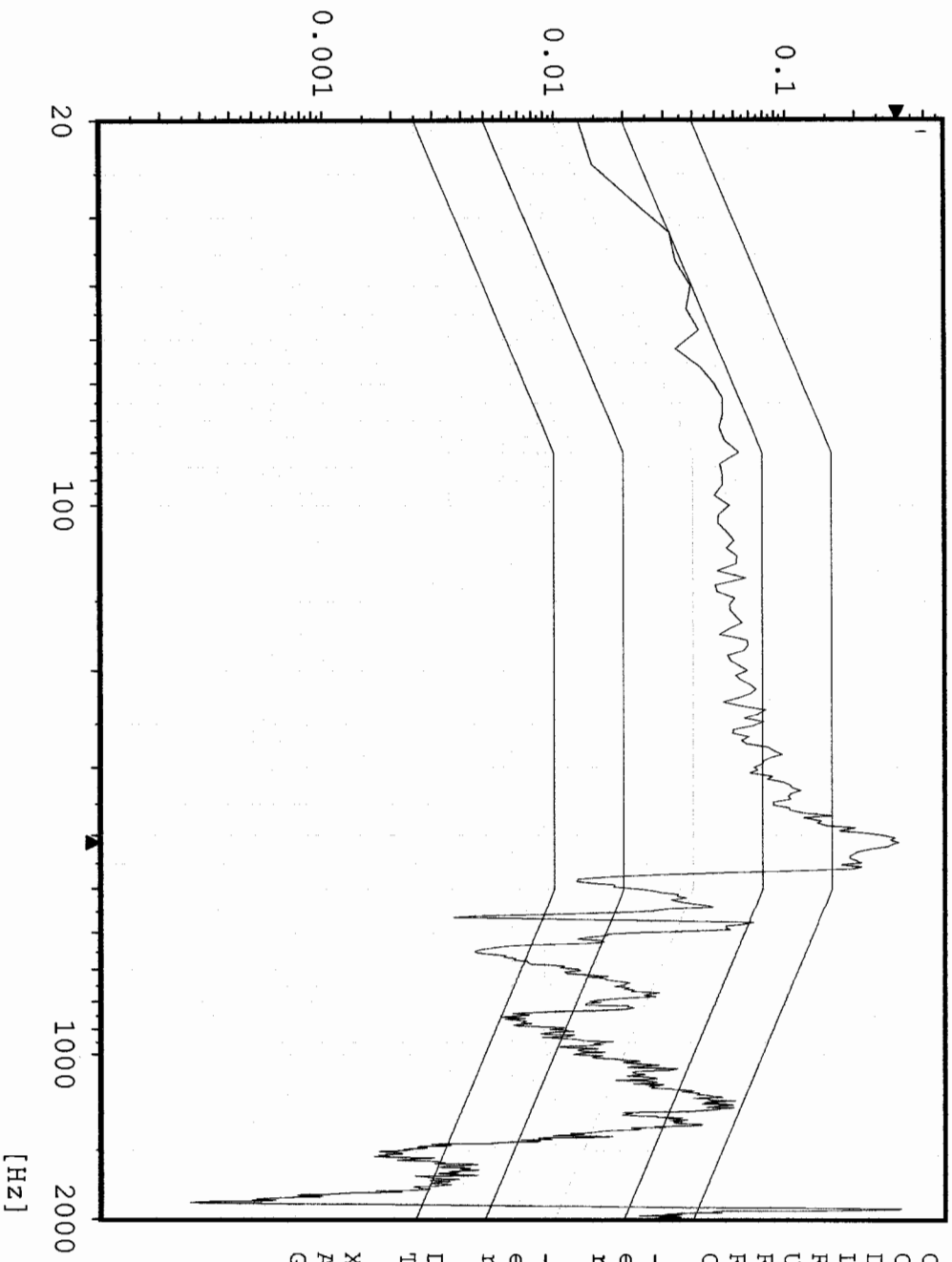
Date: 07-14-05  
 Time: 11:21:02

X - Axis  
 Acceptance Unit  
 GIAT 1846

### Random CH# 5 TEM center edge

Stanford Linear Accelerator  
J/N 49995.52097  
TEM & TPS

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



```

Chan.no:      5
Chan.type:    M
DOF:         100
Level:        0.0 dB
Resolution:   4 Hz
Unit:         g2/Hz
RMS (act.):   8.683 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:      000:02:55
remaining:    000:00:00

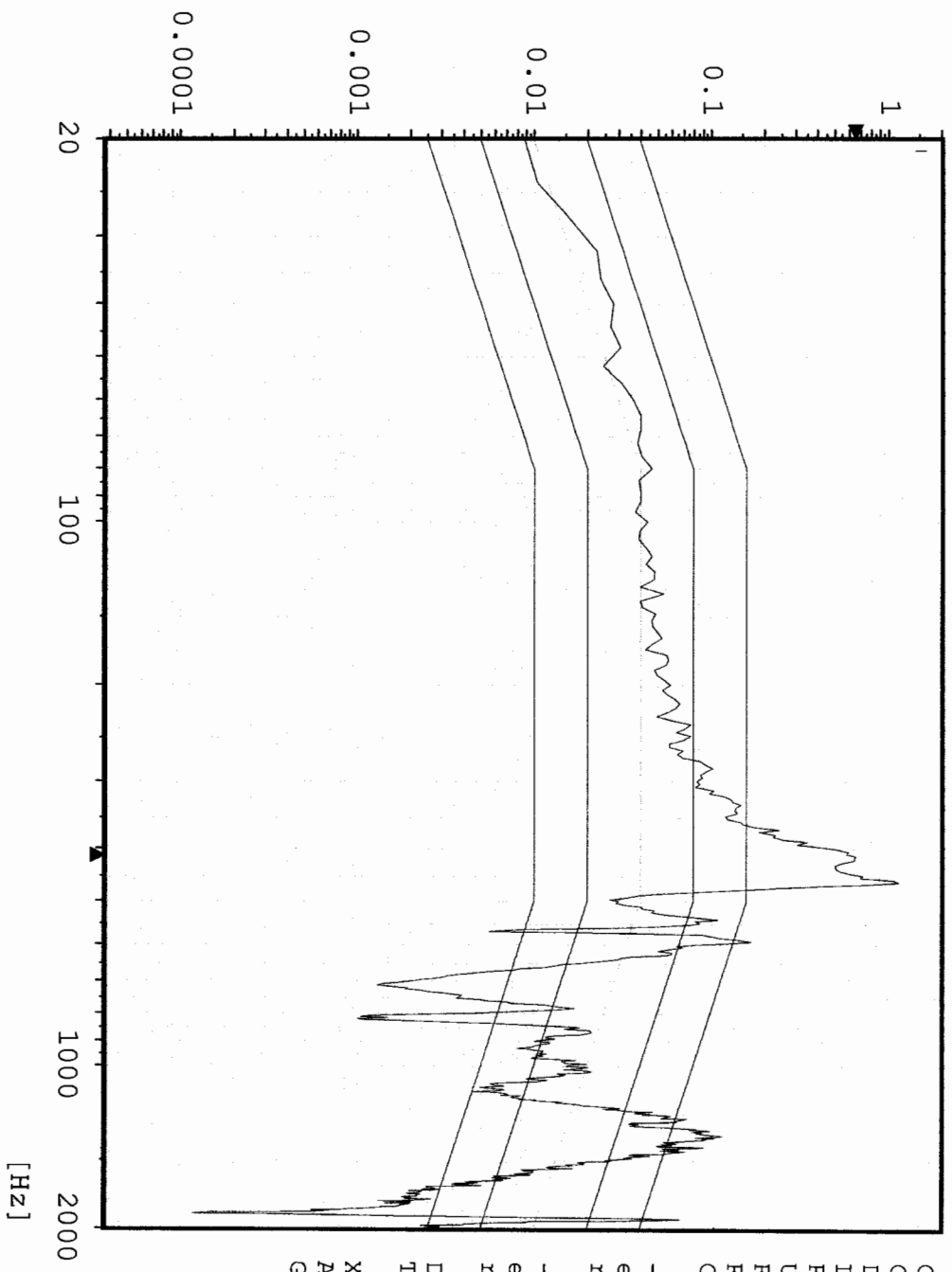
Date:         07-14-05
Time:         11:21:02

X - Axis
Acceptance Unit
GLAT 1846
  
```

# Random AX2 TPS Bottom center

Stanford Linear Accelerator  
J/N 49995.52097  
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.): 10.86 g  
 RMS (req.): 6.787 g  
 Contr.strat.: Closed loop

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

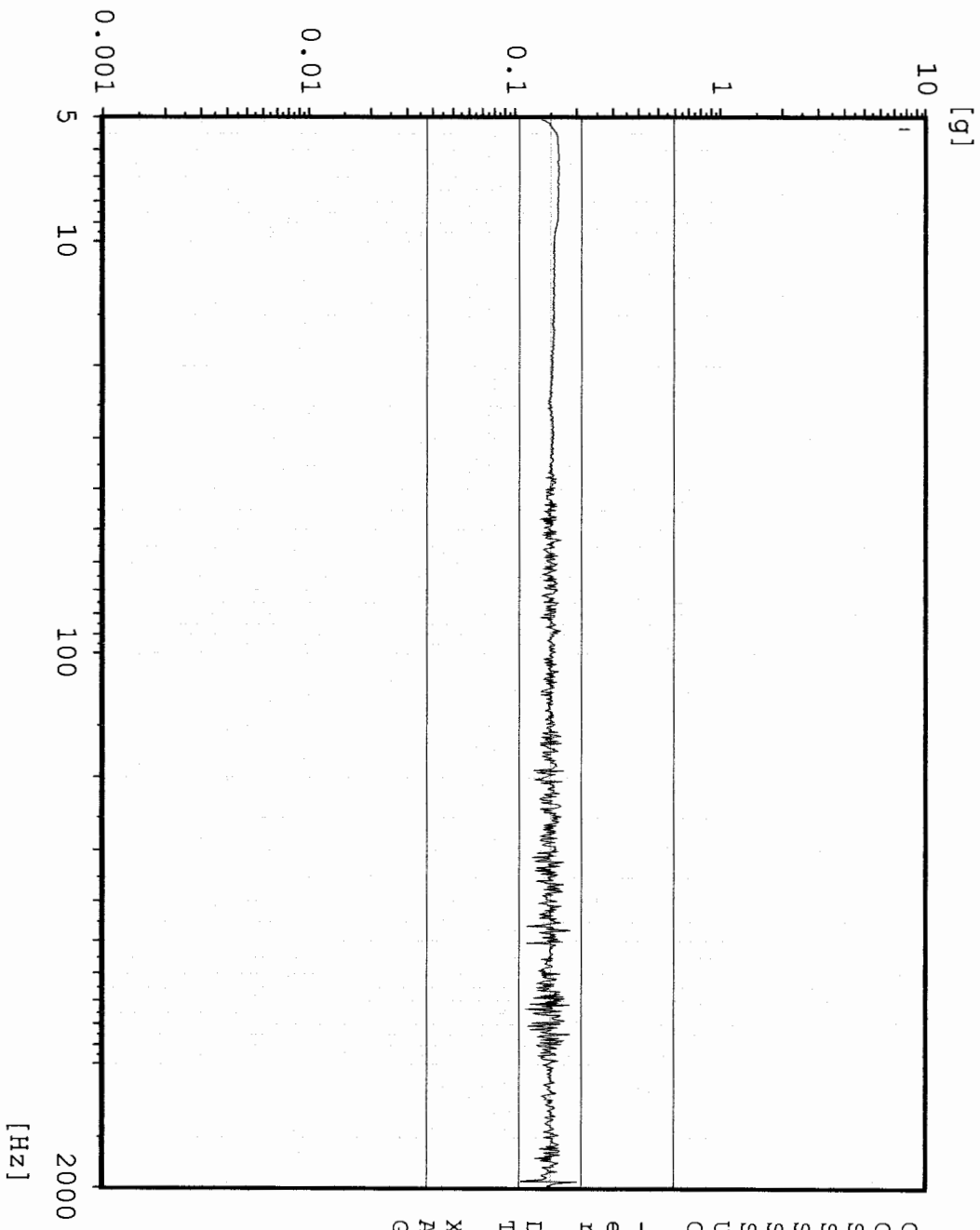
-- Time total --  
 elapsed: 000:02:55  
 remaining: 000:00:00

Date: 07-14-05  
 Time: 11:21:02

X - Axis  
 Acceptance Unit  
 GLAT 1846

# Sine CX1 X-Axis Control

Stanford Linear Accelerator  
J/N 49995.52097  
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

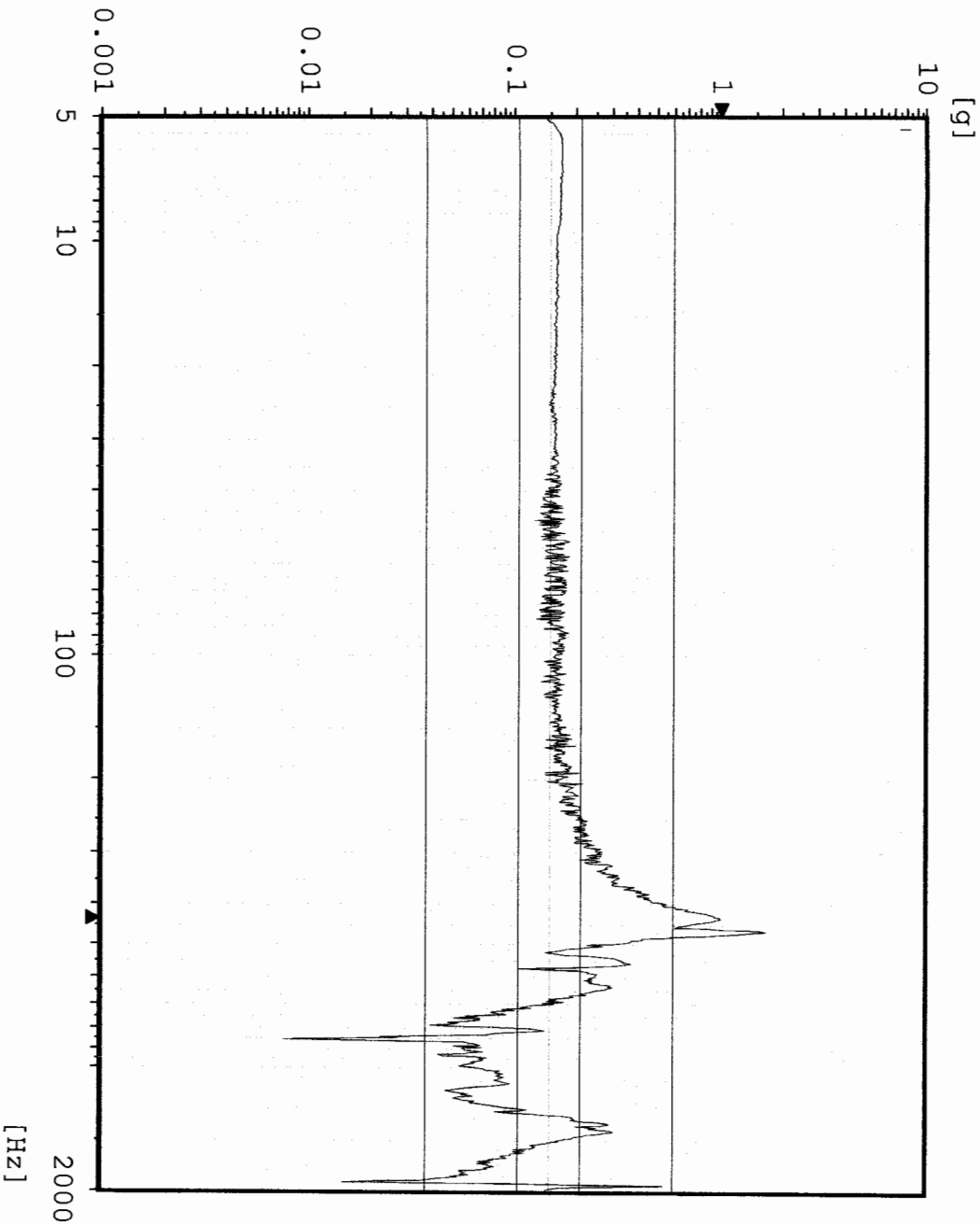
-- Testing time --  
elapsed: 000:04:18  
remaining: 000:00:00

Date: 07-14-05  
Time: 11:32:00

X - axis Post Random  
Acceptance Unit  
GLAT 1846

# Sine AX3 TPS top center

Stanford Linear Accelerator  
J/N 49995.52097  
TEM / TPS



Chan.no: 2 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

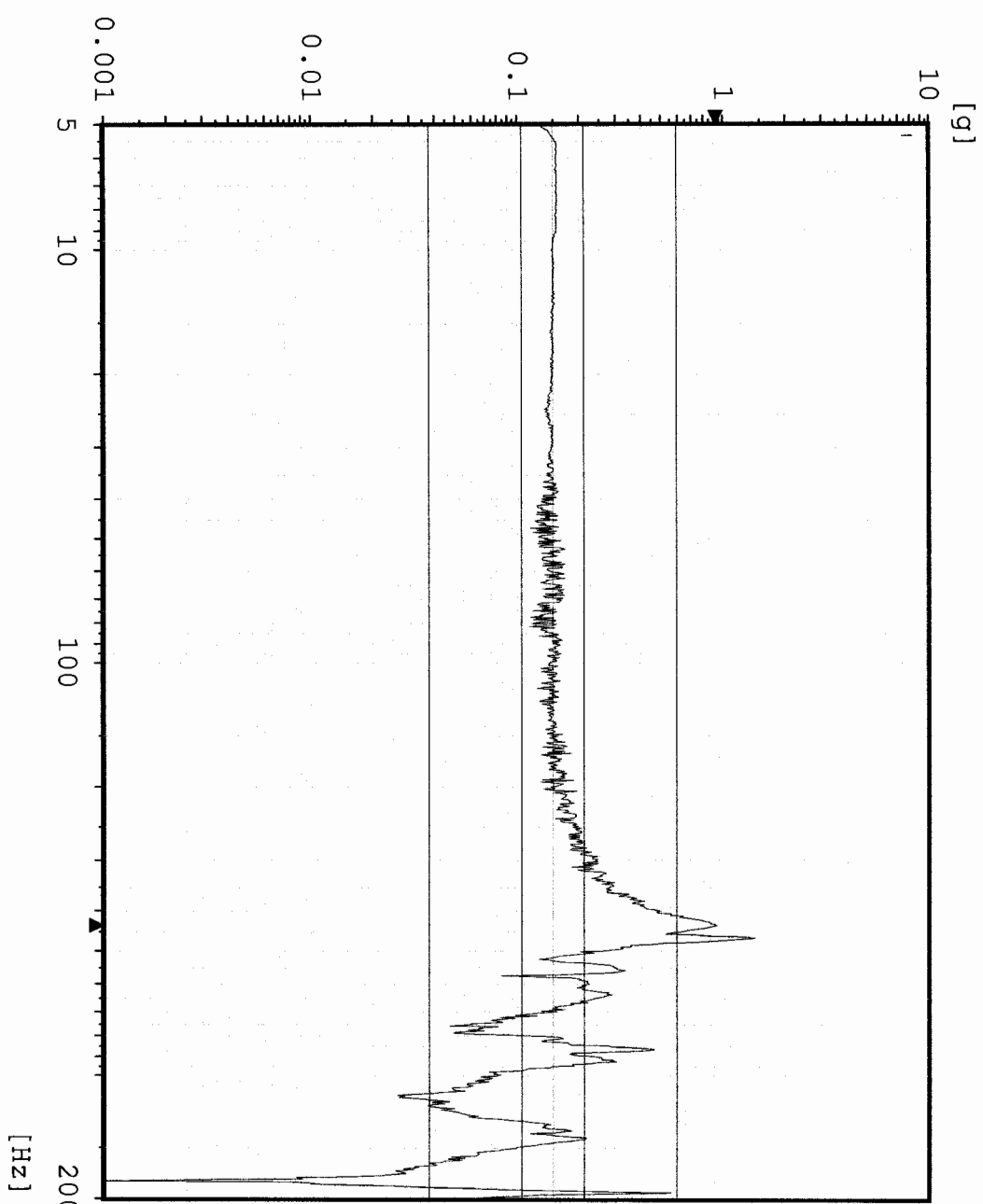
-- Testing time --  
 elapsed: 000:04:18  
 remaining: 000:00:00

Date: 07-14-05  
 Time: 11:32:00

X - axis Post Random  
 Acceptance Unit  
 GIAT 1846

# Sine AX4 TPS top edge

Stanford Linear Accelerator  
J/N 49995.52097  
TEM / TPS



```

Chan.no: 3 M 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

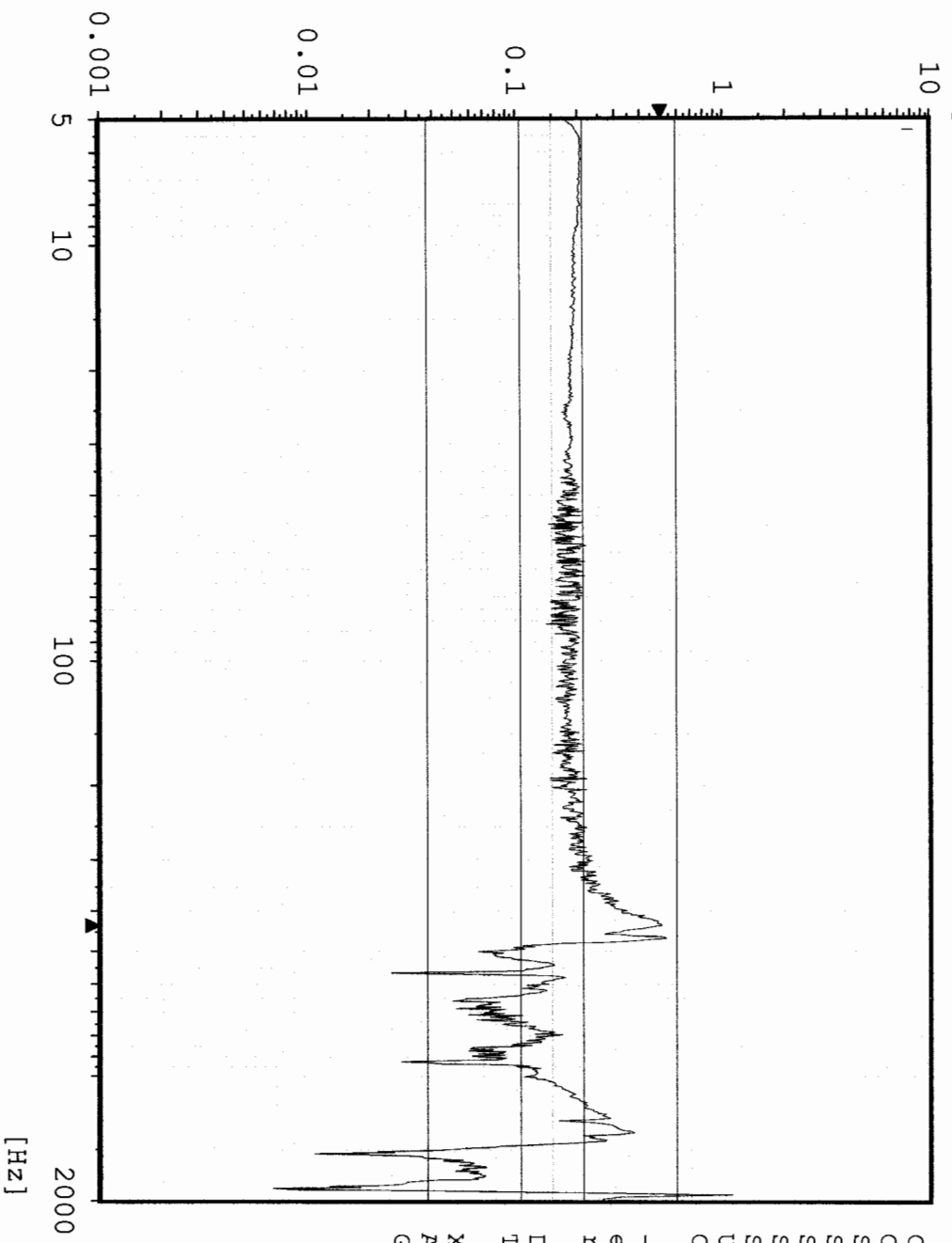
-- Testing time --
elapsed: 000:04:18
remaining: 000:00:00

Date: 07-14-05
Time: 11:32:00

X - axis Post Random
Acceptance Unit
GIAT 1846
  
