

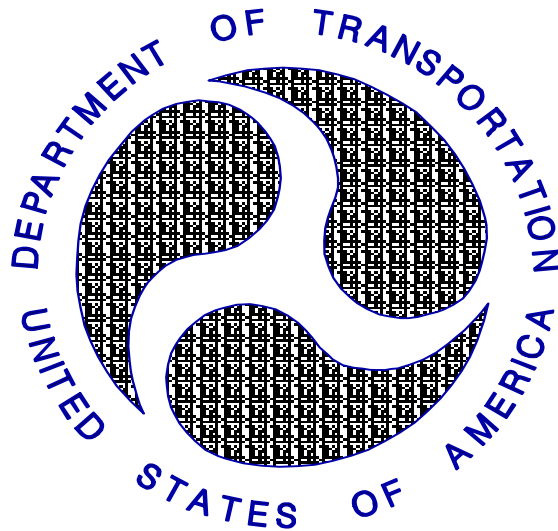
REPORT NO. MCW-DOT-04SN04

**NEW CAR ASSESSMENT PROGRAM
SIDE IMPACT TESTING**

HONDA MOTOR CORPORATION
2004 ACURA 3.5RL 4-DOOR SEDAN

NHTSA NUMBER: M45302

MEDICAL COLLEGE OF WISCONSIN
5000 WEST NATIONAL AVENUE
MILWAUKEE, WI 53295



13 JANUARY 2004

FINAL REPORT

U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
RULEMAKING
OFFICE OF CRASHWORTHINESS STANDARDS
ROOM 5307, NVS-111
400 SEVENTH STREET, SW
WASHINGTON, DC 20590

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16. Abstract A 55/28 km/h 90° Impact Moving Deformable Barrier NCAP Side Impact Test was conducted on the subject 2004 Acura 3.5RL in accordance with the specifications of the Office of Crashworthiness Standards Test Procedure for generation of consumer information on vehicle side crash protection. This test was conducted at the Medical College of Wisconsin Vehicle Crashworthiness Lab in Milwaukee, Wisconsin, on 13 January 2004. The impact velocity of the Moving Deformable Barrier (MDB) was 62.1 km/h, and the ambient temperature at the struck side (driver's) of the target vehicle at the time of impact was 19.9° C. The target vehicle post-test maximum crush was 395 mm at Level 2. The test vehicle's performance follows: <table border="1"> <thead> <tr> <th></th><th><u>DRIVER</u></th><th><u>PASSENGER</u></th></tr> </thead> <tbody> <tr> <td>Left Upper Rib Acceleration G</td><td>61.6</td><td>56.4</td></tr> <tr> <td>Left Lower Rib Acceleration G</td><td>51.7</td><td>68.7</td></tr> <tr> <td>Lower Spine Acceleration G</td><td>78.7</td><td>49.1</td></tr> <tr> <td>Thoracic Trauma Index TTI</td><td>70</td><td>59</td></tr> <tr> <td>Pelvis Acceleration G</td><td>93</td><td>78</td></tr> </tbody> </table> The doors on the struck side of the vehicle did not separate from the body at the hinges or latches, and the opposite doors did not open during the side impact event.					<u>DRIVER</u>	<u>PASSENGER</u>	Left Upper Rib Acceleration G	61.6	56.4	Left Lower Rib Acceleration G	51.7	68.7	Lower Spine Acceleration G	78.7	49.1	Thoracic Trauma Index TTI	70	59	Pelvis Acceleration G	93	78
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SECTION 1**PURPOSE AND TEST PROCEDURE**

This side impact test was part of the FY04 New Car Assessment Program Side Impact Test Program, sponsored by the National Highway Traffic Safety Administration (NHTSA), under Contract No. DTNH22-01-D-02003. The purpose of this test was to evaluate side impact protection of a 2004 Acura 3.5RL 4-Door Sedan. This side impact test was conducted in accordance with the Office of Crashworthiness Standard's Laboratory Test Procedure dated November 2002.

The Medical College of Wisconsin does not endorse or certify products. The manufacturer's name appears solely for identification purposes only.