```

# Sine AXI TEM center edge

Stanford Linear Accelerator  
J/N 49995.52097  
TEM / TPS



```

Chan.no: 5 M Filtered
Chan.type:
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: 07-14-05
Time: 11:32:00

X - axis Post Random
Acceptance Unit
GIAT 1846

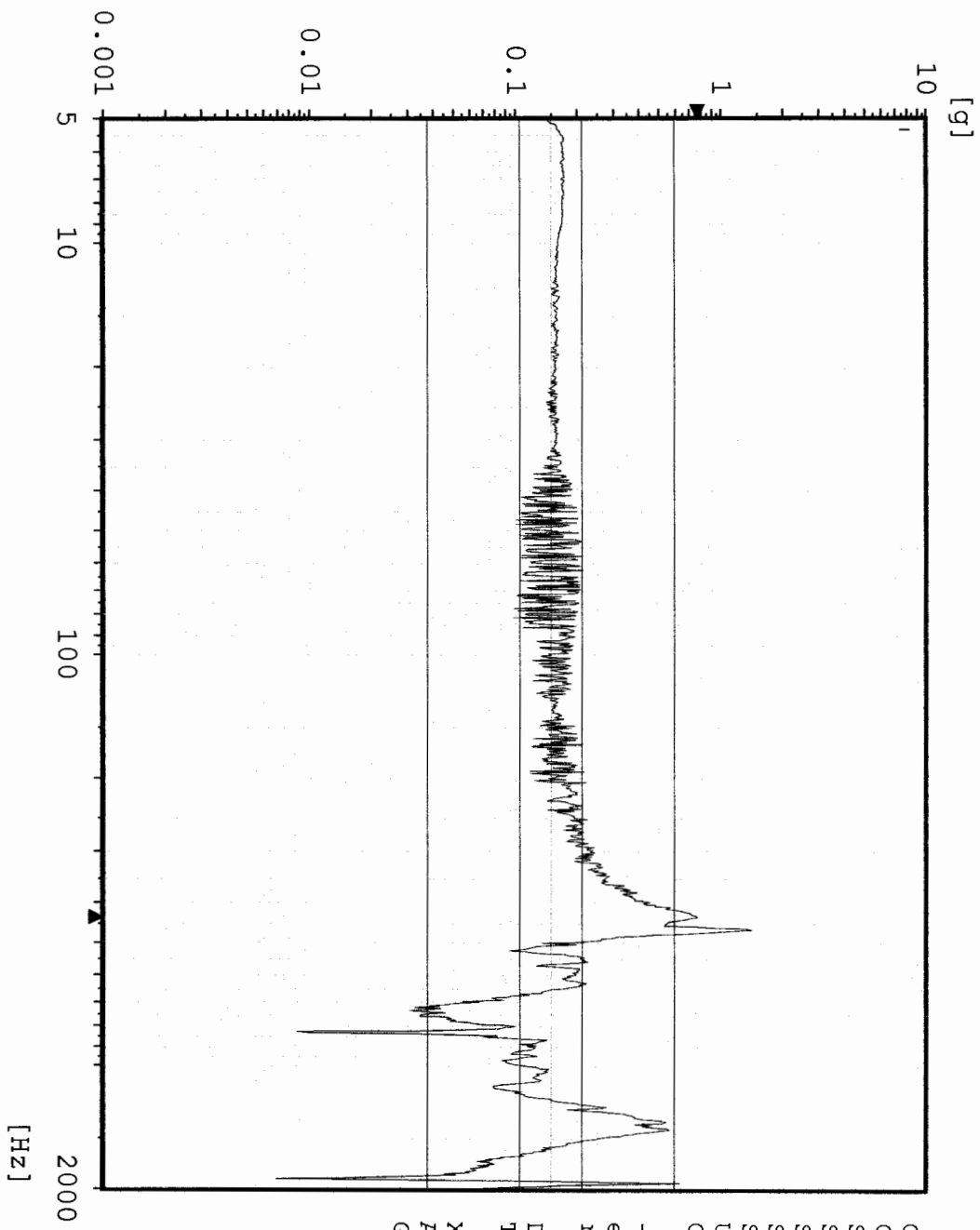
```

Sine  
Stanford Linear Accelerator

### AX2 TPS CG



J/N 49995.52097  
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: 07-14-05
Time: 11:32:00

X - axis Post Random
Acceptance Unit
GIAT 1846

```

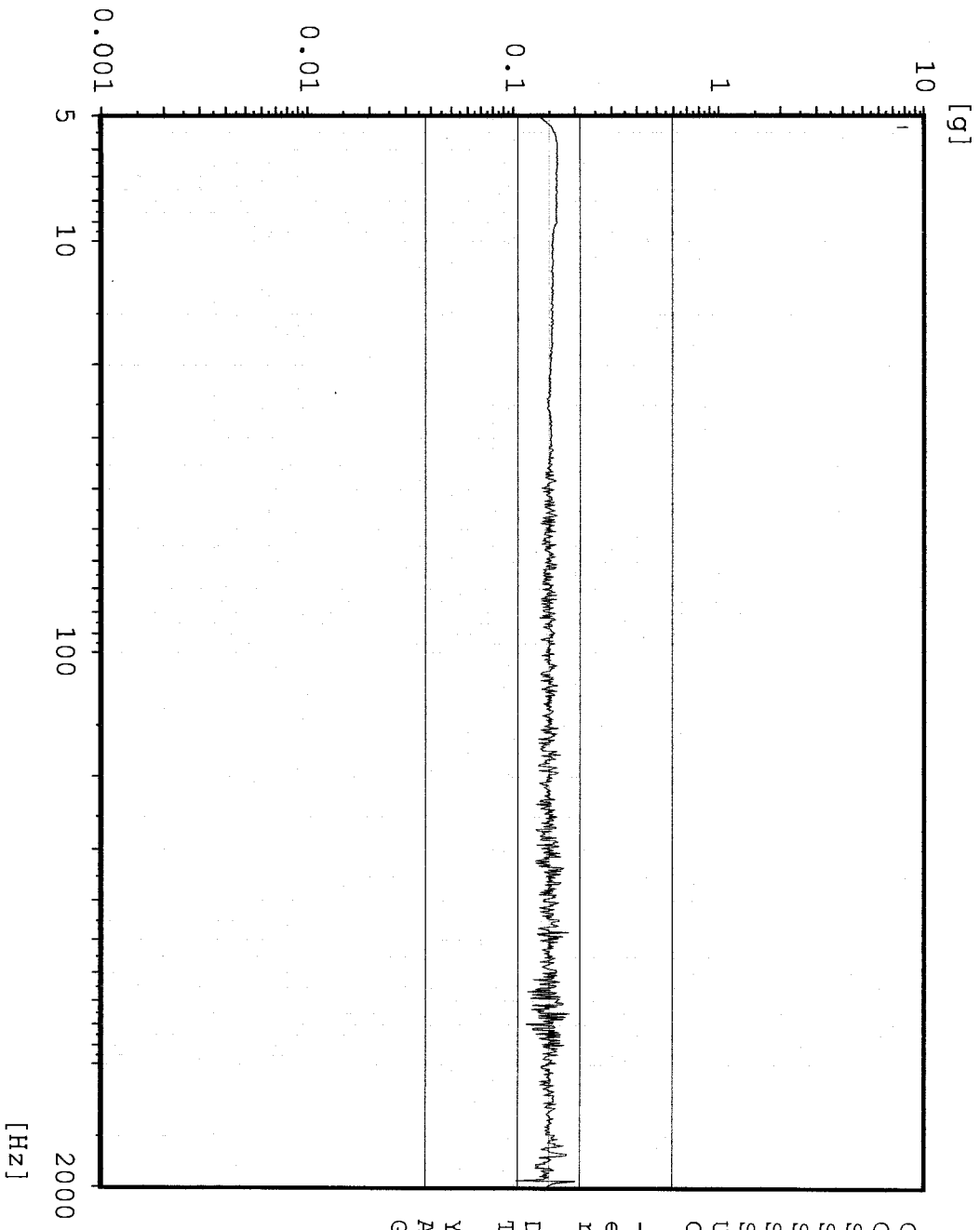


# Sine CY1 Y-Axis Control

Stanford Linear Accelerator

J/N 49995.52097

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

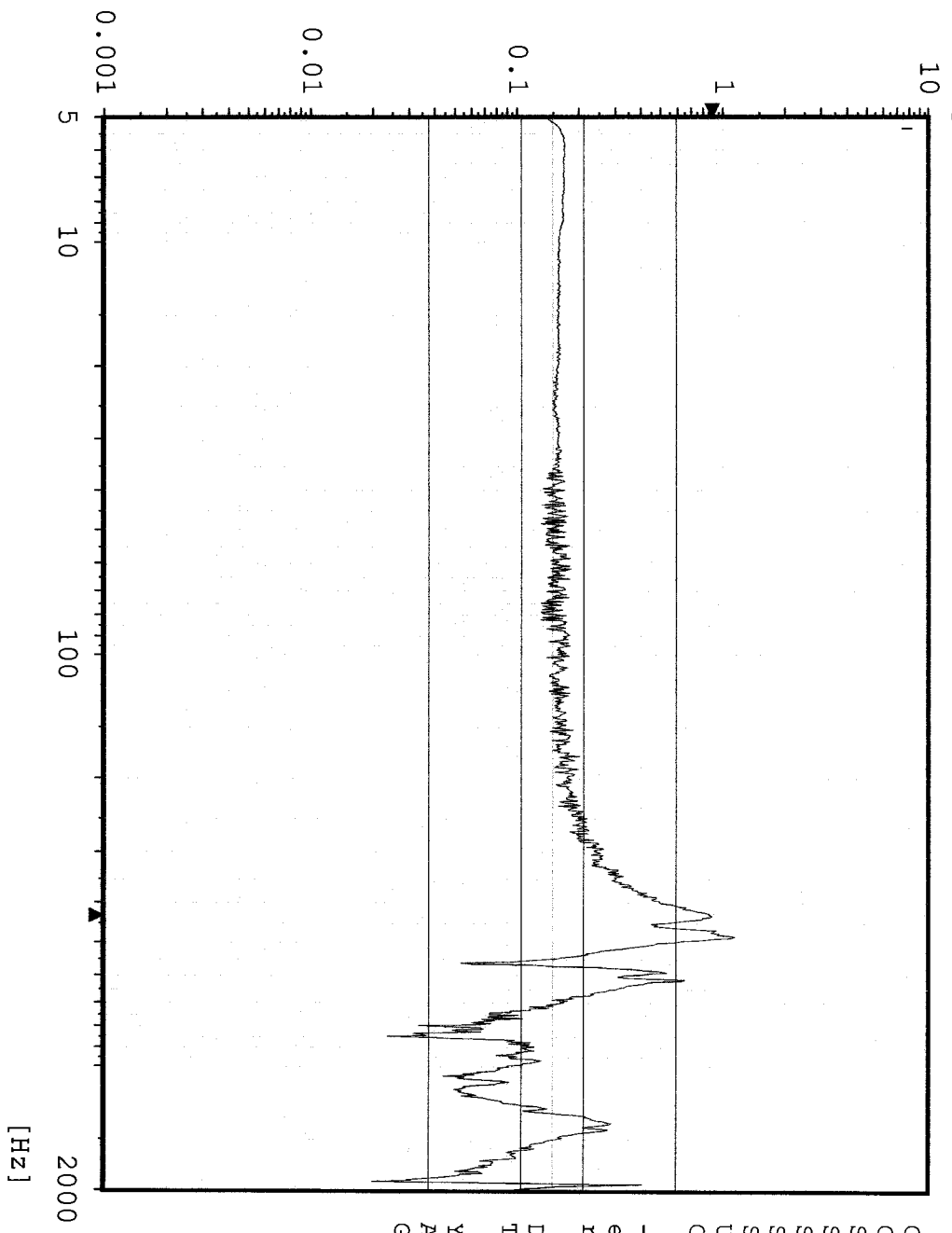
-- Testing time --  
elapsed: 000:04:18  
remaining: 000:00:00

Date: 07-14-05  
Time: 11:47:17

Y - axis Pre Random  
Acceptance Unit  
GLAT 1846

# Sine AY3 TPS Top Center

Stanford Linear Accelerator  
J/N 49995.52097  
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

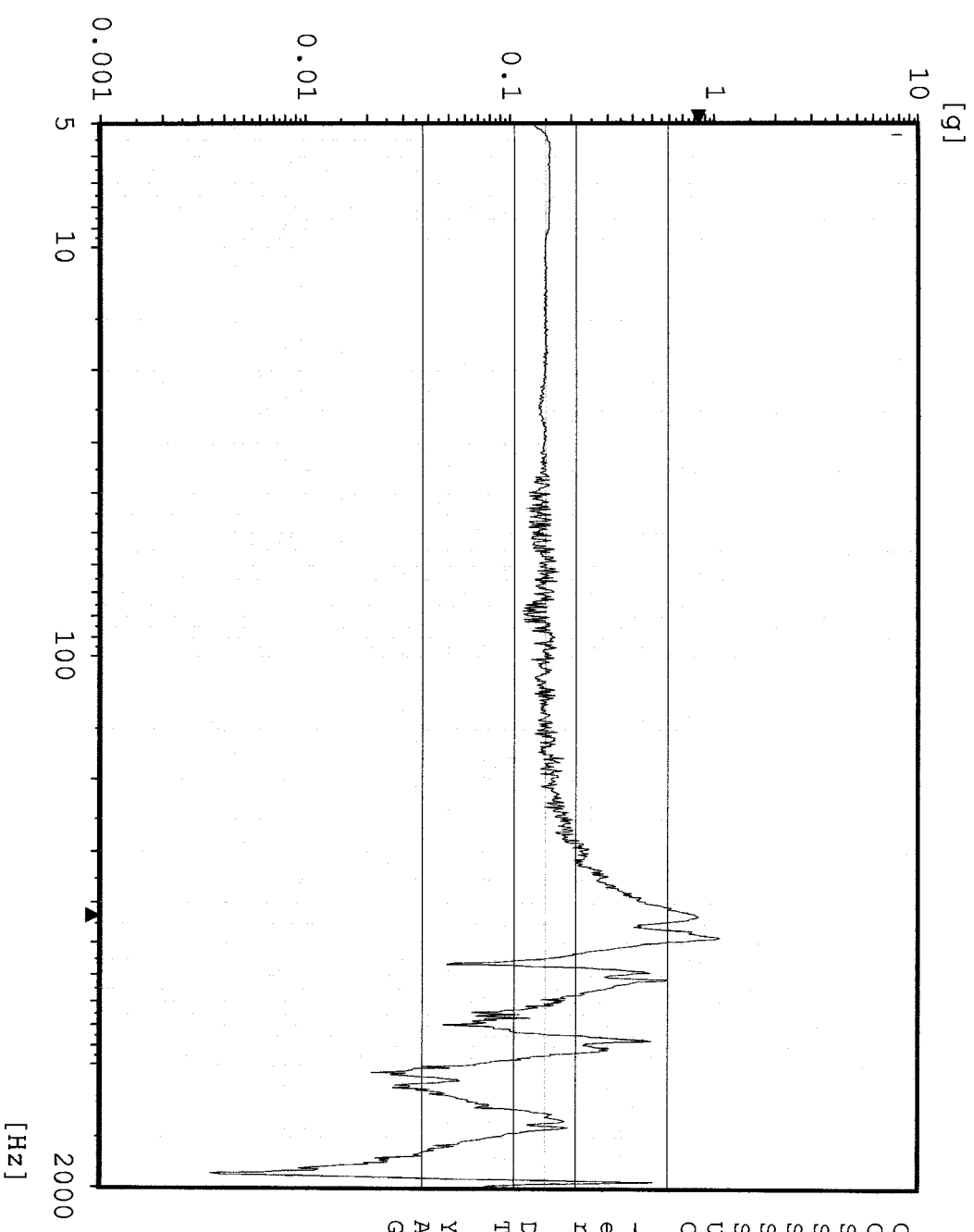
-- Testing time --
elapsed: 000:04:18
remaining: 000:00:00

Date: 07-14-05
Time: 11:47:17

Y - axis Pre Random
Acceptance Unit
GIAT 1846
  
```

# Sine AY4 TPS Top Edge

Stanford Linear Accelerator  
J/N 49995.52097  
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

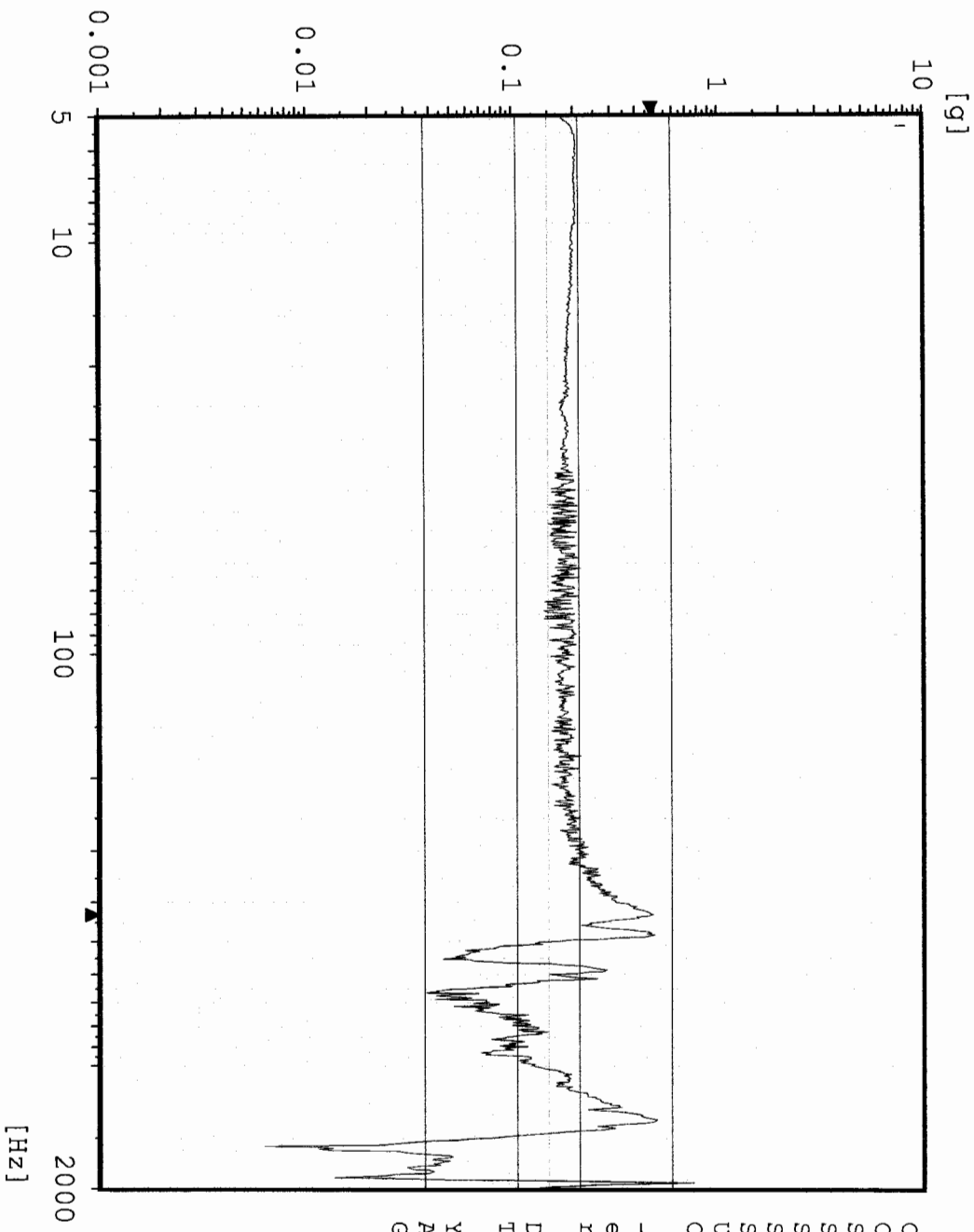
-- Testing time --
elapsed: 000:04:18
remaining: 000:00:00