SECTION 2

SUMMARY OF SIDE IMPACT TEST

A 2004 Acura 3.5RL 4-Door Sedan was impacted on the left or driver's side by a Moving Deformable Barrier (MDB) that was moving forward in a 27° crabbed position to the tow road guidance system at a velocity of 62.1 km/h (38.6 mph). The target vehicle was stationary and positioned at an angle of 63° to the line of forward motion. The side impact test was conducted by the Medical College of Wisconsin in Milwaukee, Wisconsin, on 13 January 2004.

Two restrained Side Impact Hybrid III Dummies (SID H3's) were placed in the driver and left rear designated seating positions, according to instructions specified in the OCWS Side Impact Laboratory Test Procedure, dated November 2002. The side impact event was documented by six high-speed video cameras and one real-time camera. Camera locations and other pertinent camera information can be found in this report.

The SID H3s were instrumented with the following accelerometers.

1. Left Upper Rib (LUR) Primary and Redundant uniaxial accelerometers (Y-direction)
2. Left Lower Rib (LLR) Primary and Redundant uniaxial accelerometers (Y-direction)
3. Lower Thoracic Spine (T₁₂) Primary and Redundant uniaxial accelerometers (Y-direction)
4. Pelvic (PEV) section Primary and Redundant uniaxial accelerometers (Y-direction)
5. Head Center of Gravity triaxial accelerometers (X-, Y-, and Z-direction)
6. Upper Neck (NKU) six axis load cell (Fx, Fy, Fz, Mx, My, and Mz)

Pre- and post-test photographs of the test vehicle, the MDB, and the side impact dummies (SID H3s) are included in Appendix A. Appendix B contains the vehicle, MDB, and dummy response data traces. A summary of the side impact dummy configuration and performance verification test data is shown in Appendix C. Dummy and vehicle calibration data can be found in Appendix D of this report.

The following table summarizes the results of this test.

Injury Criteria	Front SID H3	Rear SID H3
TTI (G)	70	59
PELVIS (G)	93	78
HIC36	223.8	†

† Passenger head Z accelerometer failed during impact

The vehicle's airbag information is summarized in the following table

	Frontal	Side-Torso	Side-Torso/Head	Side-Head
Driver	Yes-Steering wheel	Yes-Seat	None	None
Front Passenger	Yes- Dashboard	Yes-Seat	None	None
Left Rear Passenger	None	None	None	None

SECTION 3
SUMMARY OF TEST RESULTS

DATA SHEET NO. 1**GENERAL VEHICLE TEST PARAMETER DATA**TEST VEHICLE INFORMATION

Year/ Make/ Model/ Body Style		2004 Acura 3.5RL 4-Door Sedan			
Vehicle NHTSA NO.		M45302	VIN	JH4KA966X4C004162	
Vehicle Body Color		Silver	Build Date	June 2003	
Engine Data	<u>6</u> Cylinders	<u> </u> CID	<u>3.5</u> Liter	<u> </u> cc	
Placement	<u> </u> Longitudinal	<u>X</u> Lateral			
Transmission	<u>4</u> Speed	<u> </u> Manual	<u> </u> Automatic	<u>X</u> Overdrive	
Final Drive	<u> </u> Rear Wheel Drive	<u>X</u> Front Wheel Drive	<u> </u> Four Wheel Drive	<u> </u> ADL's	
Odometer Reading		<u>109 miles</u>	Date	<u>31 December 2003</u>	
Options	<u>X</u> A/C	<u>X</u> Power Steering	<u>X</u> Power Brakes	<u>X</u> Power Windows	
	<u>X</u> Cruise Control	<u>X</u> Tilt Wheel	<u>X</u> Power Locks	<u> </u> ADLs	

DATA FROM TIRE PLACARD:

Tire Pressure (at Capacity)	<u>30</u> PSI Front	
	<u>30</u> PSI Rear	
Recommended Tire Size	<u>P225 55 R16</u>	
Tires on Test Vehicle	<u>P225 55 R16</u>	Manufacturer <u>Michelin</u>

TEST VEHICLE AIRBAG INFORMATION:

	<u>Frontal</u>	<u>Side-Torso</u>	<u>Side-Torso/Head</u>	<u>Side-Head</u>
Driver	Yes-Steering wheel	Yes-Seat	None	None
Front Passenger	Yes- Dashboard	Yes-Seat	None	None
Left Rear Passenger	None	None	None	None