Date: 07-14-05
Time: 11:47:17

Y - axis Pre Random
Acceptance Unit
GIAT 1846
  
```

# Sine AY1 TEM Center Edge

Stanford Linear Accelerator  
J/N 49995.52097  
TEM / TPS



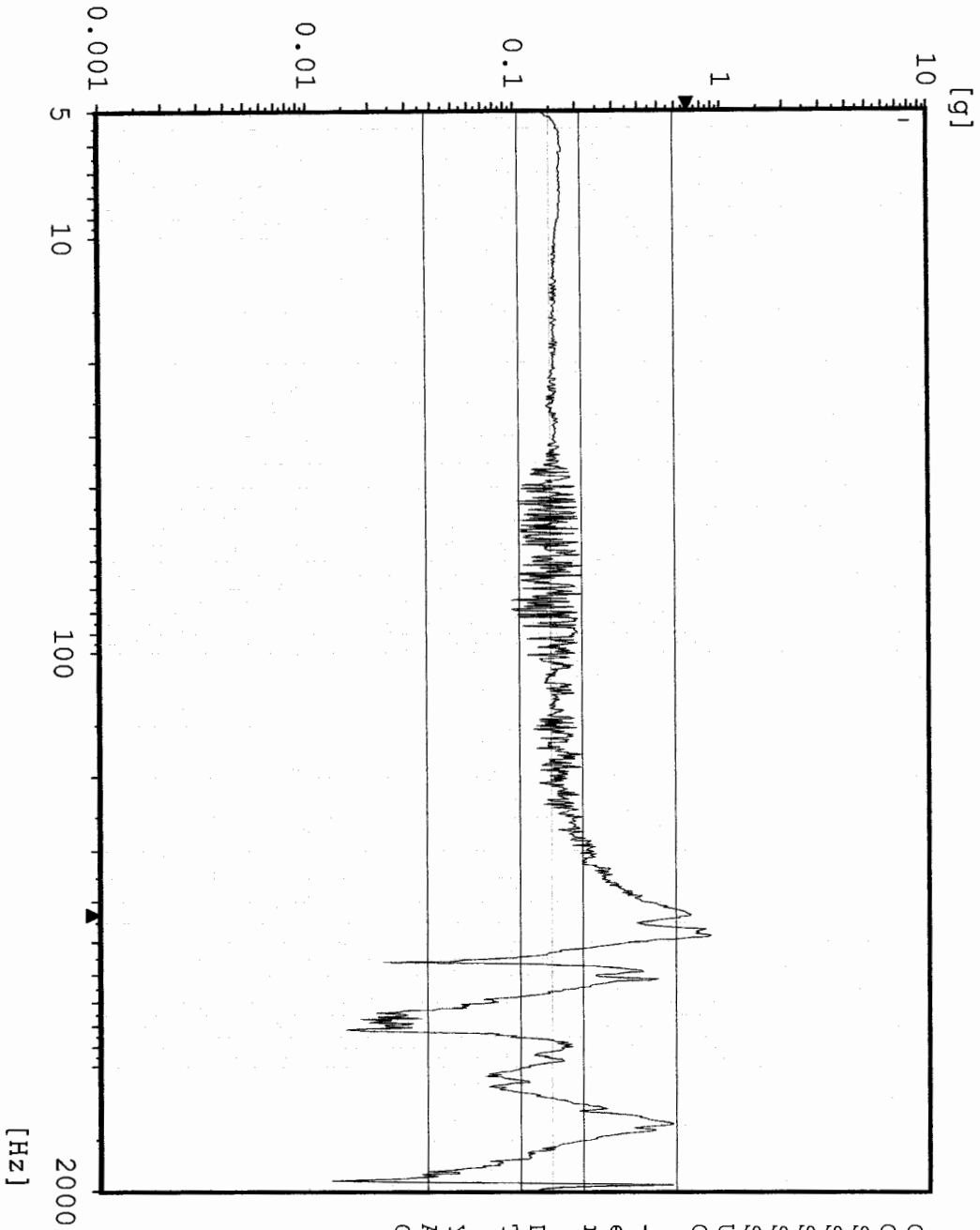
Chan.no: 5 M Filtered  
 Chan.type: logarithmic  
 Sweep type: logarithmic  
 Sweeps done: 1  
 Sweeps req.: 1  
 Sweep direct.: up  
 Sweep rate: 2.00 Oct/min  
 Unit: g  
 Contr.strat.: Closed loop

-- Testing time --  
 elapsed: 000:04:18  
 remaining: 000:00:00  
 Date: 07-14-05  
 Time: 11:47:17

Y - axis Pre Random  
 Acceptance Unit  
 GLAT 1846

Sine AY2 TPS CG

Stanford Linear Accelerator  
J/N 49995.52097  
TEM / TPS



Chan.no: 10 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: 07-14-05  
 Time: 11:47:17

Y - axis Pre Random  
 Acceptance Unit  
 GIAT 1846

Random

Stanford Linear Accelerator

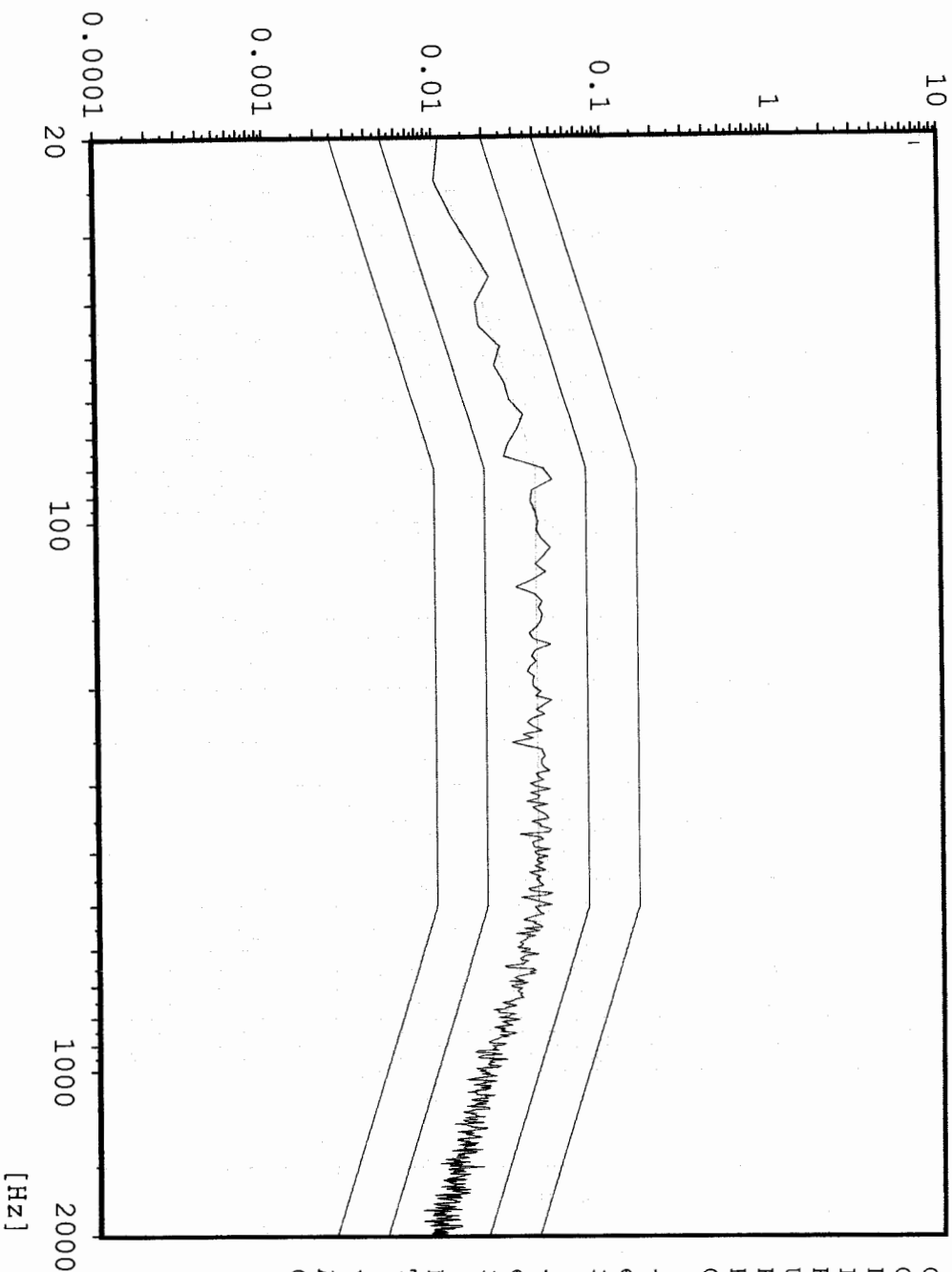
J/N 49995.52097

TEM & TPS

# CY1 Y-Axis Control



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



```

Chan.no: 1
Chan.type: C
DOF: 126
Level: 0.0 dB
Resolution: 4 Hz
Unit: g2/Hz
RMS (act.): 6.803 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: 07-14-05
Time: 11:55:31

```

```

Y - Axis
Acceptance Unit
GLAT 1846

```

Cursor: 408 Hz 0.8742 g<sup>2</sup>/Hz

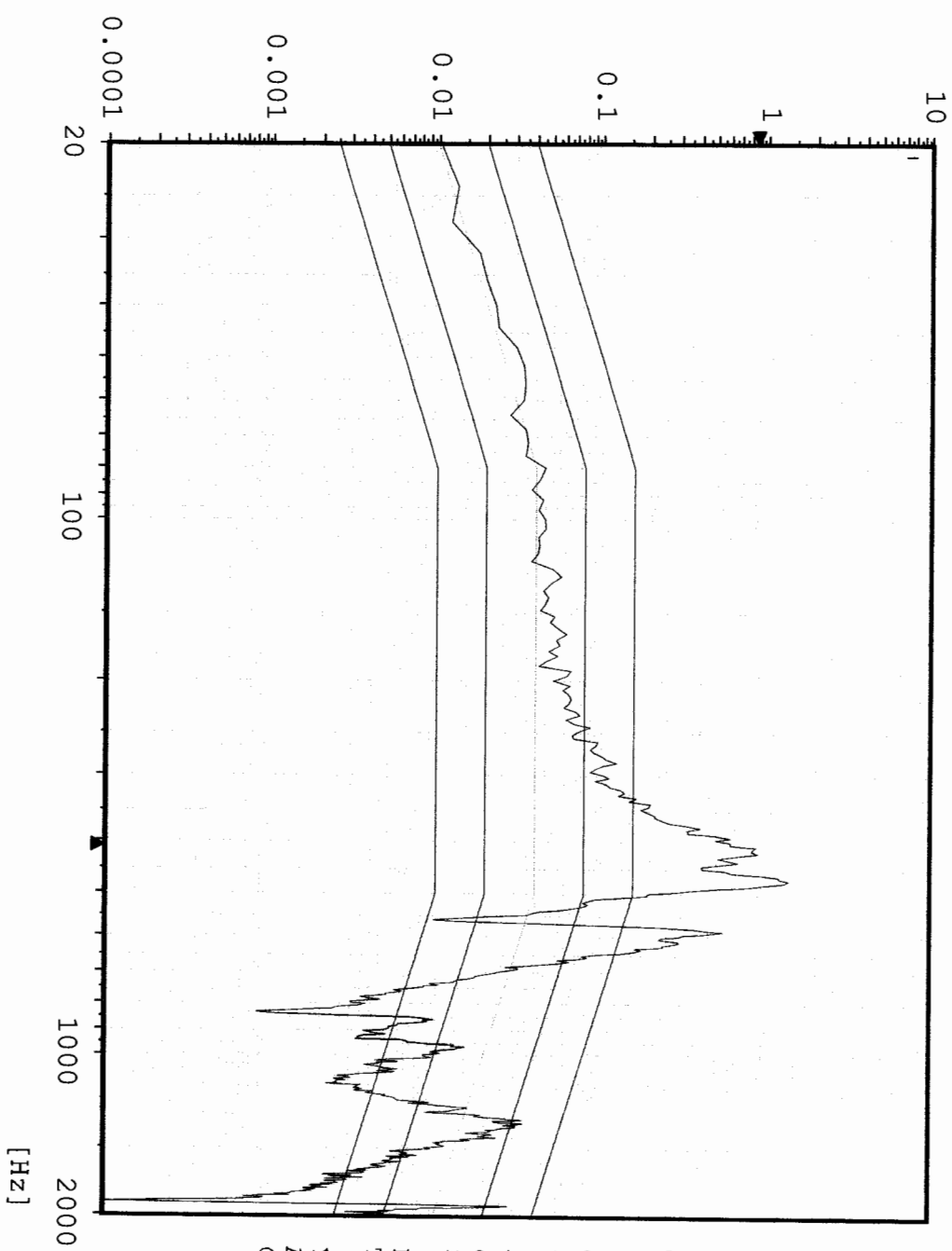
# Random AY3 TPS Top Center

Stanford Linear Accelerator

J/N 49995.52097

TEM & TPS

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



Chan.no: 2  
 Chan.type: M  
 DOF: 100  
 Level: 0.0 dB  
 Resolution: 4 Hz  
 Contr.strat.: Average  
 Unit: g<sup>2</sup>/Hz  
 RMS (act.): 12.38 g  
 RMS (req.): 6.787 g  
 Contr.strat.: Closed loop

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

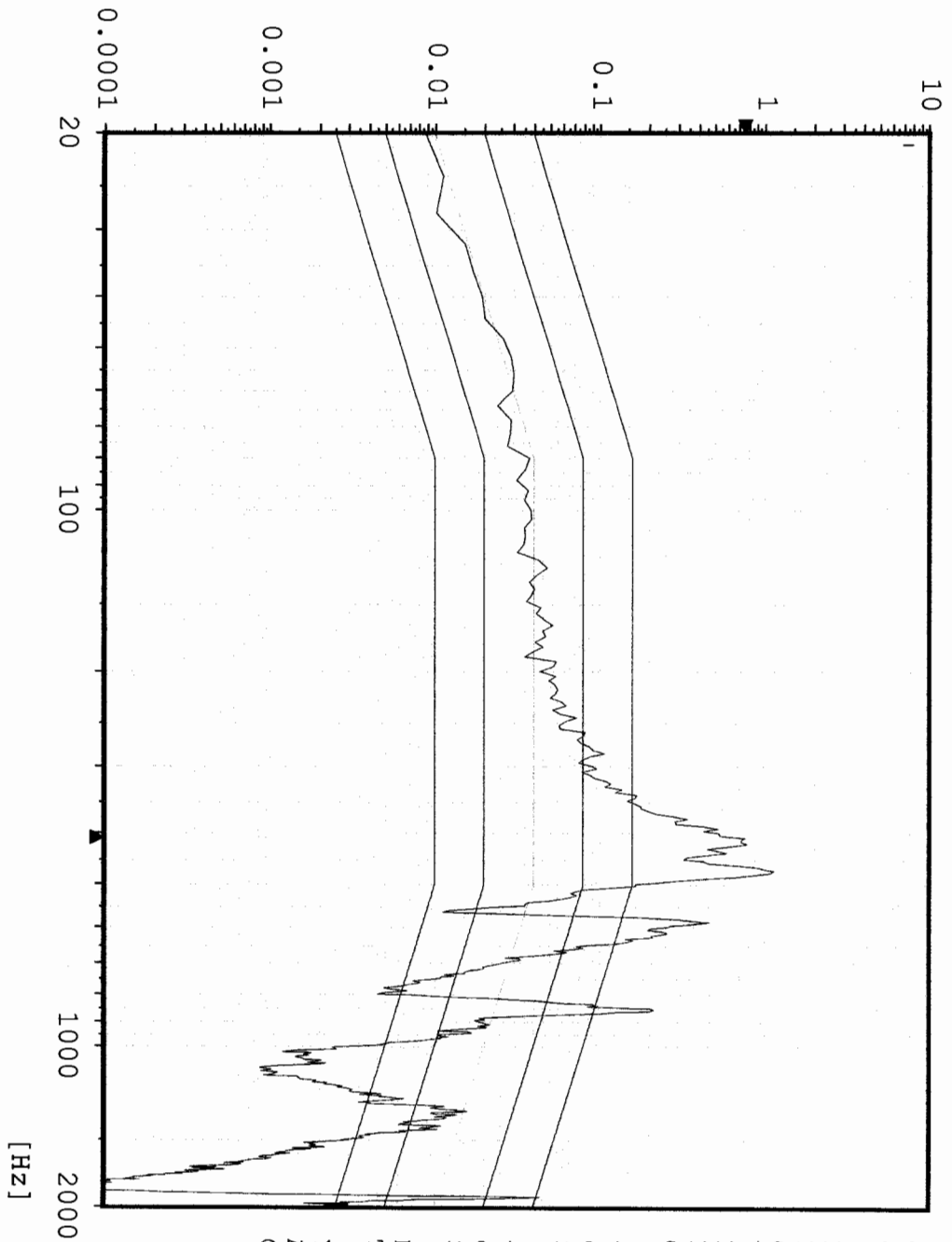
-- Time total --  
 elapsed: 000:02:54  
 remaining: 000:00:00

Date: 07-14-05  
 Time: 11:55:31

Y - Axis  
 Acceptance Unit  
 GLAT 1846

# Random AY4 TPS Top Edge

Stanford Linear Accelerator  
J/N 49995.52097  
TEM & TPS



Chan.no: 3  
 Chan.type: M  
 DOF: 100  
 Level: 0.0 dB  
 Resolution: 4 Hz  
 Contr.strat.: Average  
 Unit: g<sup>2</sup>/Hz  
 RMS (act.): 11.54 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

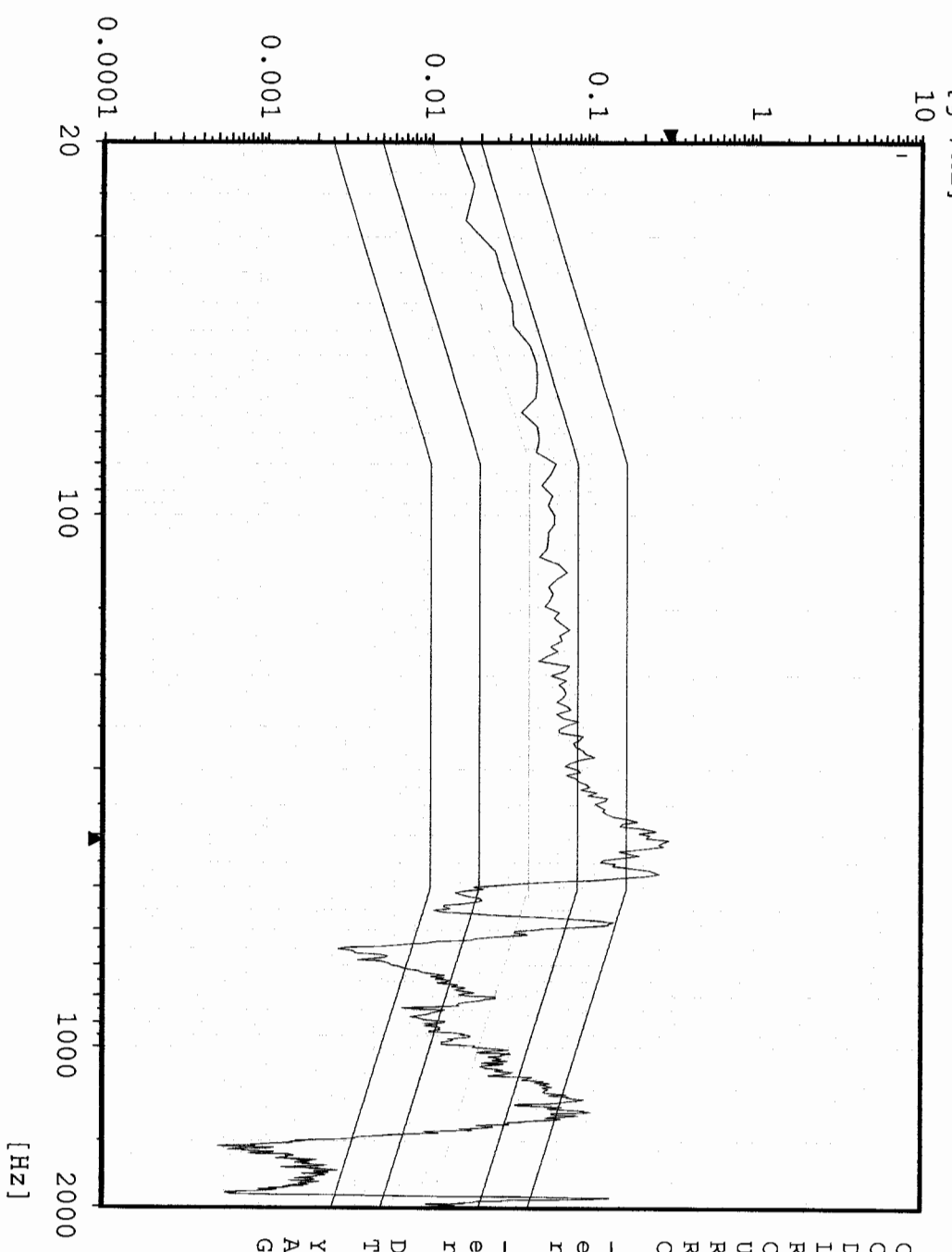
Date: 07-14-05  
 Time: 11:55:31

Y - Axis  
 Acceptance Unit  
 GLAT 1846



# Random AY1 TEM Center Edge

Stanford Linear Accelerator  
J/N 49995.52097  
TEM & TPS



Chan.no: 5  
 Chan.type: M  
 DOF: 100  
 Level: 0.0 dB  
 Resolution: 4 Hz  
 Contr.strat.: Average  
 Unit: g<sup>2</sup>/Hz  
 RMS (act.): 8.806 g  
 RMS (req.): 6.787 g  
 Contr.strat.: Closed loop

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

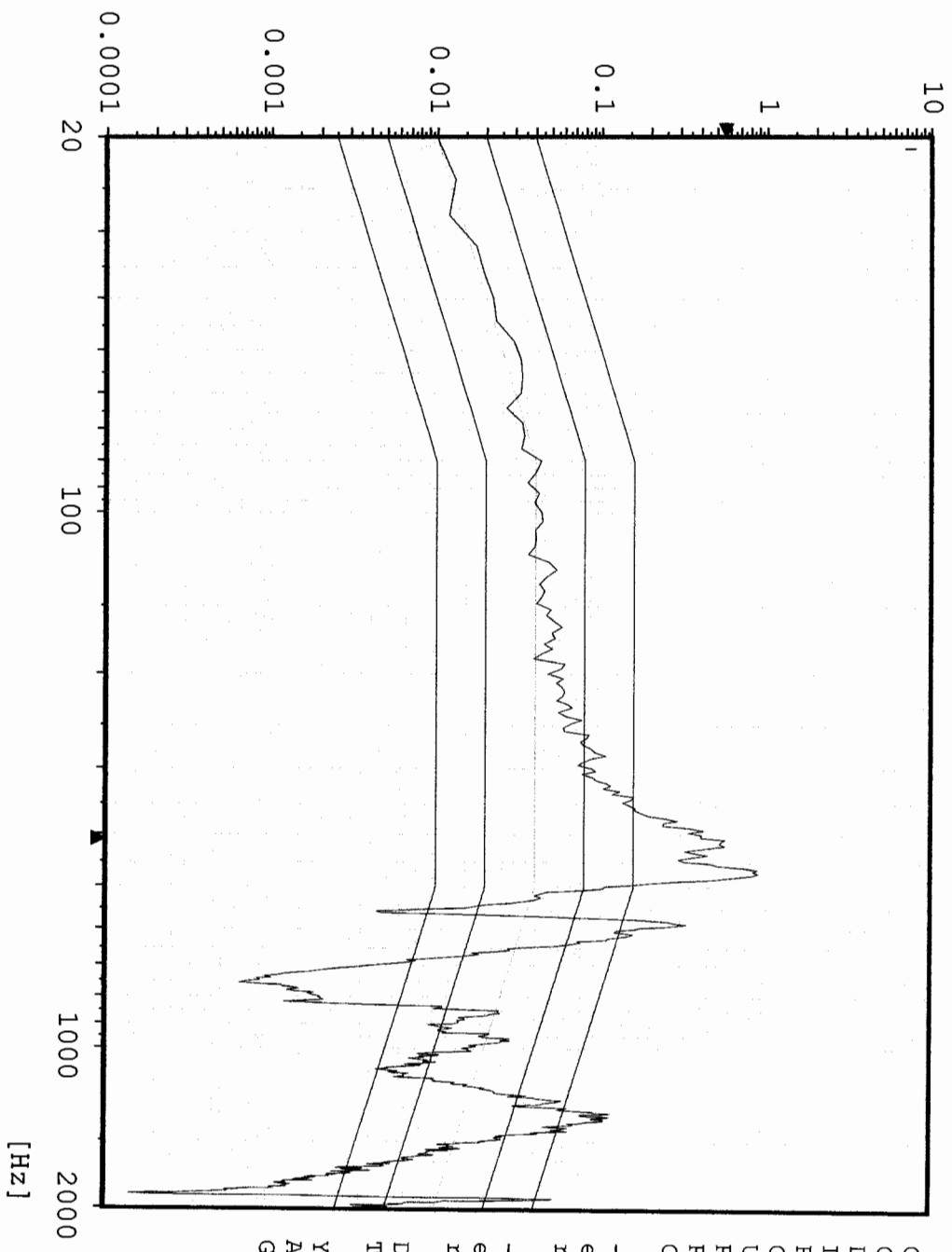
-- Time total --  
 elapsed: 000:02:54  
 remaining: 000:00:00

Date: 07-14-05  
 Time: 11:55:31

Y - Axis  
 Acceptance Unit  
 GLAT 1846

Random AY2 TPS CG

Stanford Linear Accelerator  
J/N 49995.52097  
TEM & TPS



Chan.no: 10  
 Chan.type: M  
 DOF: 100  
 Level: 0.0 dB  
 Resolution: 4 Hz  
 Contr.strat.: Average  
 Unit: g<sup>2</sup>/Hz  
 RMS (act.): 11.02 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: 07-14-05  
 Time: 11:55:31

Y - Axis  
 Acceptance Unit  
 GIAT 1846

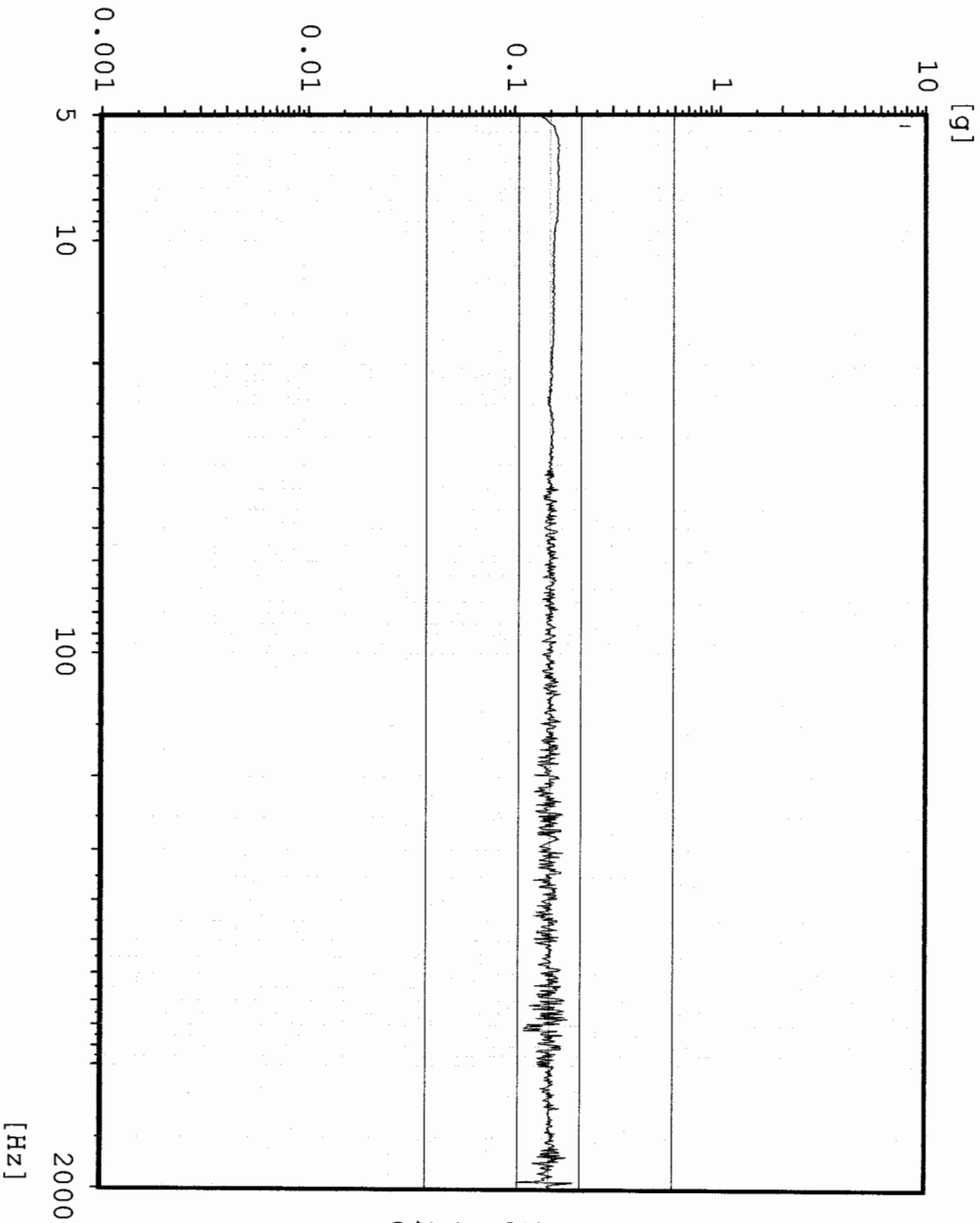
Sine

# CYL Y-Axis Control

Stanford Linear Accelerator

J/N 49995.52097

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: 07-14-05
Time: 12:06:46