VEHICLE CAPACITY DATA:

Number of Occupants:	<u>2</u> Front	<u>3</u> Rear	<u> </u> 3 rd Seat	<u>5</u> Total
Type of Front Seats	<u>X</u> Bucket	<u> </u> Bench	<u> </u> Split Bench	
Type of Front Seat Back	<u> </u> Fixed	<u>X</u> Adjustable w/	<u>X</u> Lever	<u> </u> Knob
Vehicle Max Capacity Loading	<u>385.6</u>		kg (A)	
No. of Occupants X 68.04 kg	<u>340.2</u>		kg (B)	
Cargo Capacity (A) – (B)	<u>45.4</u>		kg	

TEST VEHICLE DELIVERED WEIGHT WITH MAXIMUM FLUIDS:

Left Front	=	<u>530.7</u> kg	Left Rear	=	<u>357</u> kg
Right Front	=	<u>509.3</u> kg	Right Rear	=	<u>357.9</u> kg
TOTAL FRONT	=	<u>1040</u> kg	TOTAL REAR	=	<u>714.9</u> kg
% Total Weight	=	<u>59.3</u> %	%Total Weight	=	<u>40.7</u> %
TOTAL WEIGHT	=	<u>1754.9</u> kg			

DATA SHEET 1 (continued)**GENERAL VEHICLE TEST PARAMETER DATA**CALCULATION OF VEHICLE'S TARGET TEST WEIGHT:

Total Test Vehicle Delivered Weight with Max Fluids	=	<u>1754.9</u>	kg	(A)
Maximum Cargo Carrying Capacity of Test Vehicle	=	<u>45.4</u>	kg	(B)
Weight of (2) instrumented Side Impact Dummies	=	<u>161.0</u>	kg	(C)
TEST VEHICLE TARGET WEIGHT	=	<u>1961.3</u>	kg	(A+B+C)

FULLY LOADED TEST VEHICLE (UDVW + 1 OR 2 SID H3(s) + CARGO)

Left Front	=	<u>585.1</u>	kg	Left Rear	=	<u>444.5</u>	kg
Right Front	=	<u>511.2</u>	kg	Right Rear	=	<u>420.5</u>	kg
TOTAL FRONT	=	<u>1096.3</u>	kg	TOTAL REAR	=	<u>865</u>	kg
% Total Weight	=	<u>55.9</u>	%	%Total Weight	=	<u>44.1</u>	%
TOTAL WEIGHT	=	<u>1961.3</u>	kg				

AS TESTED WEIGHT OF TEST VEHICLE (UDVW+ SID H3(s)+CARGO+EQUIPMENT & INSTRUMENTATION)

Left Front	=	<u>583.3</u>	kg	Left Rear	=	<u>440.9</u>	kg
Right Front	=	<u>511.2</u>	kg	Right Rear	=	<u>419.1</u>	kg
TOTAL FRONT	=	<u>1094.5</u>	kg	TOTAL REAR	=	<u>860</u>	kg
% Total Weight	=	<u>56.0</u>	%	%Total Weight	=	<u>44.0</u>	%
TOTAL WEIGHT	=	<u>1954.5</u>	kg				

TEST VEHICLE ATTITUDE (all dimensions in millimeters):

AS DELIVERED

Left Front	<u>734</u>	Right Front	<u>737</u>	Left Rear	<u>735</u>	Right Rear	<u>737</u>
------------	------------	-------------	------------	-----------	------------	------------	------------

FULLY LOADED

Left Front	<u>715</u>	Right Front	<u>722</u>	Left Rear	<u>698</u>	Right Rear	<u>711</u>
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AS TESTED

Left Front	<u>720</u>	Right Front	<u>725</u>	Left Rear	<u>699</u>	Right Rear	<u>712</u>
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Test Vehicle Wheelbase 2914 mm