```

```

Y - axis Post Random
Acceptance Unit
GIAT 1846

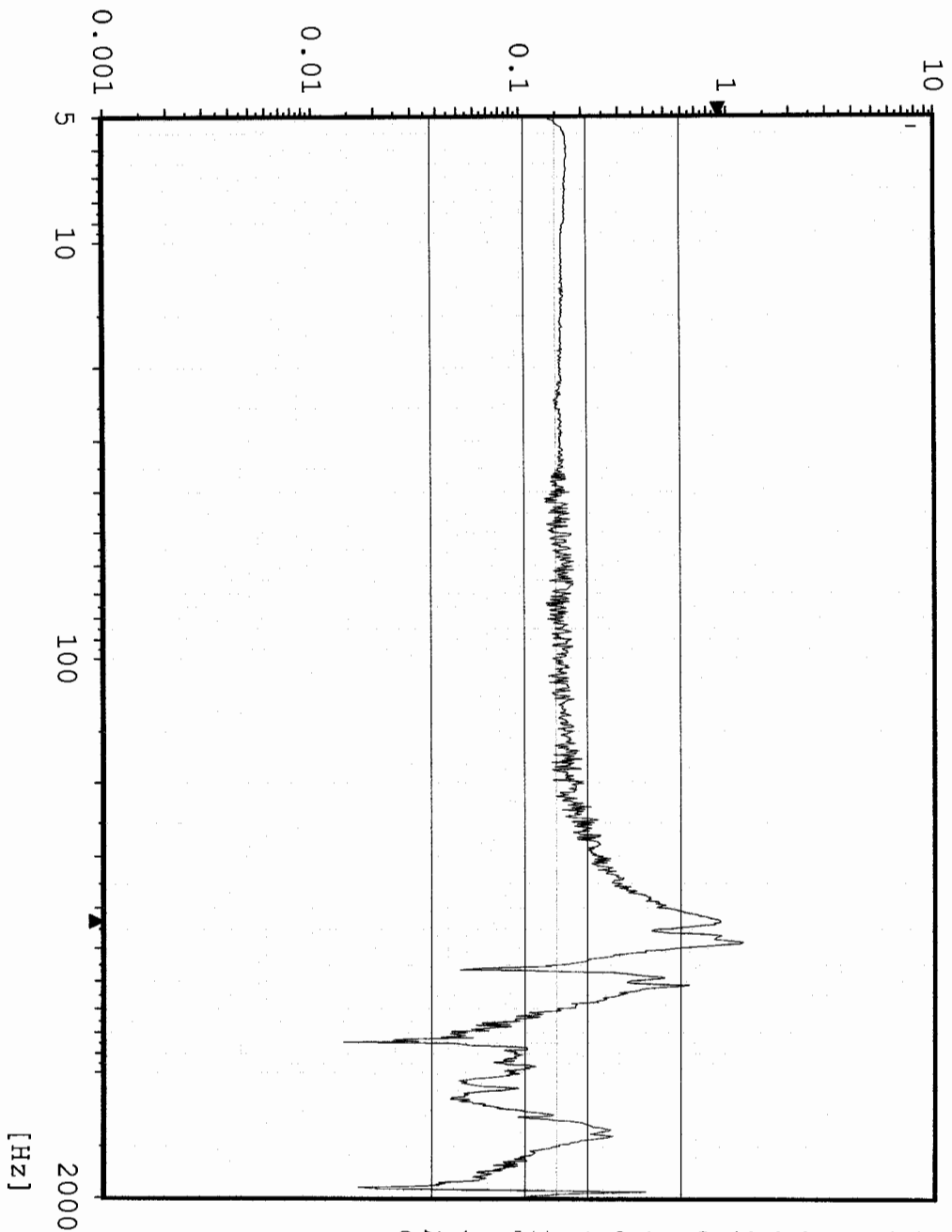
```

# Sine AY3 TPS Top Center

Stanford Linear Accelerator

J/N 49995.52097

TEM / TPS



Chan.no: 2 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

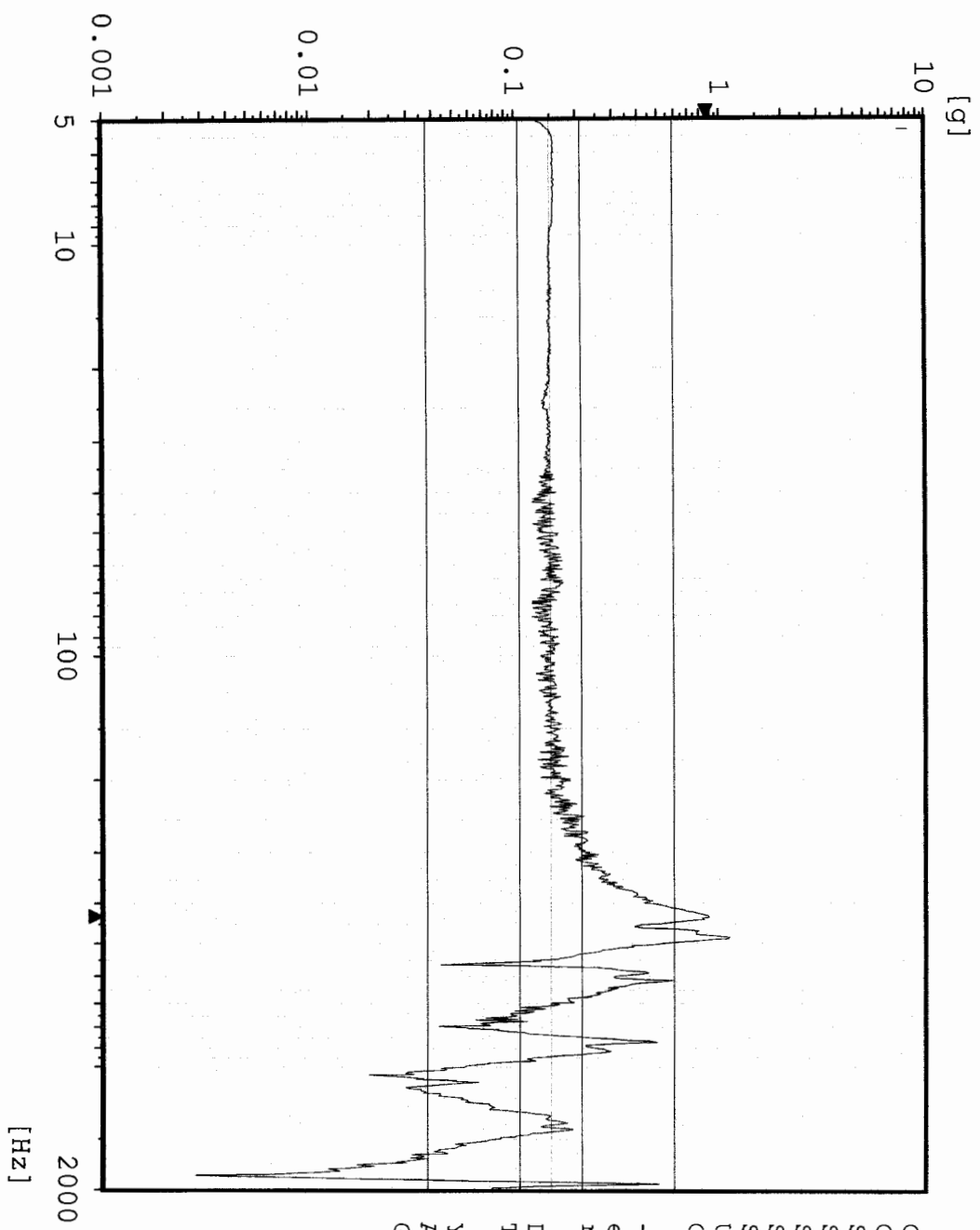
-- Testing time --  
 elapsed: 000:04:18  
 remaining: 000:00:00

Date: 07-14-05  
 Time: 12:06:46

Y - axis Post Random  
 Acceptance Unit  
 GLAT 1846

Sine AY4 TPS Top Edge

Stanford Linear Accelerator  
J/N 49995.52097  
TEM / TPS



```

Chan.no: 3 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: 07-14-05
Time: 12:06:46

Y - axis Post Random
Acceptance Unit
GLAT 1846

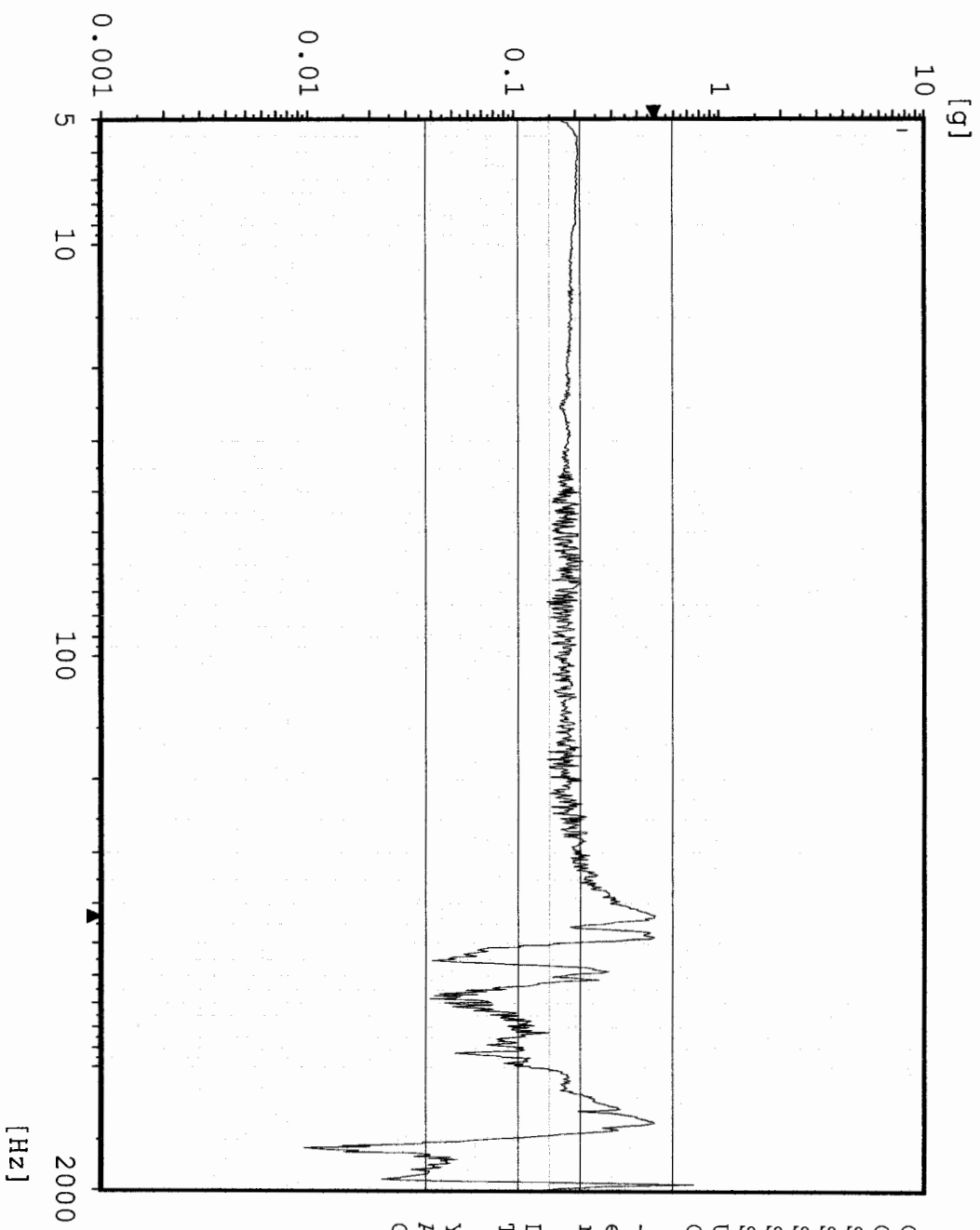
```

# Sine AY1 TEM Center Edge

Stanford Linear Accelerator

J/N 49995.52097

TEM / TPS



Chan.no: 5 M 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: 07-14-05  
 Time: 12:06:46

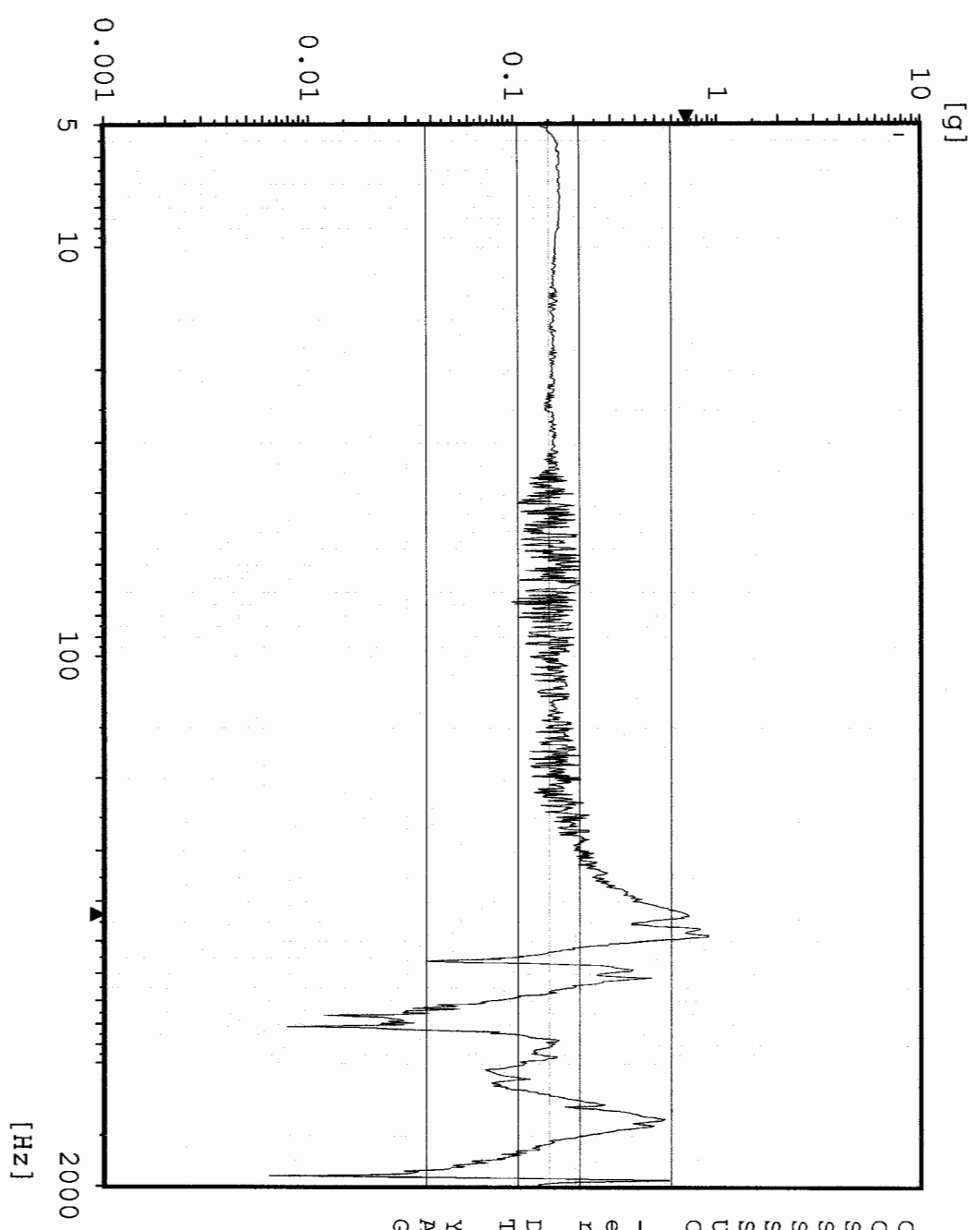
Y - axis Post Random  
 Acceptance Unit  
 GLAT 1846

Sine  
Stanford Linear Accelerator

AY2 TPS CG

J/N 49995.52097

TEM / TPS



Chan.no: 10 M 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: 07-14-05  
 Time: 12:06:46