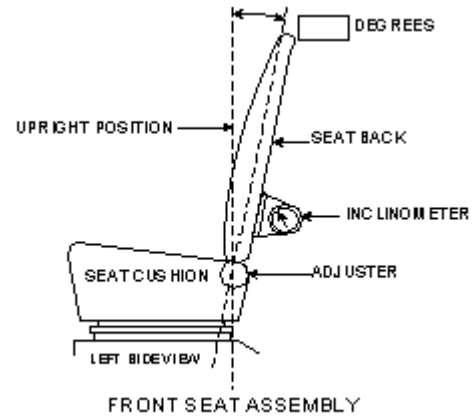
As Tested CG = 1282 mm rearward of front wheel centerline

TOTAL VEHICLE LENGTH:

Right Side	=	<u>4597</u>	mm
Left Side	=	<u>4597</u>	mm
Centerline	=	<u>4985</u>	mm

DATA SHEET 1 (continued)**GENERAL TEST VEHICLE PARAMETER DATA**

Nominal Design Riding Position for adjustable driver and passenger seats. Please describe how to position the inclinometer to measure the seat back angle. Include a description of the adjustment latch detent if applicable

FRONT SEAT CUSHION PLACEMENT:

Total Length of Adjustment Travel

232 mmTotal Number of Detents N/A Test Position116 mm rearward of full forward position (mid-position)FRONT SEAT BACK ADJUSTMENT:

Seat Back Angle

10.4 degrees measured at head rest post (w/o SID H3)- 677 mm from outer visor bolt to center of head rest holeREAR SEAT POSITION:

Total Length Fore/Aft Adjustment

N/A

Seat Back Adjustment Position

N/AADJUSTABLE STEERING COLUMN POSITION:Mid-PositionWINDOW POSITIONS:

Left Front

Up

Right Front

Removed

Left Rear

Up

Right Rear

RemovedAMOUNT OF STODDARD SOLVENT IN FUEL TANK:

Fuel System usable Capacity

67.8 L

Test Volume

63.2 L(93.2% usable capacity)LOCATIONS OF IMPACT POINT ON TEST VEHICLE SIDE TO BE IMPACTED:

Wheelbase

2914 mm

Impact Point is

508 mm rearward

of front axle centerline

Actual Impact Point is

504 mm rearward

of front axle centerline

DATA SHEET 2
TEST VEHICLE SUMMARY

VEHICLE IDENTIFICATION:

Year/Make/Model/Body Style	2004 Acura 3.5RL 4-Door Sedan		
Body Color	Silver	VIN	JH4KA966X4C004162
NHTSA No.	M45302	Test Date	13 January 2004
Overall Length	4985 mm	Overall Width	1825 mm

VEHICLE TEST WEIGHT (Pre-Test):

Left Front	=	583.3	kg	Left Rear	=	440.9	kg
Right Front	=	511.2	kg	Right Rear	=	419.1	kg
TOTAL FRONT	=	1094.5	kg	TOTAL REAR	=	860	kg
% Total Weight	=	56.0	%	%Total Weight	=	44.0	%
TOTAL WEIGHT	=	1954.5	kg				
Wheelbase	=				=	2914	mm
Longitudinal CG from Center of Front Axle	=				=	1282	mm
Impact Angle with Respect to Impactor	=				=	90°	

ACTUAL IMPACT POINT

Actual Impact Point is 4 mm forward and 9 mm below nominal impact point

MAXIMUM EXTERIOR STATIC CRUSH:

1. LEVEL 1	(252 mm above ground)	=	177	mm
2. LEVEL 2	(472 mm above ground)	=	395	mm
3. LEVEL 3	(580 mm above ground)	=	351	mm
4. LEVEL 4	(899 mm above ground)	=	297	mm
5. LEVEL 5	(1318 mm above ground)	=	113	mm

Maximum Post-Test intrusion at Level 2 is 395 mm

OCCUPANTS

	<u>Left Front Passenger</u>	<u>Left Rear Passenger</u>
Dummy Identification	SID H3/056	SID H3/058
Restraints Used	3-Point Belt	3-Point Belt
	Seat mounted side air bag	

INSTRUMENTATION:

Number of Vehicle Data Channels	25
Number of Cameras	Onboard
	0†
	Off board
	4
	MDB
	2
	Real Time
	1
	TOTAL
	7