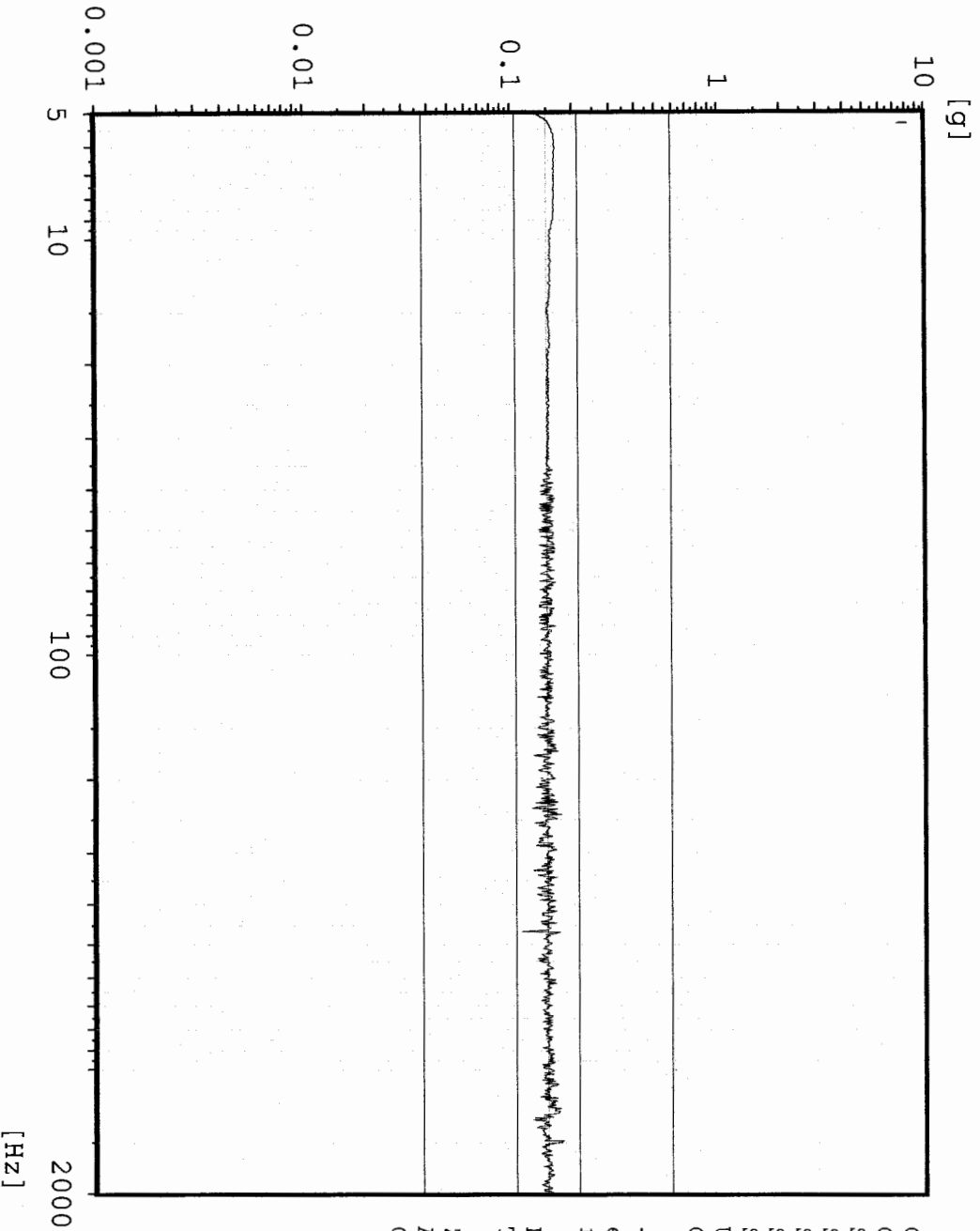
Y - axis Post Random  
 Acceptance Unit  
 GLAT 1846

# Sine CZ1 Z-Axis Control

Stanford Linear Accelerator

J/N 49995.52097

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

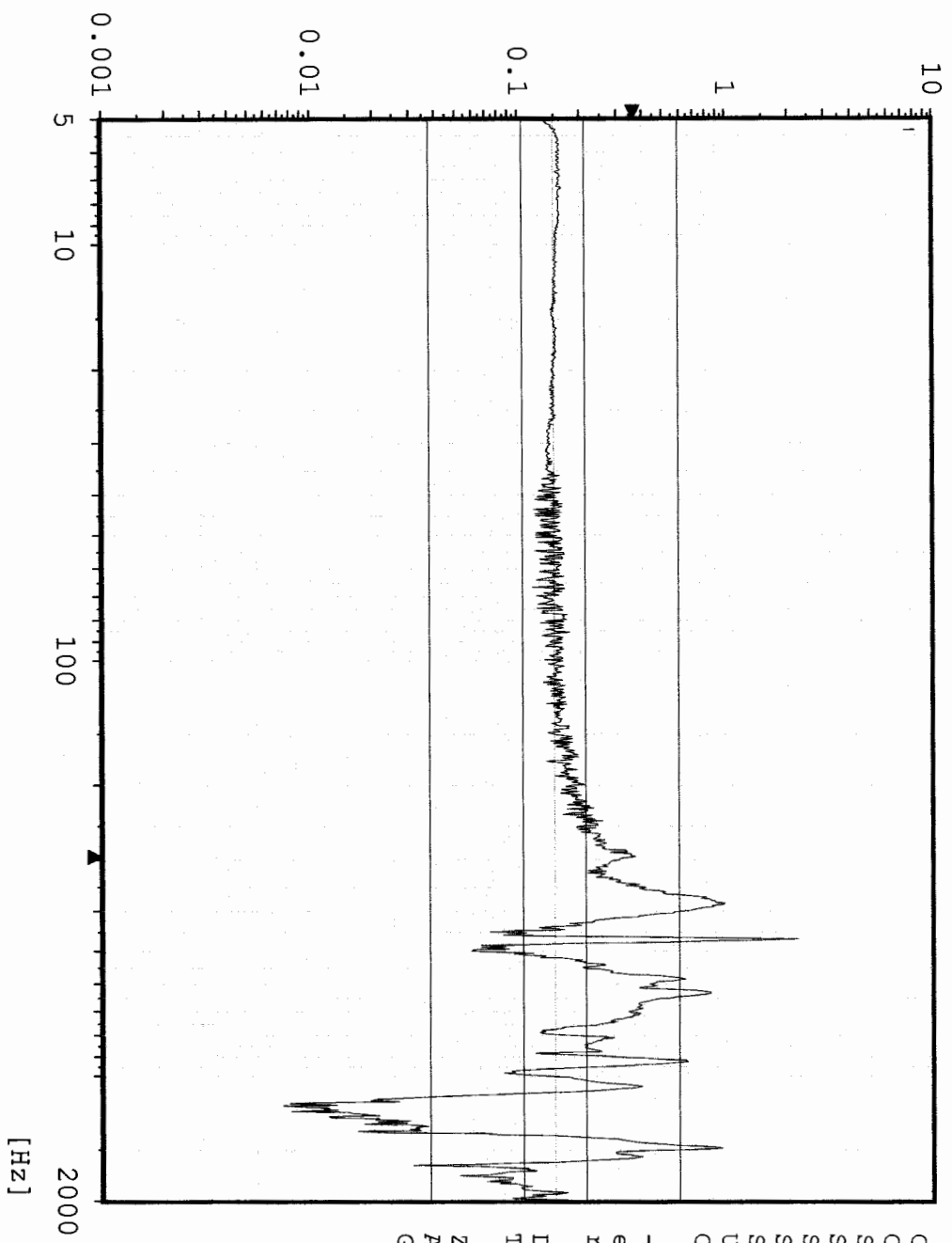
Date: 07-15-05  
Time: 11:34:28

Z - axis Pre Random  
Acceptance Unit  
GLAT 1846



Sine AZ4 TPS Boss 2

Stanford Linear Accelerator  
J/N 49995.52097  
TEM / TPS



Chan.no: 2 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: 07-15-05  
 Time: 11:34:28

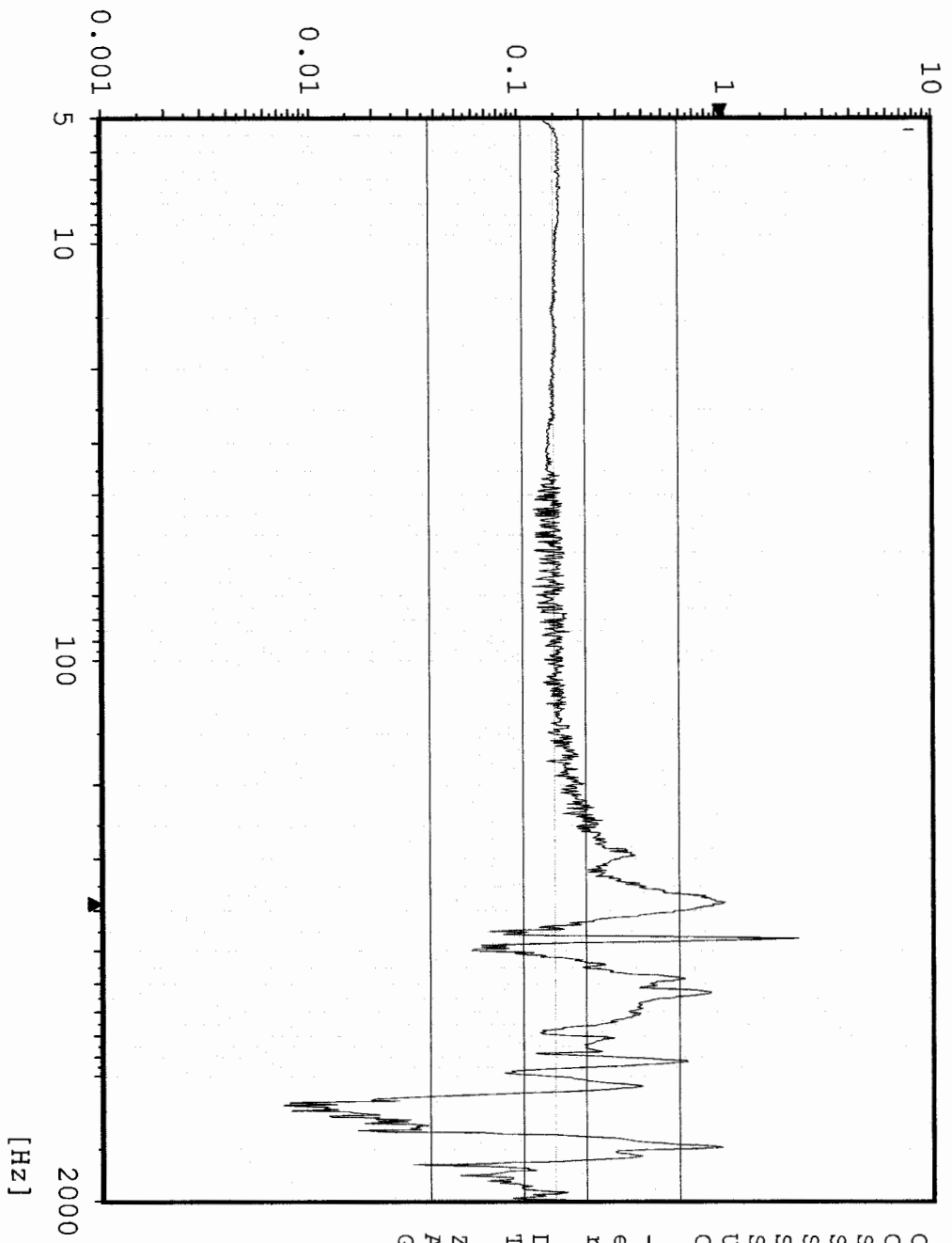
Z - axis Pre Random  
 Acceptance Unit  
 GIAT 1846

# Sine AZ4 TPS Boss 2

Stanford Linear Accelerator

J/N 49995.52097

TEM / TPS



```

Chan.no: 2 M 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: 07-15-05
Time: 11:34:28

Z - axis Pre Random
Acceptance Unit
GLAT 1846

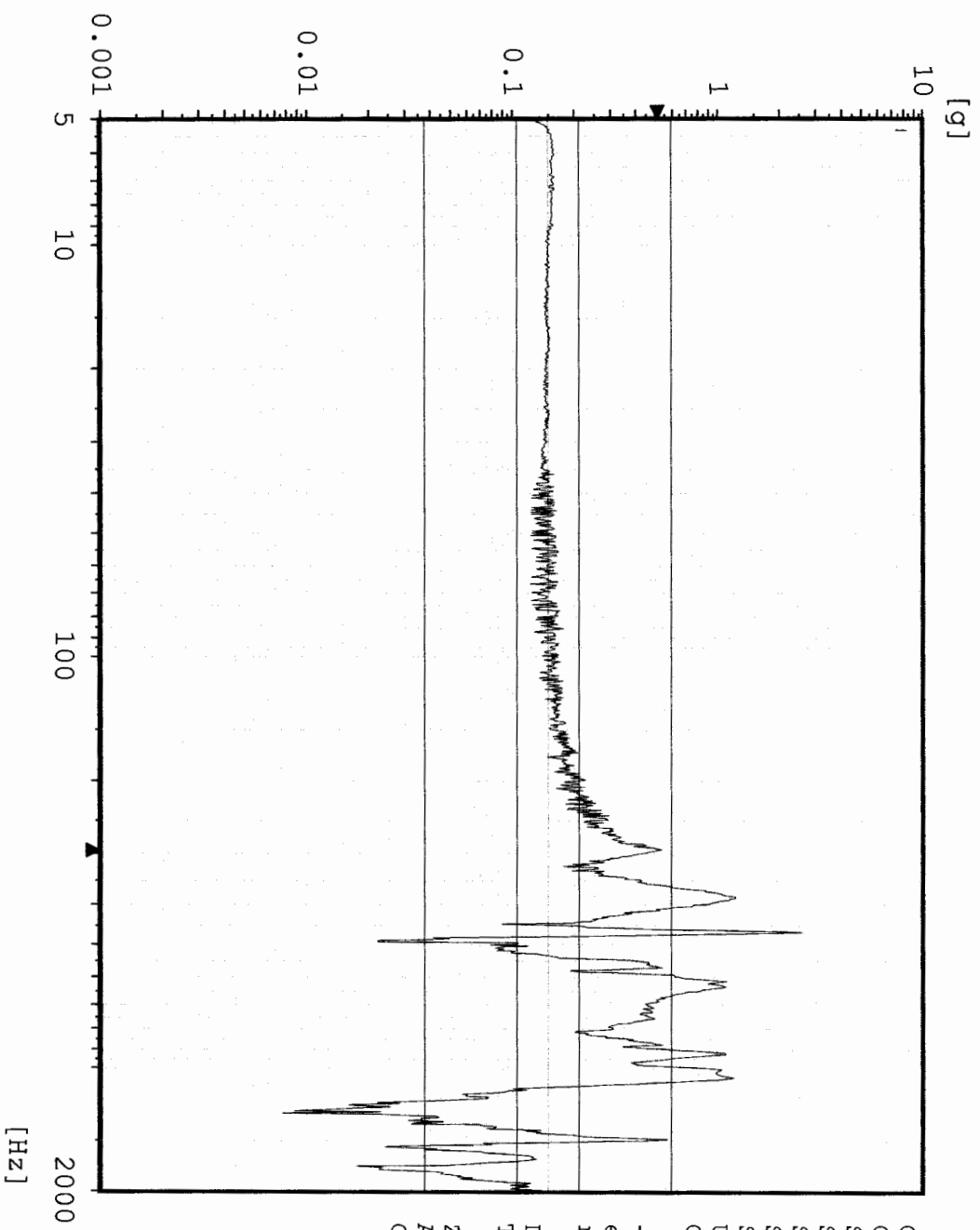
```

Sine AZ3 TPS Boss 1

Stanford Linear Accelerator

J/N 49995.52097

TEM / TPS



[g]

[Hz]

Chan.no: 3 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

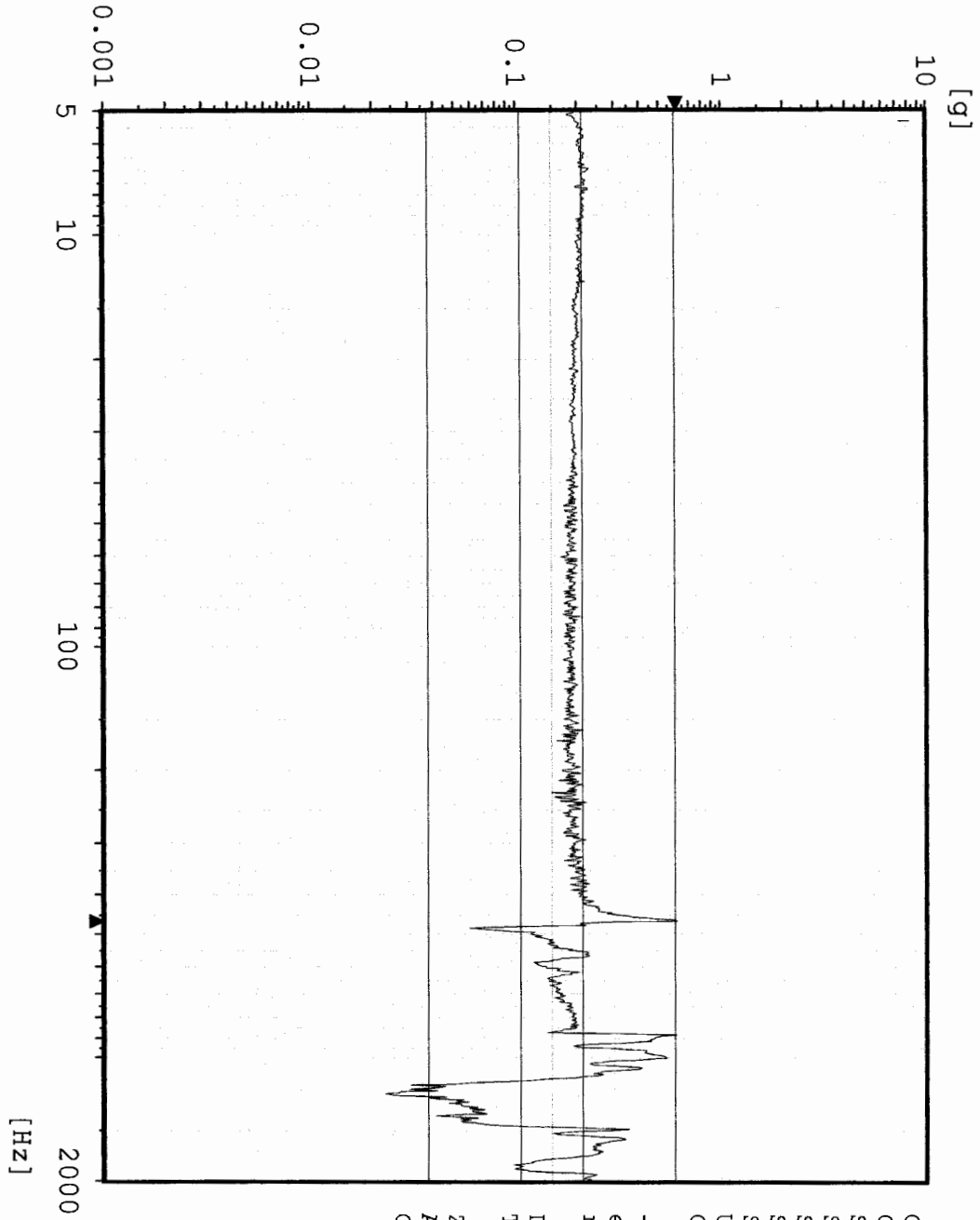
Date: 07-15-05  
 Time: 11:34:28

Z - axis Pre Random  
 Acceptance Unit  
 GLAT 1846

Max: 465.2 Hz 0.6106 g

# AZ5 TEM Bottom Edge

Sine  
Stanford Linear Accelerator  
J/N 49995.52097  
TEM / TPS



```

Chan.no: 5 M Filtered
Chan.type:
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

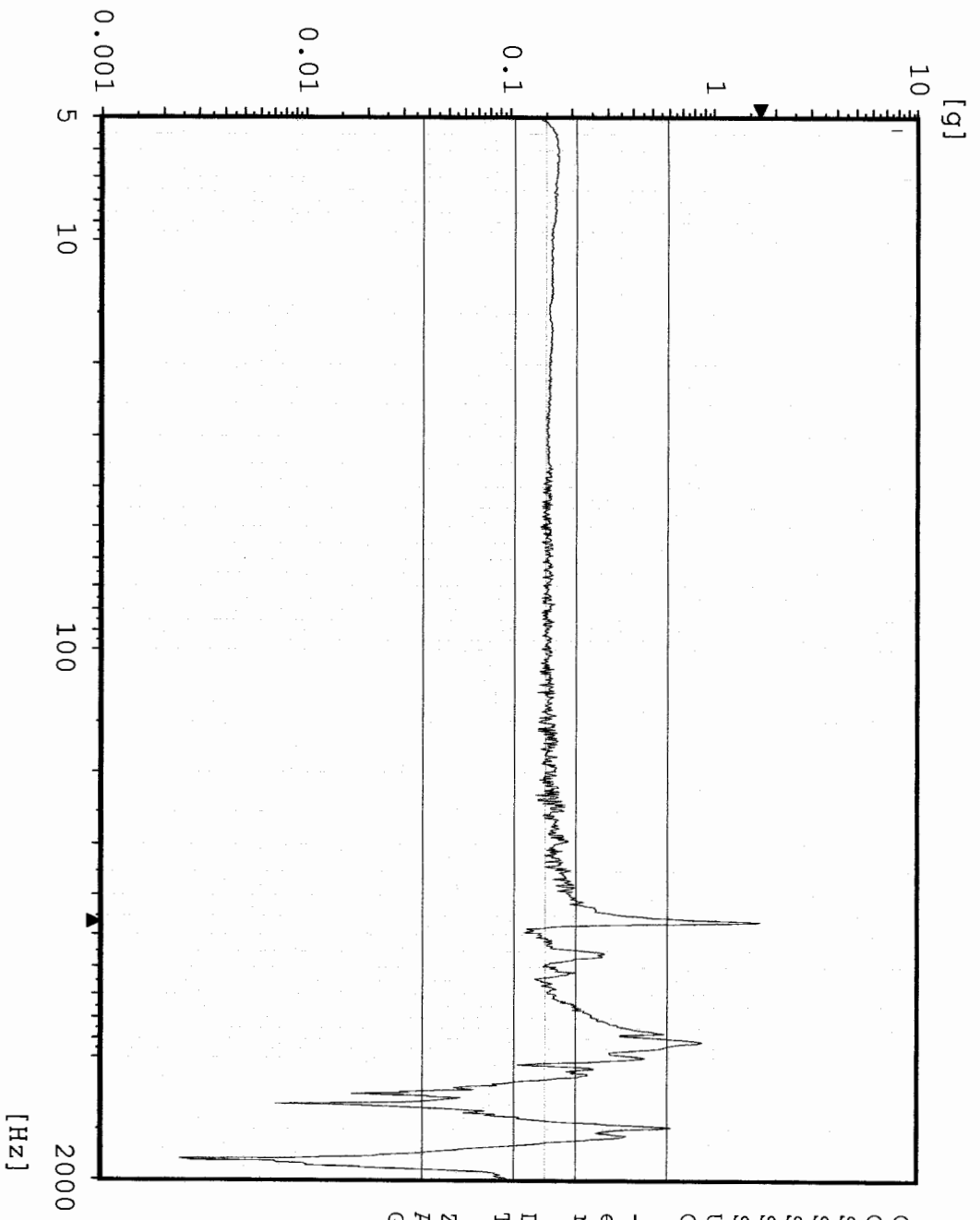
Date: 07-15-05
Time: 11:34:28

Z - axis Pre Random
Acceptance Unit
GLAT 1846
  