† Vehicle onboard cameras did not trigger

DATA SHEET NO. 3**MOVING DEFORMABLE BARRIER (MDB) SUMMARY****MDB FACE MANUFACTURER AND SERIAL NUMBER:**

Plascore Serial Number 024B0703-098B0703

POSITION OF IMPACT (MDB) ON TOW SYSTEM

Crabbed 27° to the left

MDB DETAILS:

Overall Width of Framework Carriage	=	<u>1250 mm</u>
Overall Length of MDB (incl. honeycomb impact face)	=	<u>4116 mm</u>
Wheelbase of Framework Carriage	=	<u>2578 mm</u>
Tread of Framework Carriage (Front & Rear)	=	<u>1880 mm</u>
C.G. Location Rearward of Front Axle	=	<u>1135 mm</u>
C.G. Location From Center Line	=	<u>-10 mm</u>
C.G. Location Above Ground Level	=	<u>480 mm</u>

MDB WEIGHT:

Left Front	=	<u>458.0</u>	kg	Left Rear	=	<u>228.9</u>	kg
Right Front	=	<u>307.2</u>	kg	Right Rear	=	<u>365.6</u>	kg
TOTAL FRONT	=	<u>765.2</u>	kg	TOTAL REAR	=	<u>594.5</u>	kg
% Total Weight	=	<u>56.3</u>	%	%Total Weight	=	<u>43.7</u>	%
TOTAL WEIGHT	=	<u>1359.7</u>	kg				

MDB IMPACT:

Impact Angle (MDB C/L to Target Vehicle)		<u>270°</u>	
Impact Speed	Primary	<u>62.1 km/h</u>	<u>38.6 mph</u>
	Secondary	<u>61.9 km/h</u>	<u>38.5 mph</u>
	Redundant	<u>61.9 km/h</u>	<u>38.5 mph</u>

MAXIMUM STATIC CRUSH OF HONEYCOMB IMPACT FACE:

1. Row A Center of Bumper	=	<u>134</u>	mm
2. Row B Top of Bumper	=	<u>70</u>	mm
3. Row C Mid-Level	=	<u>144</u>	mm
4. Row D Top of Stack	=	<u>186</u>	mm

INSTRUMENTATION:

Number of MDB Data Channels	=	<u>5</u>
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DATA SHEET NO. 4**POST-TEST OBSERVATIONS**VISIBLE DUMMY CONTACT POINTS:

	<u>LEFT FRONT SID H3</u>	<u>LEFT REAR SID H3</u>
Head	Back of head to front seat head restraint	To left C-Pillar trim
Upper Torso	To left front door panel ~85 mm below window sill and side air bag	To left rear door panel ~95 mm below window sill
Lower Torso	To side air bag	To left rear door panel ~35 mm above arm rest
Left Knee	To arm rest just below power window switches	To arm rest just below power window switches
Left Leg	To left front door panel ~90 mm below arm rest	To left rear arm rest

DOOR OPENING:

	<u>LEFT DOOR</u>	<u>RIGHT DOOR</u>
Front	Closed/latched/inoperable	Closed/latched/operable
Rear	Closed/latched/inoperable	Closed/latched/operable

MDB DISTANCE FROM TARGET IMPACT POINT:

Horizontal	<u>4 mm forward</u>	Vertical	<u>9 mm below</u>
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ARM REST LOCATIONS:

Front	<u>244 mm below window sill</u>
Rear	<u>244 mm below window sill</u>

SEAT MOVEMENT:

Front	<u>Seat crush ~90 mm; seat back crush ~5 mm</u>
Rear	<u>Seat crush ~70 mm; seat back crush ~30 mm</u>

GLAZING DAMAGE

Windshield	<u>Left 1/3 cracked from upper and lower A-pillar</u>
Window	<u>Left side windows shattered on impact</u>

PILLAR PERFORMANCE:

<u>None noted</u>

SILL SEPARATION

<u>None noted</u>

AIRBAG DEPLOYMENT STATUS:

	<u>DRIVER</u>	<u>FRONT PASSENGER</u>	<u>REAR PASSENGER</u>
<u>FRONT</u>	Did not deploy	Did not deploy	N/A
<u>SIDE</u>	Deployed	Did not deploy	N/A

DOOR LOCK INFORMATION

Test vehicle was not equipped with Automatic Door Locks as standard equipment

<u>LEFT FRONT DOOR</u>	Unlocked	<u>RIGHT FRONT DOOR</u>	Unlocked
<u>LEFT REAR DOOR</u>	Unlocked	<u>RIGHT REAR DOOR</u>	Unlocked

OTHER NOTABLE IMPACT EFFECTS:

<u>Seat back cover separated from frame.</u>
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SECTION 4
OCCUPANT AND VEHICLE INFORMATION

DATA SHEET 5**SID H3 INSTRUMENTATION DATA**

	Front Dummy Accelerations SID H3/056				Rear Dummy Accelerations SID H3/058			
	Max		Min		Max		Min	
	G's	msec	G's	msec	G's	msec	G's	msec
HEAD ACCELERATIONS								
Longitudinal (X)	7.5	181.8	-18.8	88.1	7.9	56.4	-21.7	71.5
Lateral (Y)	26.0	80.8	-6.8	183.4	66.5	46.3	-8.5	41.4
Vertical (Z)	40.4	50.2	-7.1	28.4	†	†	†	†
Resultant (R)	43.0	50.6			67.4†	46.3†		
HIC36	223.8				†			
RIB ACCELERATIONS								
Upper Rib Lateral (Y)	61.6	16.3	-9.7	71.9	56.4	42.5	-3.4	152.5
Upper Rib Lateral (Y _R)	62.3	16.3	-9.8	71.9	55.0	42.5	-3.4	145.6
Lower Rib Lateral (Y)	51.7	15.0	-13.8	81.3	68.7	42.5	-8.0	89.4
Lower Rib Lateral (Y _R)	54.7	15.0	-14.6	81.3	66.6	42.5	-7.4	89.4
SPINE ACCELERATIONS								
Lower Lateral (Y)	78.7	32.5	-13.0	78.1	49.1	45.6	-12.0	71.9
Lower Lateral (Y _R)	78.4	32.5	-13.6	77.5	48.3	45.0	-12.5	71.9
PELVIS ACCELERATIONS								
Lateral (Y)	92.8	29.4	-20.5	71.3	77.9	33.1	-19.2	66.9
Lateral (Y _R)	93.0	29.4	-20.9	71.3	78.0	33.1	-19.4	66.9

REFERENCE:

Positive Direction -	Anterior/Posterior	+(X) = anterior
	Lateral	+(Y) = right
	Superior/Inferior	+(Z) = inferior
Negative Direction	Anterior/Posterior	-(X) = posterior
	Lateral	-(Y) = left
	Superior/Inferior	-(Z) = superior

All the above data (except head accelerations) has been filtered using FIR (Version 1.0; July 16, 1990)

Head Accelerations have been filtered at SAE Class 1000

Y_R denotes redundant Y-direction accelerometer

† Passenger head Z accelerometer failed during impact, resultant acceleration calculated with X and Y accelerations only.

DATA SHEET 5 (continued)**SID H3 INSTRUMENTATION DATA**

	Front Dummy SID H3/056				Rear Dummy SID H3/058			
	Max		Min		Max		Min	
	N	msec	N	msec	N	msec	N	msec
NECK FORCES								
Longitudinal (X)	171.6	195.3	-709.0	86.4	470.5	62.6	-153.8	98.1
Lateral (Y)	694.7	76.6	-295.9	180.8	77.9	115.2	-1117.7	57.8
Vertical (Z)	1580.7	50.3	-152.5	28.4	578.0	41.1	-1509.0	62.5
NECK MOMENTS								
	Nm	msec	Nm	msec	Nm	msec	Nm	msec
Lateral Bending (X)	56.0	76.6	-32.4	38.6	†	†	†	†
Flexion/Extension (Y)	30.6	96.4	-33.6	55.7	28.8	106.4	-26.5	66.1
Rotation (Z)	20.1	81.3	-11.9	199.7	13.6	79.1	-15.7	199.7

REFERENCE:

Upper neck load cell polarity follows the dummy manipulation table A-1 in the NHTSA Test Reference Guide version 5

Force

Fx positive response: Head rearward, chest forward
 Fy positive response: Head leftward, chest rightward
 Fz positive response: Head upward, chest downward