```

Max: 465.2 Hz 1.689 g

# Sine AZ1 TPS Edge Center

Stanford Linear Accelerator  
J/N 49995.52097  
TEM / TPS



```

Chan.no: 6 M 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: 07-15-05
Time: 11:34:28

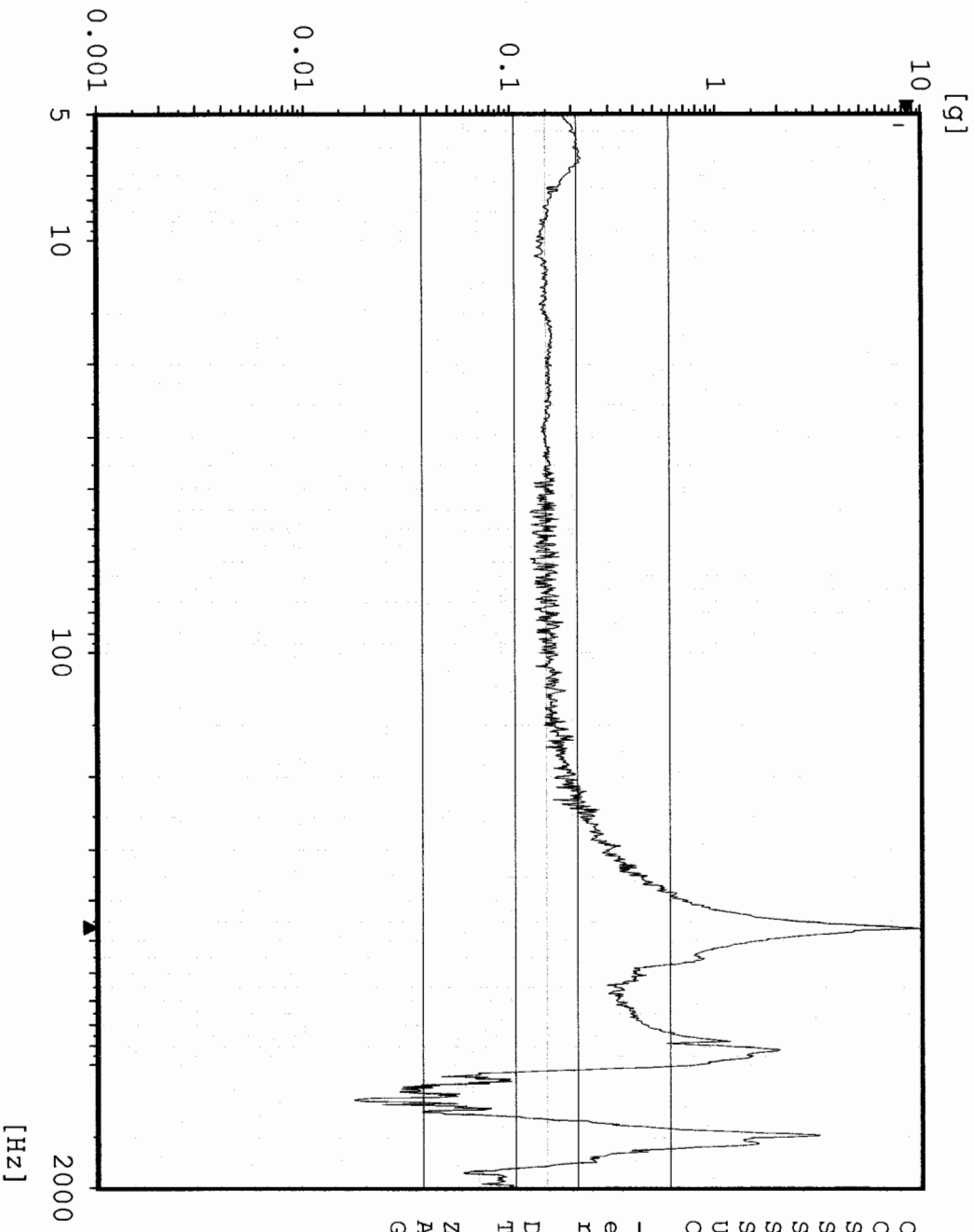
Z - axis Pre Random
Acceptance Unit
GIAT 1846
  
```

# Sine AZ6 TEM Bottom Center

Stanford Linear Accelerator

J/N 49995.52097

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:         07-15-05
Time:         11:34:28

Z - axis     Pre Random
Acceptance Unit
GLAT 1846
  
```

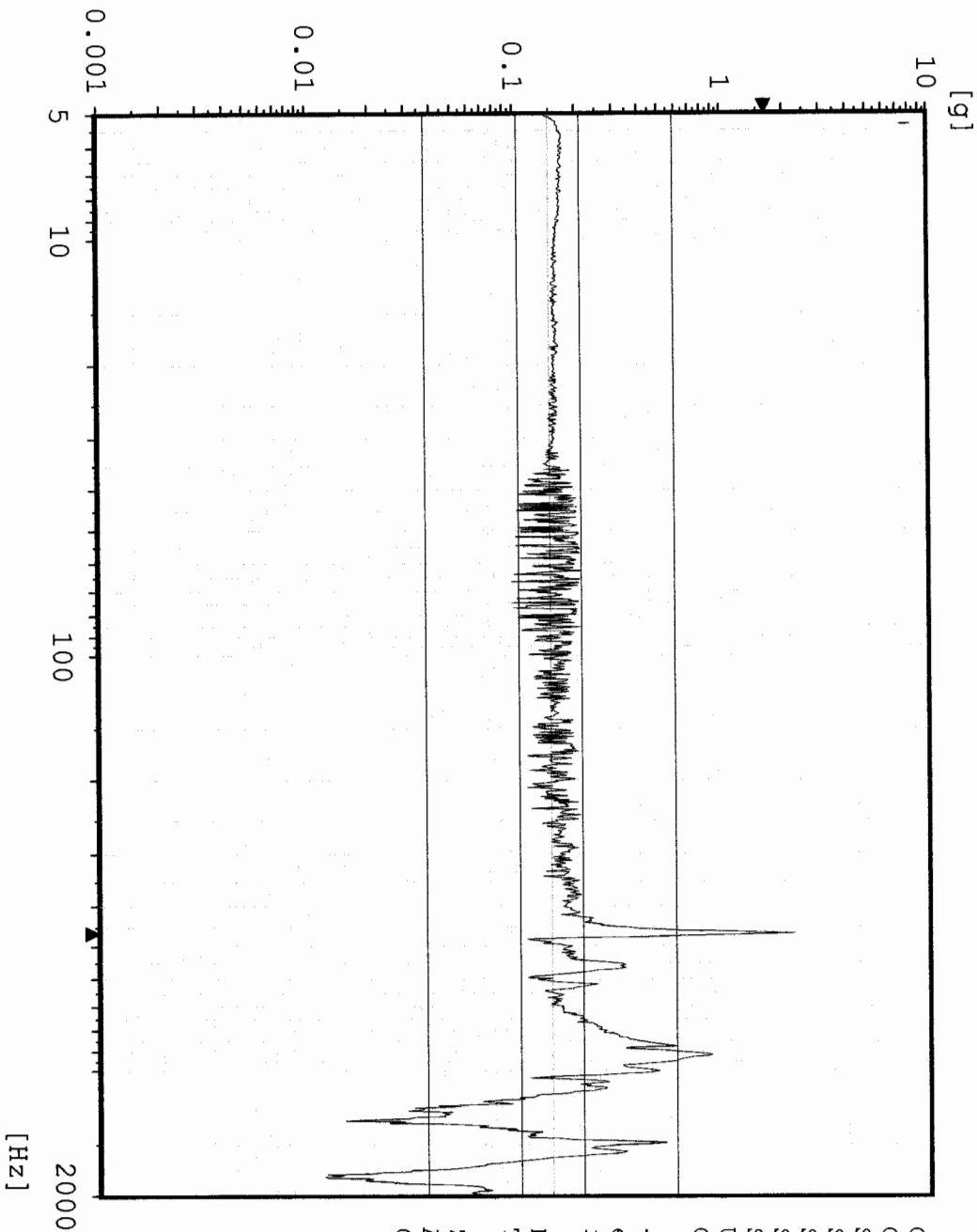
Sine

Stanford Linear Accelerator

J/N 499995.52097

TEM / TPS

### AZ2 TPS Corner



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: 07-15-05  
 Time: 11:34:28

Z - axis Pre Random  
 Acceptance Unit  
 GLAT 1846

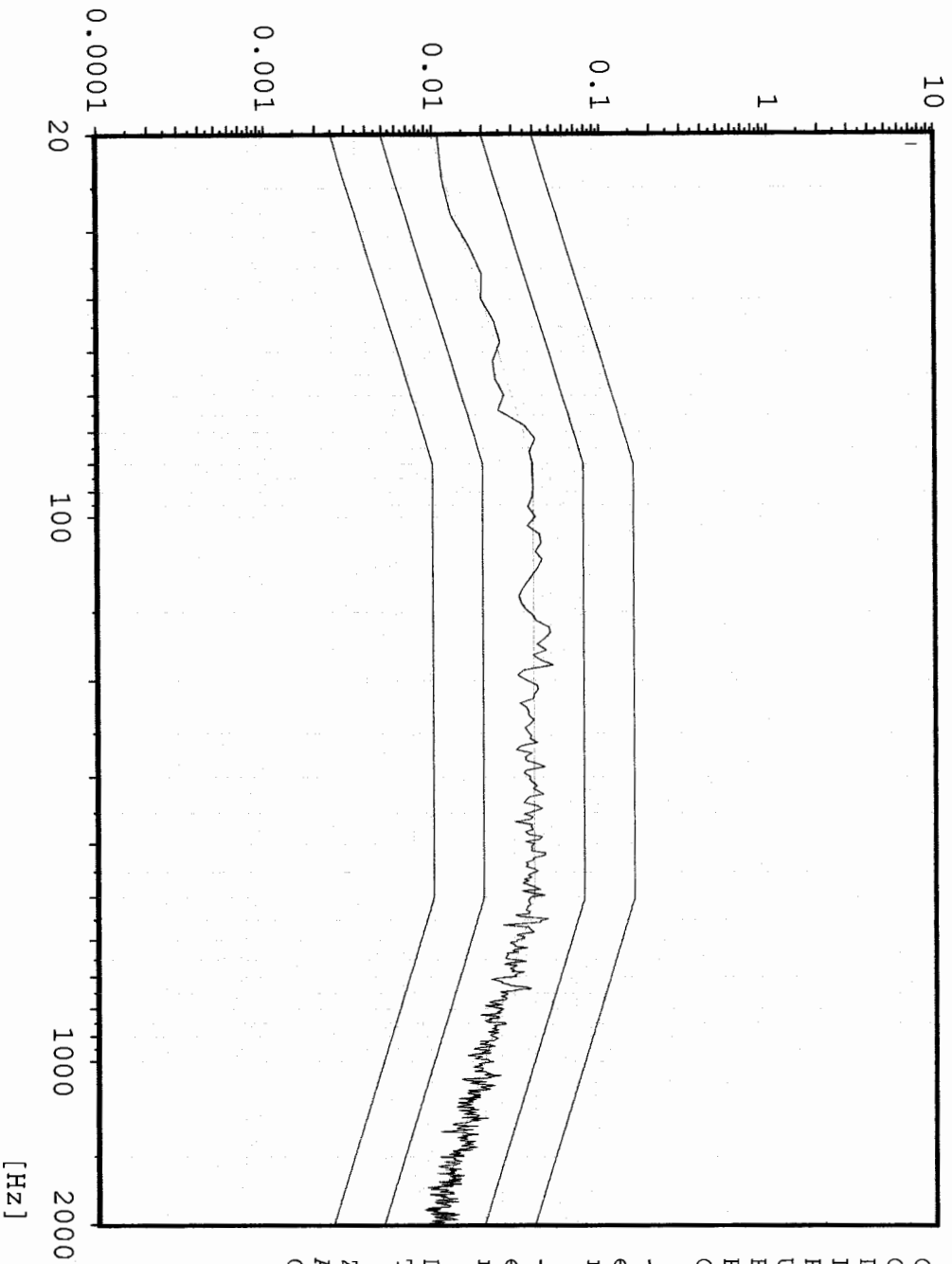
Random

Stanford Linear Accelerator

J/N 49995.52097

TEM & TPS

### CZ1 Z-Axis Control



```

Chan.no:      1
Chan.type:    C
DOF:          126
Level:        0.0 dB
Resolution:   4 Hz
Unit:         g2/Hz
RMS (act.):   6.765 g
RMS (req.):   6.787 g
Contr.strat.: Closed loop
  
```

```

-- Time on act. level --
elapsed:      000:01:01
remaining:    000:00:-1
  
```

```

-- Time total --
elapsed:      000:02:55
remaining:    000:00:-1
  
```

```

Date:         07-15-05
Time:         11:45:15
  
```

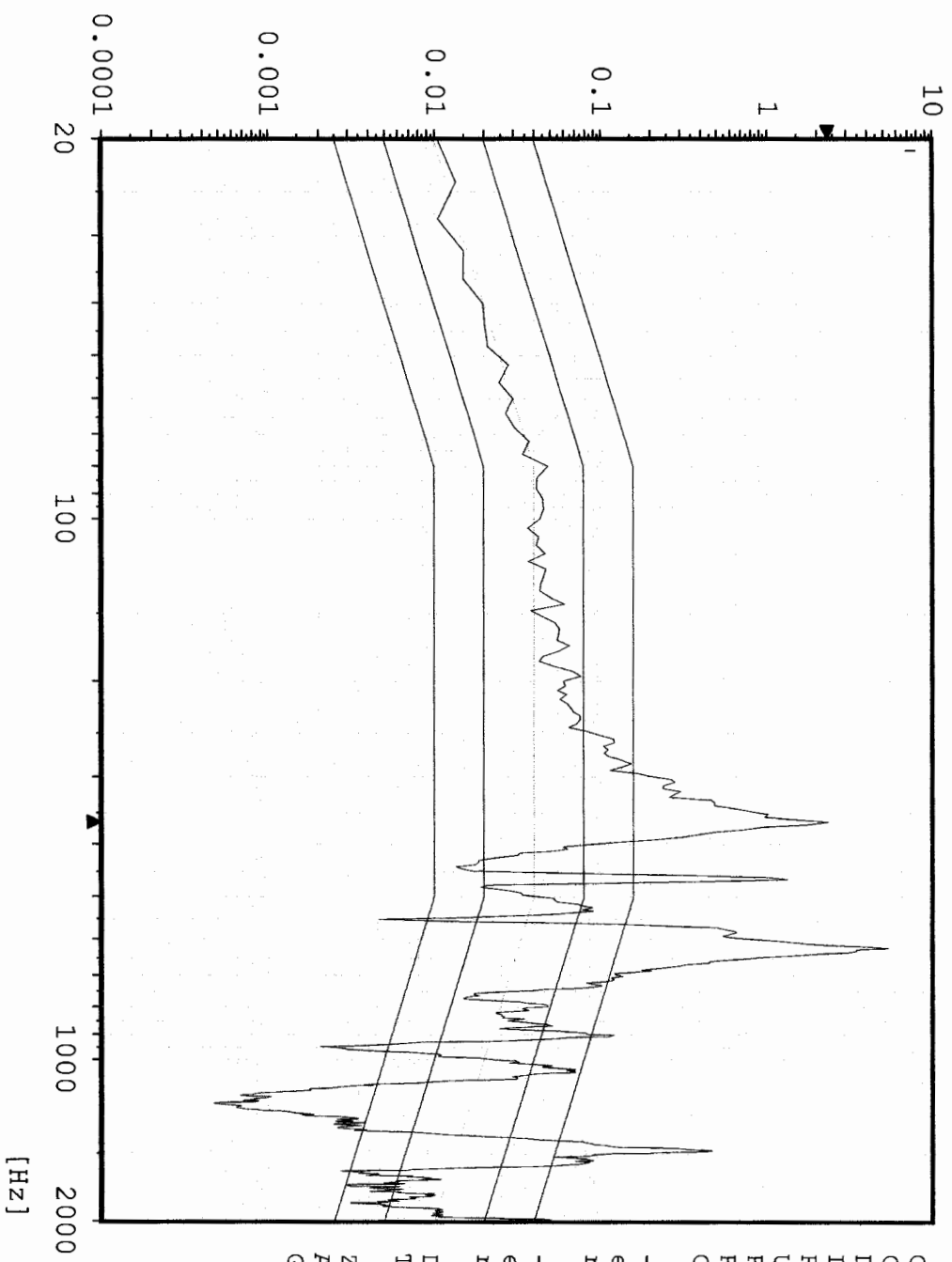
```

Z - Axis
Acceptance Unit
GIAT 1846
  
```



### Random AZ4 TPS Boss 2

Stanford Linear Accelerator  
J/N 49995.52097  
TEM & TPS



Chan.no: 2 M  
 Chan.type: M  
 DOF: 100  
 Level: 0.0 dB  
 Resolution: 4 Hz  
 Unit: g<sup>2</sup>/Hz  
 RMS (act.): 17.42 g  
 RMS (req.): 6.787 g  
 Contr.strat.: Closed Loop

-- Time on act. level --  
 elapsed: 000:01:01  
 remaining: 000:00:-1

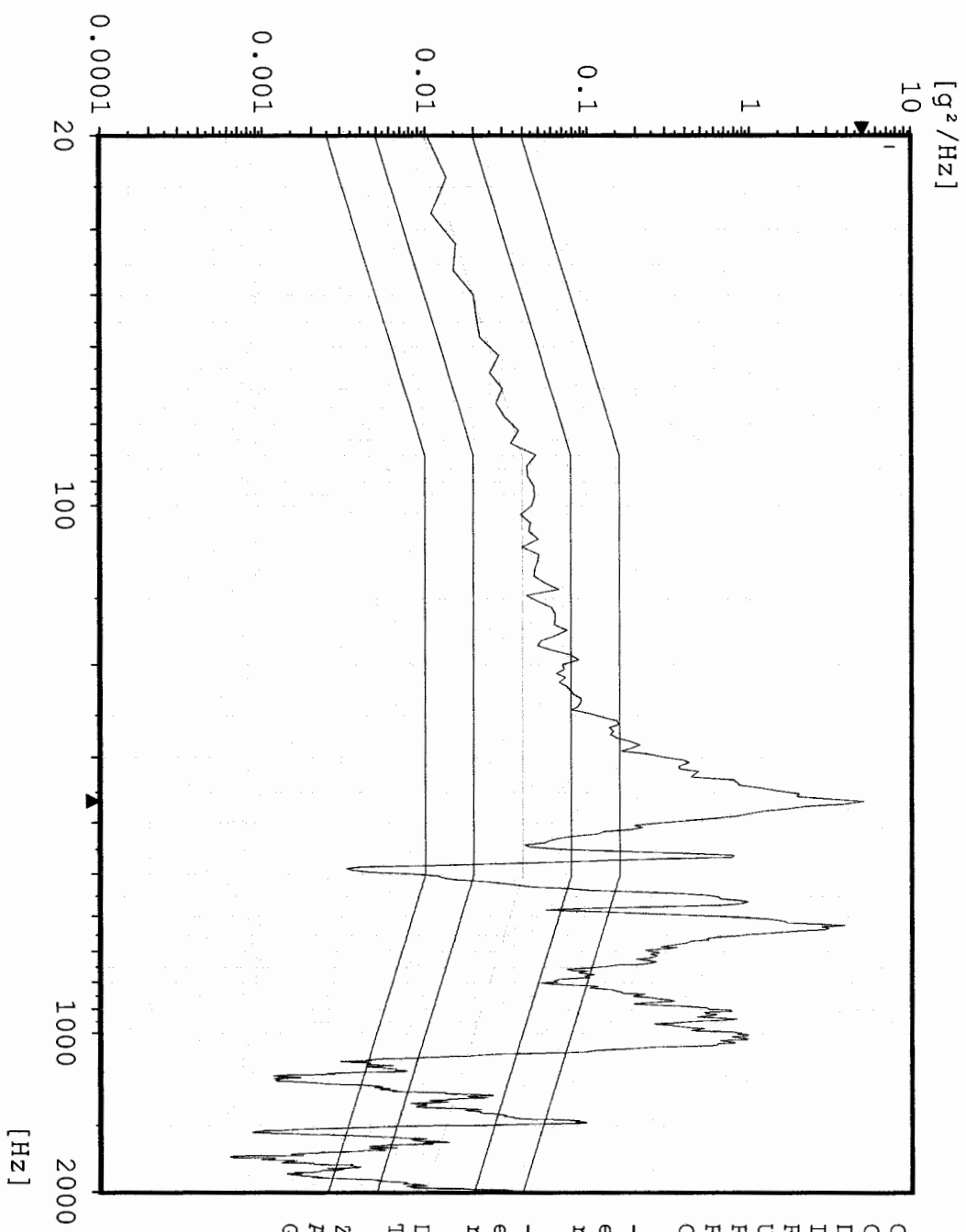
-- Time total --  
 elapsed: 000:02:55  
 remaining: 000:00:-1

Date: 07-15-05  
 Time: 11:45:15

Z - Axis  
 Acceptance Unit  
 GIAT 1846

# Random AZ3 TPS Boss 1

Stanford Linear Accelerator  
J/N 49995.52097  
TEM & TPS



```

Chan.no:      3
Chan.type:    M
DOF:         100
Level:       0.0 dB
Resolution:   4 Hz
Unit:        g2/Hz
RMS (act.):   21.75 g
RMS (req.):   6.787 g
Contr.strat.: Closed loop