Moment

Mx positive response: Left ear to left shoulder
 My positive response: Chin to sternum
 Mz positive response: Chin to left shoulder

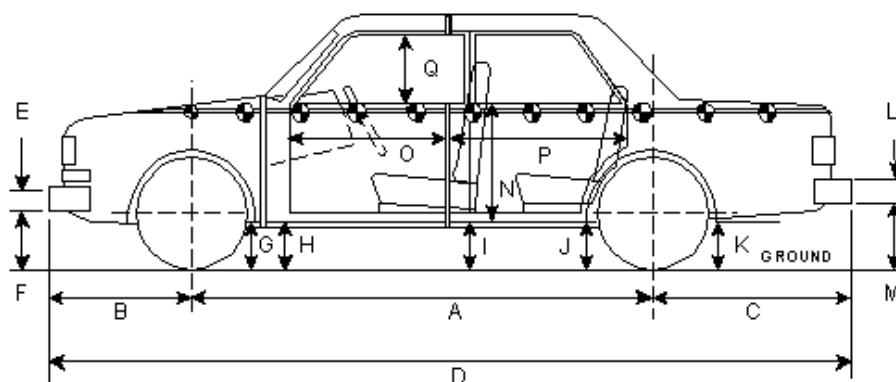
Neck forces have been filtered at SAE Class 1000

Neck moments have been filtered at SAE Class 600

† Passenger X-moment channel failed during impact

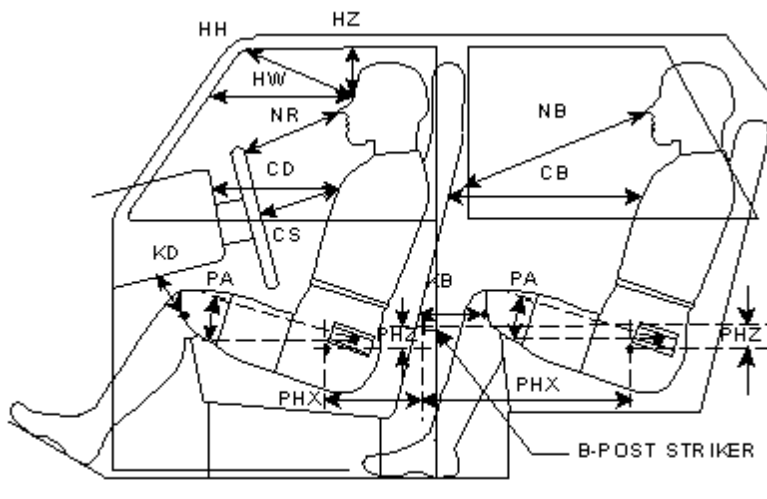
DATA SHEET 6

VEHICLE PRE- AND POST- MEASUREMENTS



LEFT SIDE VIEW

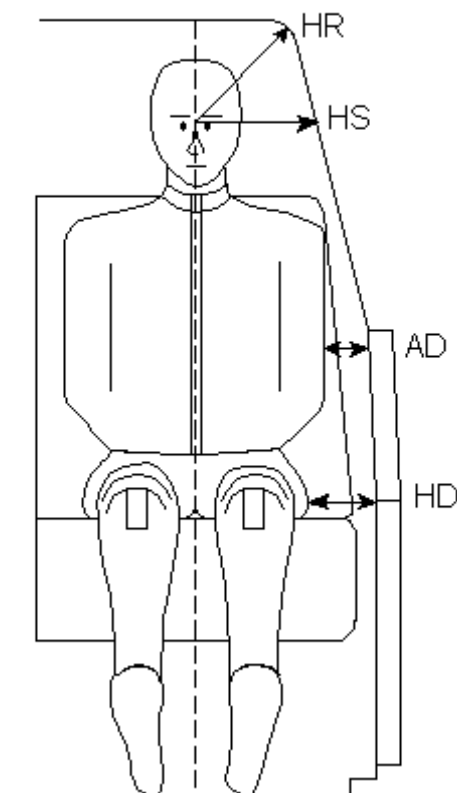
	PRE-TEST As delivered (mm)	PRE-TEST As Tested (mm)	POST-TEST (mm)	Δ CHANGE (mm)
A	2914	-	2861	-53
B	673	-	674	1
C	1010	-	1003	-7
D	4985	-	4958	-27
E	203	-	203	0
F	265	265	281	16
G	248	230	244	14
H	248	229	267	38
I	250	227	293	66
J1	189	160	121	-39
J2	261	228	256	28
K	295	254	263	9
L	265	-	265	0
M	329	289	295	6
N	705	-	617	-88
O	1085	-	1078	-7
P	900	-	843	-57
Q	453	-	425	-28
R	4597	-	4607	10
S	4597	-	4538	-59
T	1825	-	1456	-369