-- Time on act. level --
elapsed:     000:01:01
remaining:    000:00:-1

-- Time total --
elapsed:     000:02:55
remaining:    000:00:-1

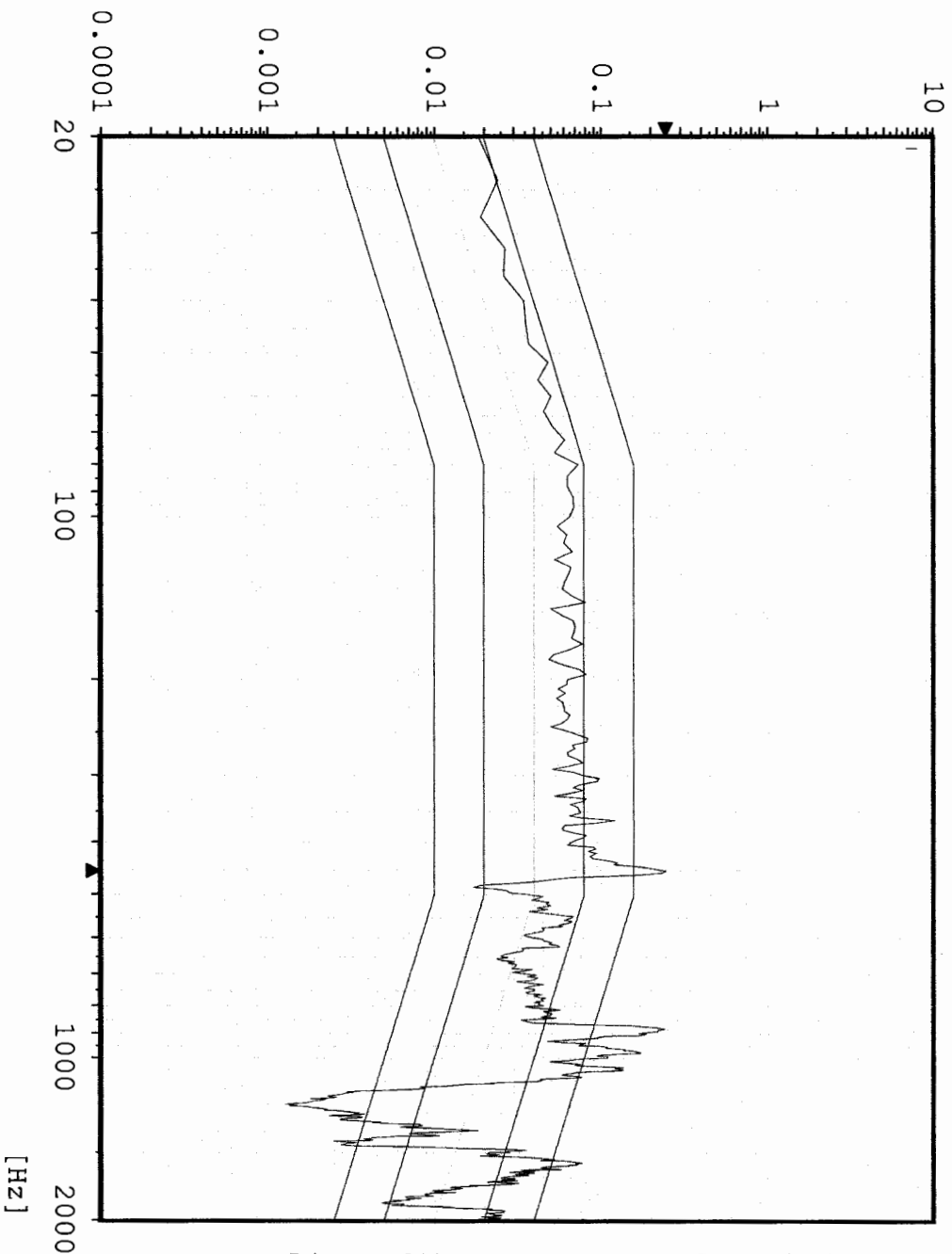
Date:        07-15-05
Time:        11:45:15

Z - Axis
Acceptance Unit
GLAT 1846

```

### Random AZ5 TEM Bottom Edge

Stanford Linear Accelerator  
J/N 49995.52097  
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.): 9.532 g  
RMS (req.): 6.787 g  
Contr.strat.: Closed Loop

-- Time on act. level --  
elapsed: 000:01:01  
remaining: 000:00:-1

-- Time total --  
elapsed: 000:02:55  
remaining: 000:00:-1

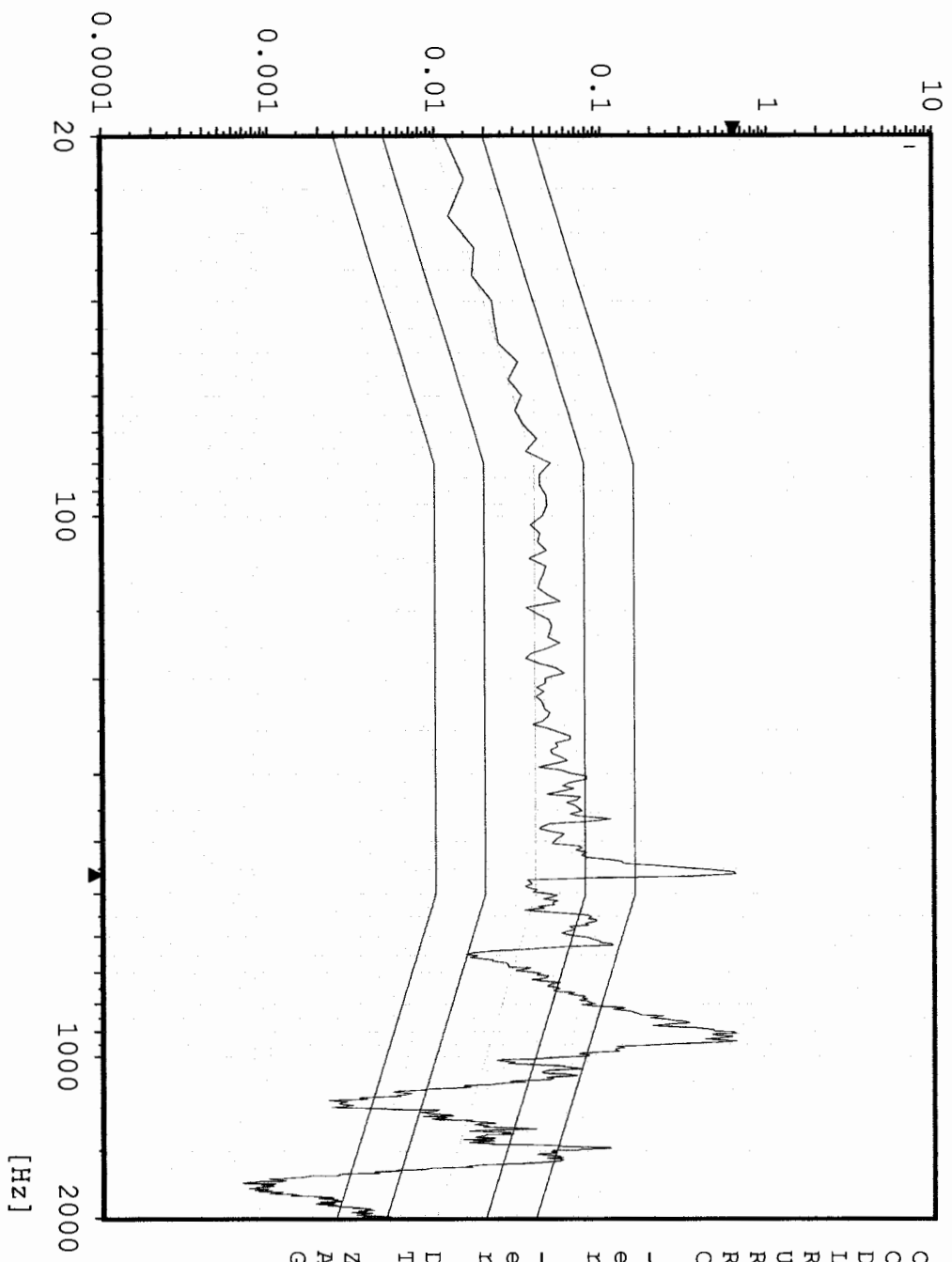
Date: 07-15-05  
Time: 11:45:15

Z - Axis  
Acceptance Unit  
GIAT 1846

Cursor: 460 Hz 0.6383 g<sup>2</sup>/Hz

# Random AZ1 TPS Edge Center

Stanford Linear Accelerator  
J/N 49995.52097  
TEM & TPS



Chan.no: 6  
Chan.type: M  
DOF: 100  
Level: 0.0 dB  
Resolution: 4 Hz  
Unit: g<sup>2</sup>/Hz  
RMS (act.): 11.17 g  
RMS (req.): 6.787 g  
Contr.strat.: Closed loop

-- Time on act. level --  
elapsed: 000:01:01  
remaining: 000:00:-1

-- Time total --  
elapsed: 000:02:55  
remaining: 000:00:-1

Date: 07-15-05  
Time: 11:45:15

Z - Axis  
Acceptance Unit  
GIAT 1846

Cursor: 460 Hz 70.83 g<sup>2</sup>/Hz

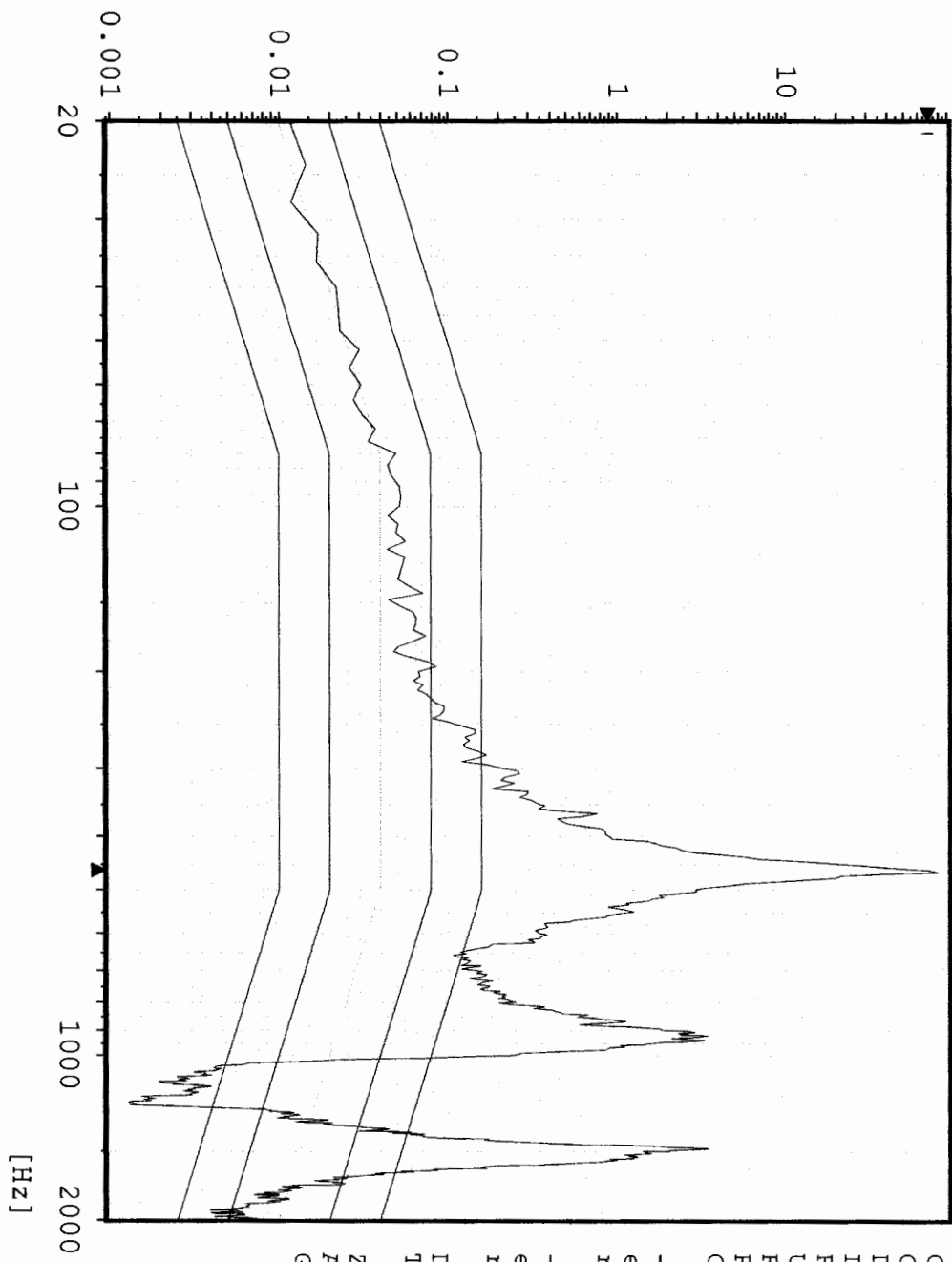
### Random AZ6 TEM Bottom Center

Stanford Linear Accelerator

J/N 49995.52097

TEM & TPS

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



Chan.no: 8  
 Chan.type: M  
 DOF: 100  
 Level: 0.0 dB  
 Resolution: 4 Hz  
 Unit: g<sup>2</sup>/Hz  
 RMS (act.): 47.93 g  
 RMS (req.): 6.787 g  
 Contr.strat.: Closed loop

-- Time on act. level --  
 elapsed: 000:01:01  
 remaining: 000:00:-1

-- Time total --  
 elapsed: 000:02:55  
 remaining: 000:00:-1

Date: 07-15-05  
 Time: 11:45:15

Z - Axis  
 Acceptance Unit  
 GLAT 1846

Cursor: 460 Hz 0.5481 g<sup>2</sup>/Hz

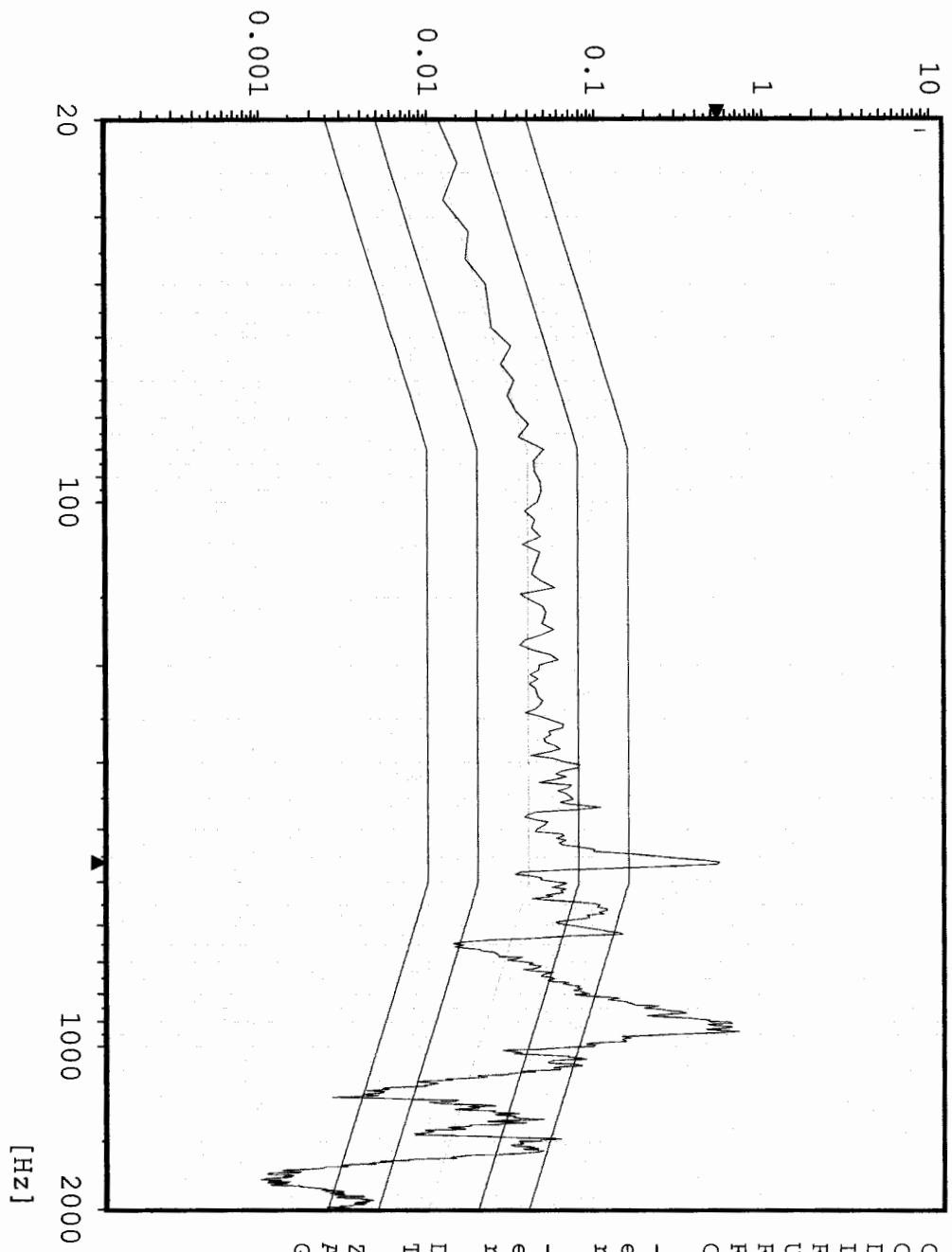
# Random AZZ TPS Corner

Stanford Linear Accelerator

J/N 49995.52097

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.): 11.35 g  
 RMS (req.): 6.787 g  
 Contr.strat.: Closed loop

-- Time on act. level --  
 elapsed: 000:01:01  
 remaining: 000:00:-1

-- Time total --  
 elapsed: 000:02:55  
 remaining: 000:00:-1

Date: 07-15-05  
 Time: 11:45:15

Z - Axis  
 Acceptance Unit  
 GLAT 1846

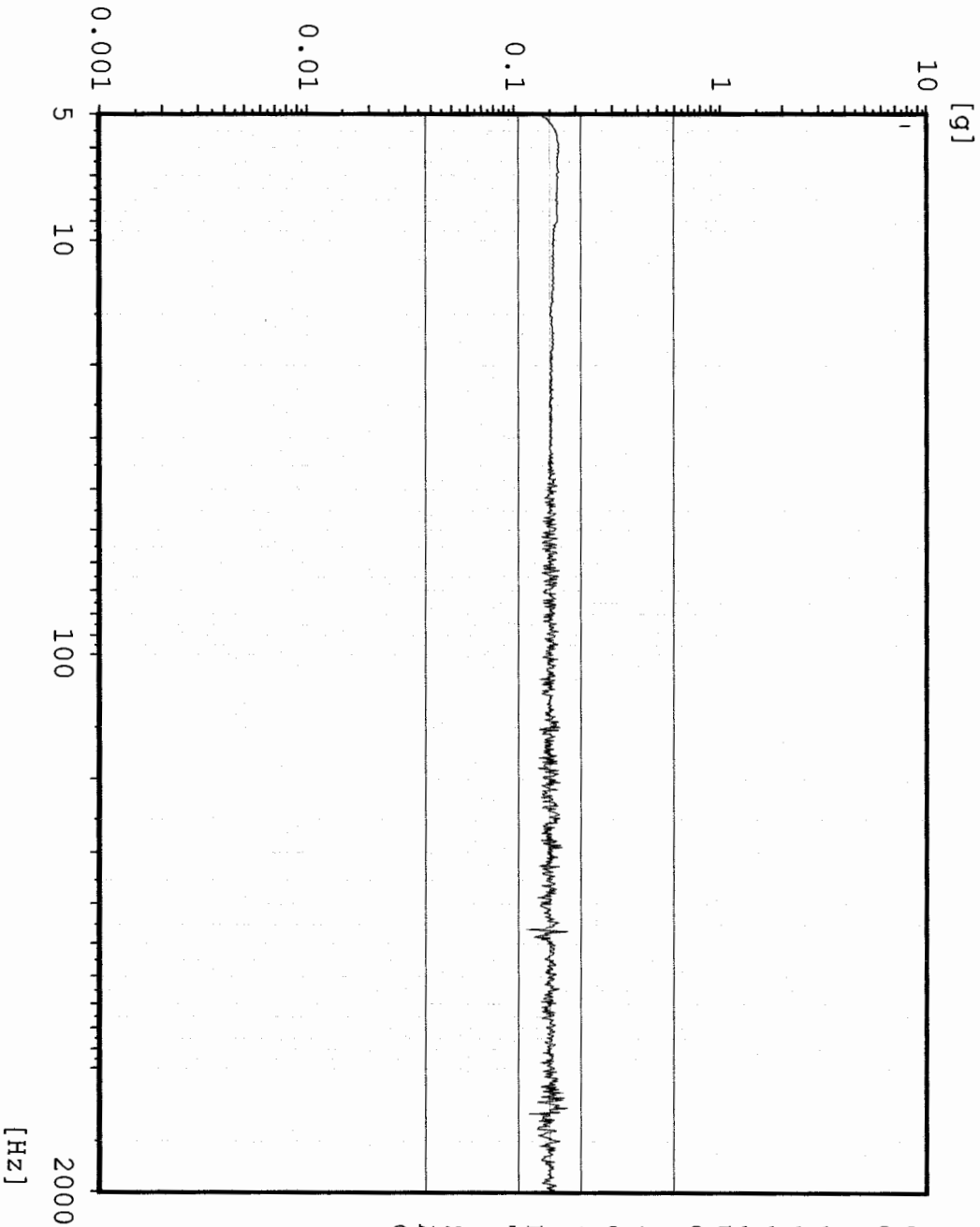
Sine

# CZ1 Z-Axis Control

Stanford Linear Accelerator

J/N 49995.52097

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: 07-15-05
Time: 11:55:09

```

```

Z - axis Post Random
Acceptance Unit
GLAT 1846

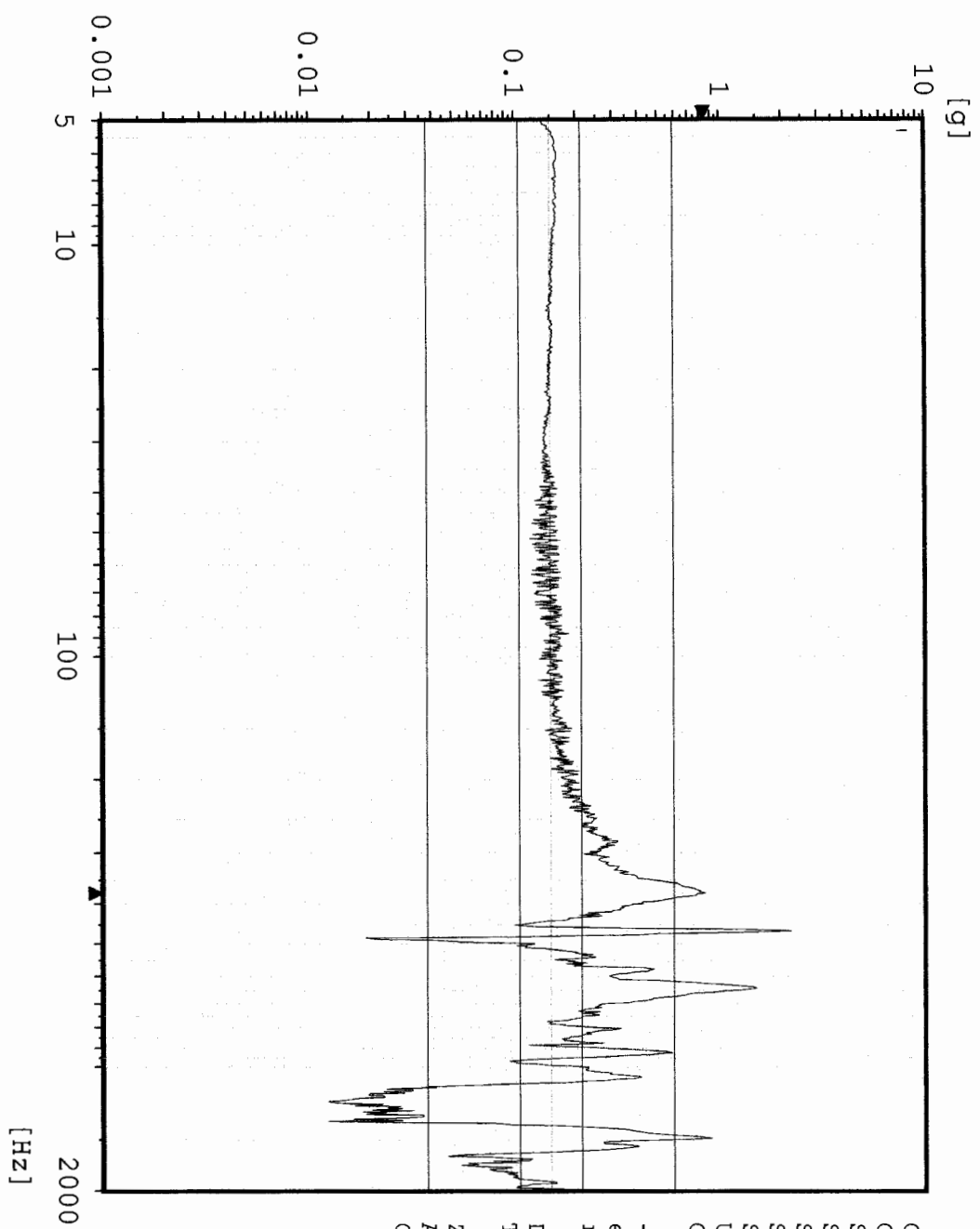
```

Sine  
Stanford Linear Accelerator

### AZ4 TPS Boss 2

J/N 49995.52097

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: 07-15-05
Time: 11:55:09

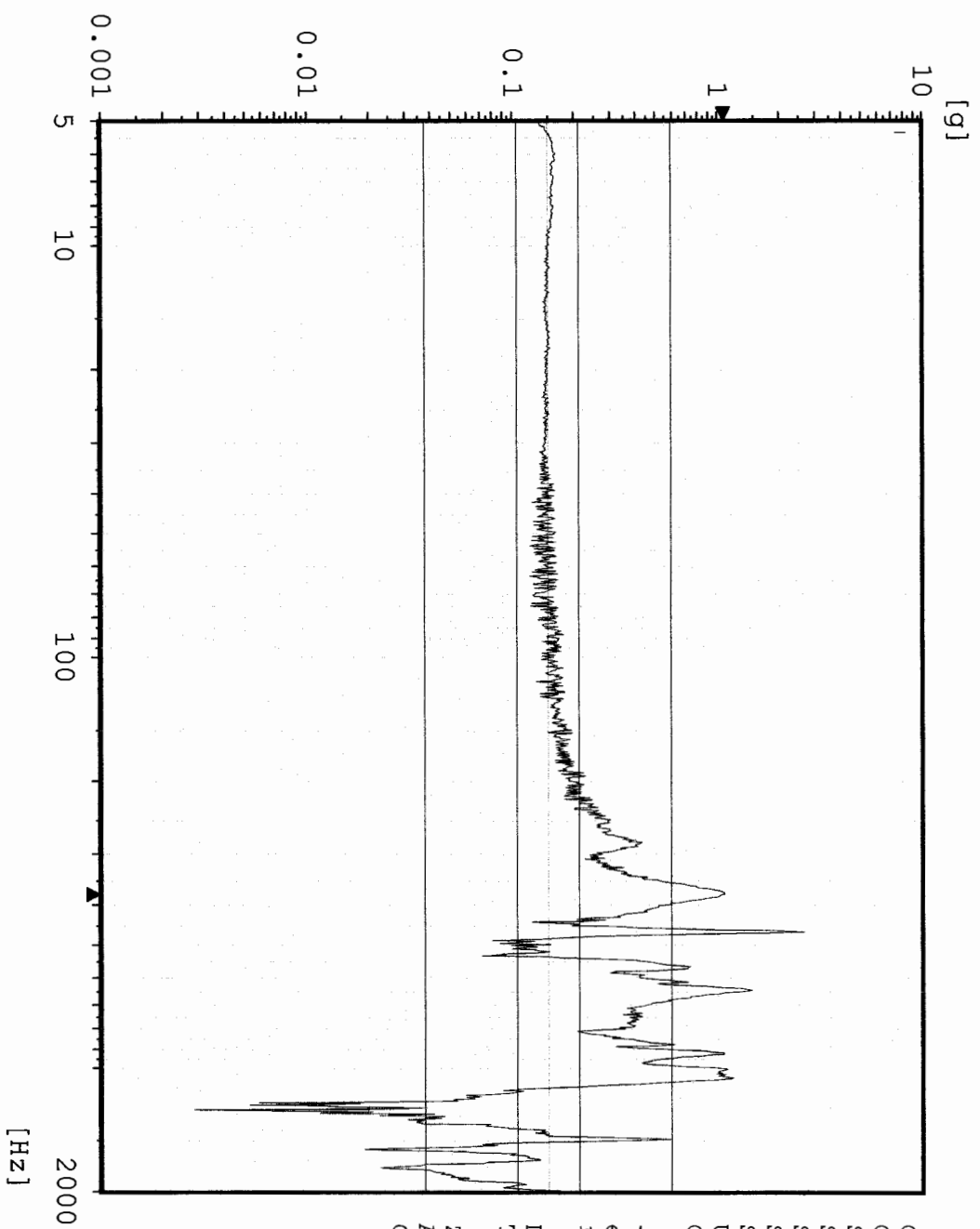
Z - axis Post Random
Acceptance Unit
GIAT 1846

```



# Sine AZ3 TPS Boss 1

Stanford Linear Accelerator  
J/N 49995.52097  
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

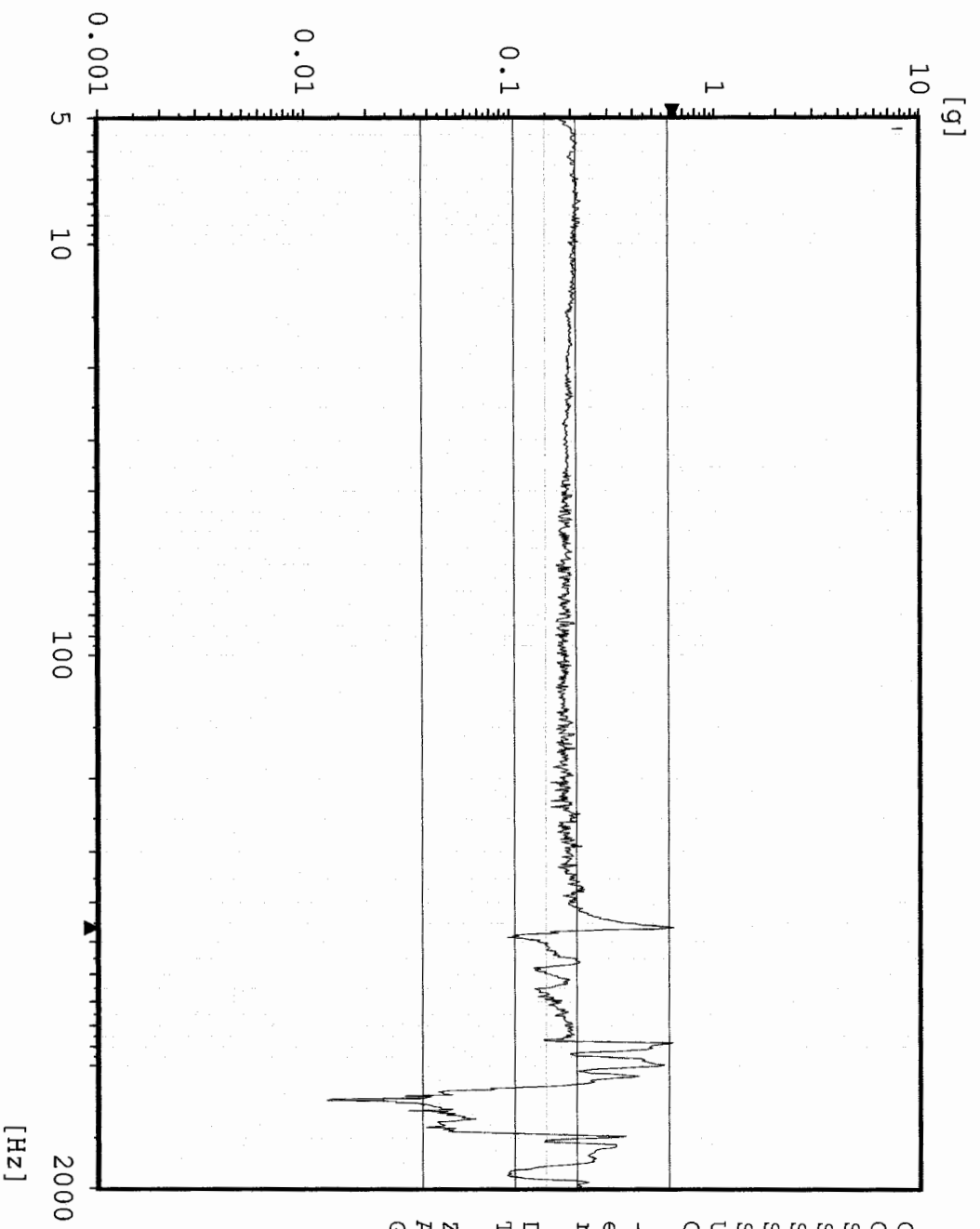
Date: 07-15-05
Time: 11:55:09

Z - axis Post Random
Acceptance Unit
GLAT 1846
  
```

Max: 462.5 Hz 0.6296 g

# Sine AZ5 TEM Bottom Edge

Stanford Linear Accelerator  
J/N 49995.52097  
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

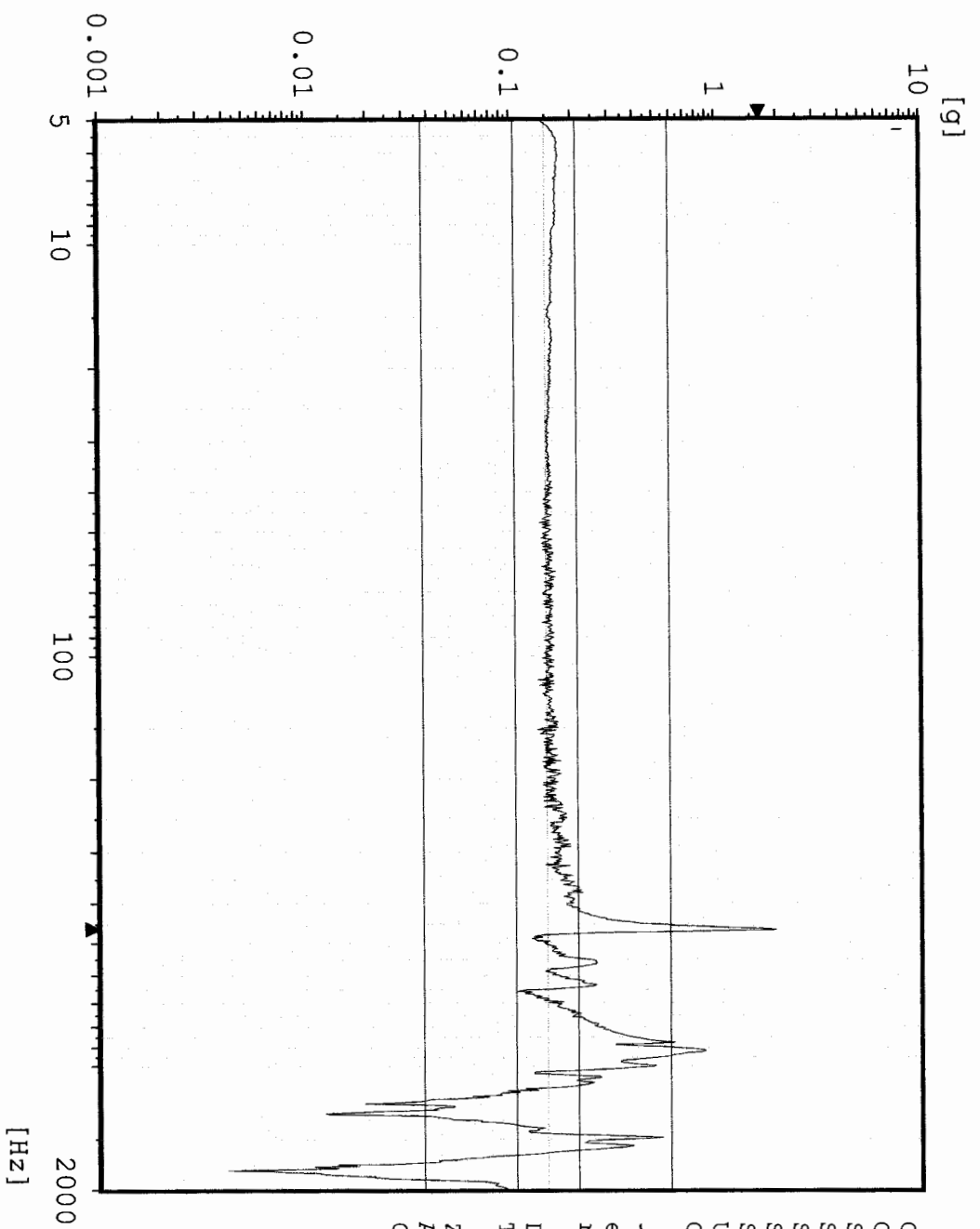
-- Testing time --
elapsed: 000:04:18
remaining: 000:00:00

Date: 07-15-05
Time: 11:55:09

Z - axis Post Random
Acceptance Unit
GLAT 1846
  
```

# Sine AZ1 TPS Edge Center

Stanford Linear Accelerator  
J/N 49995.52097  
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: 07-15-05
Time: 11:55:09

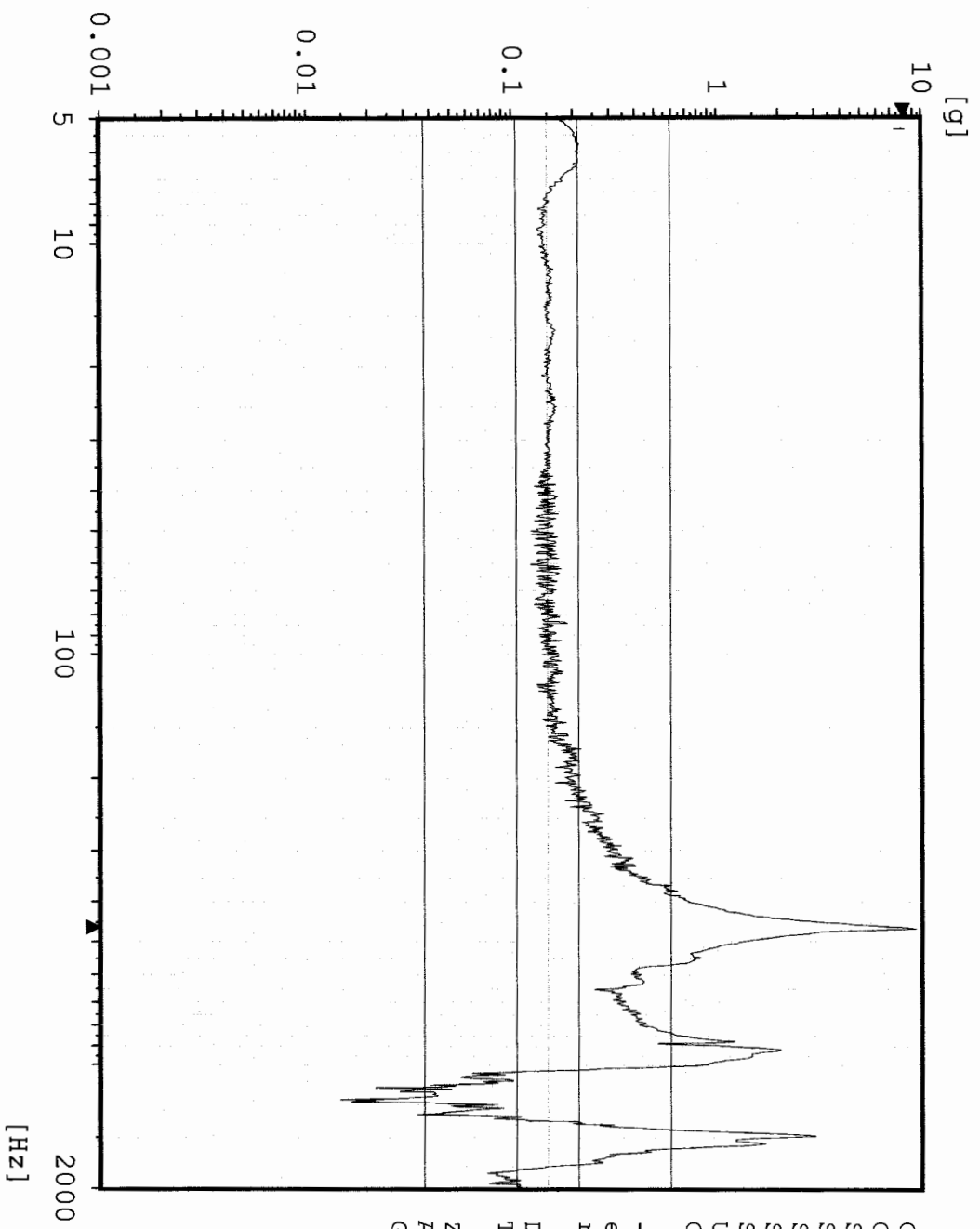
Z - axis Post Random
Acceptance Unit
GLAT 1846
  
```

# Sine AZ6 TEM Bottom Center

Stanford Linear Accelerator

J/N 49995.52097

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

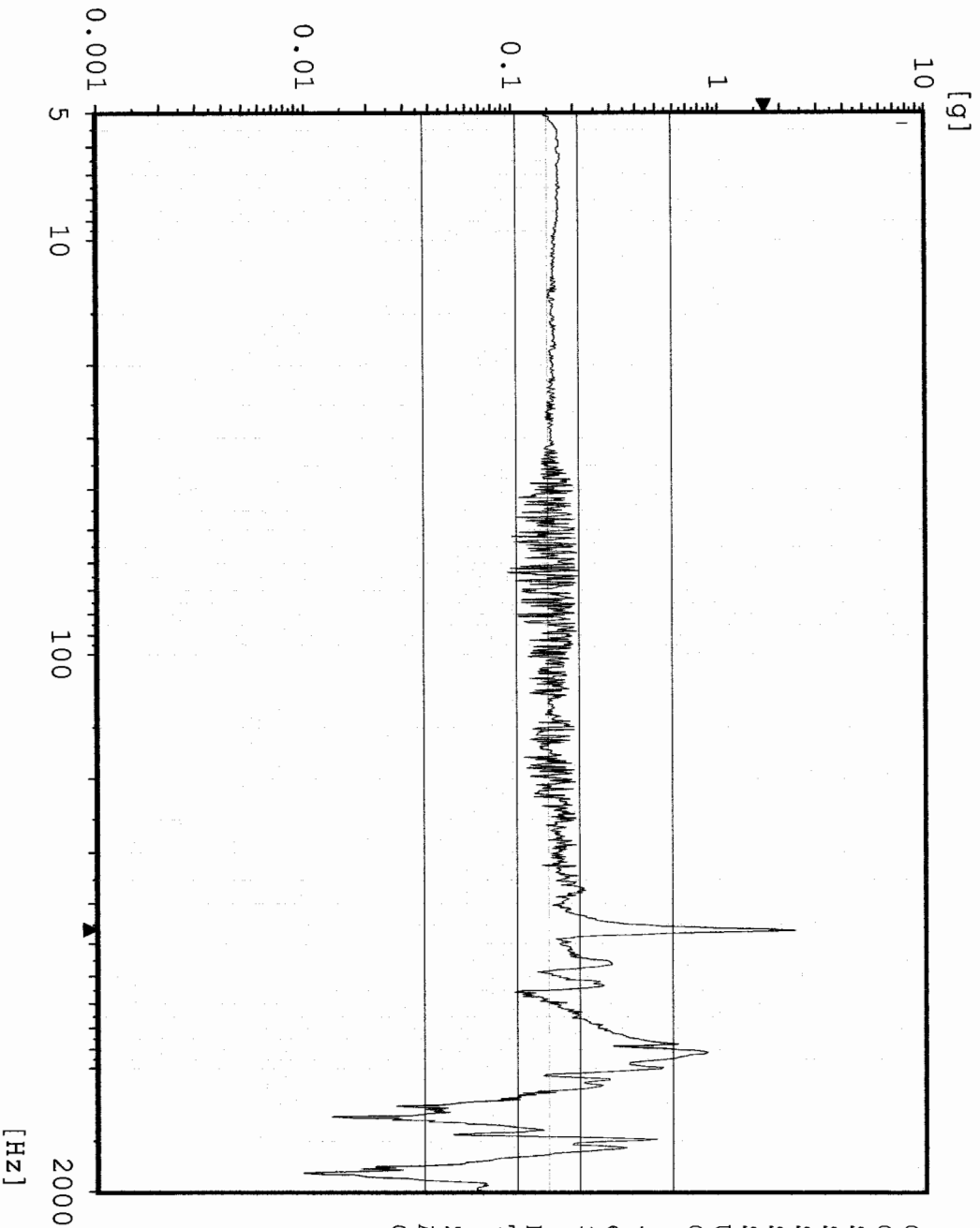
Date:         07-15-05
Time:         11:55:09

Z - axis      Post Random
Acceptance Unit
GLAT 1846
  
```

Sine

AZ2 TPS Corner

Stanford Linear Accelerator  
J/N 49995.52097  
TEM / TPS



```

Chan.no: 10 M 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: 07-15-05
Time: 11:55:09

Z - axis Post Random
Acceptance Unit
GLAT 1846

```