DATA SHEET 7**SID H3 LONGITUDINAL CLEARANCE DIMENSIONS****LEFT SIDE VIEW**

NOTE: All dimensions are in millimeters with tolerance of ± 3 mm

	DRIVER ID# SID H3/056	LEFT REAR PASSENGER ID# SID 3/058
HH	405	N/A
HW	655	N/A
HZ	179	146
NR/NB	506	605
CD/CB	582	530
CS	371	N/A
KDL(KDA°)/KBL(KDA°)	195/27	215/6.7
KDR(KDA°)/KBR(KDA°)	200/11.4	202/6.1
PA°	23.0	24.8
PHX	2600	1682
PHZ	140	95

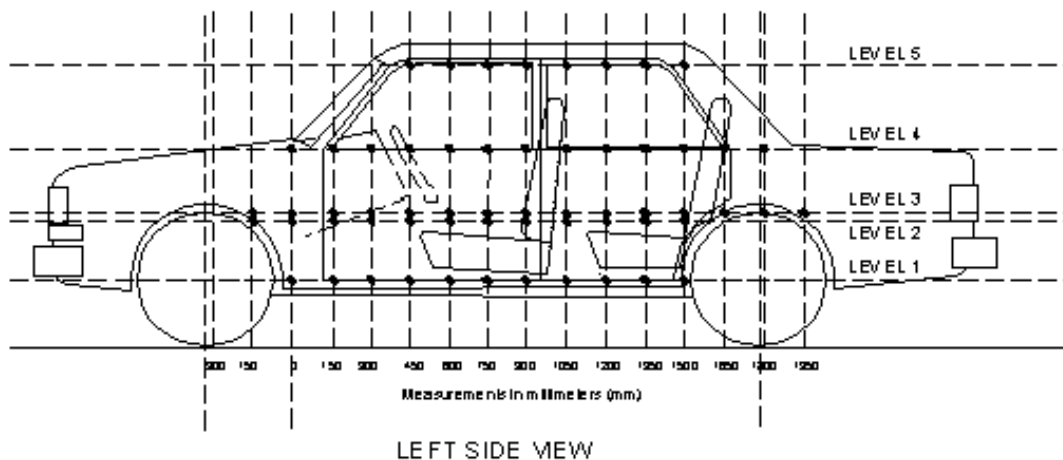
PHX and PHZ referenced from middle of test vehicle's rear bumper

DATASHEET 8**SID H3 LATERAL CLEARANCE DIMENSIONS**

NOTE: All dimensions are in millimeters with tolerance of ± 3 mm

	DRIVER ID# SID H3/056		LEFT REAR PASSENGER ID# SID H3/058	
HR	200		179	
HS	321		299	
AD	Upper 99	Lower 55	Upper 100	Lower 217
HD	151		195	

DATA SHEET 9
VEHICLE SIDE MEASUREMENTS



LEVEL 5 = WINDOW TOP
 LEVEL 4 = WINDOW SILL
 LEVEL 3 = MID-DOOR
 LEVEL 2 = OCCUPANT H-POINT
 LEVEL 1 = AXLE CENTERLINE HEIGHT OR SILL TOP HEIGHT

MEASUREMENTS ARE TAKEN WHEN THE VEHICLE IS IN THE “AS TESTED” CONFIGURATION
 Measurements along the Vertical 750 mm line as shown

Level 5 @ Window Top	1318 mm
Level 4 @ Window Sill	899 mm
Level 3 @ Mid-Door	580 mm
Level 2 @ Occupant H-Point	472 mm
Level 1 @ Axle Centerline or Sill Top Height	252 mm

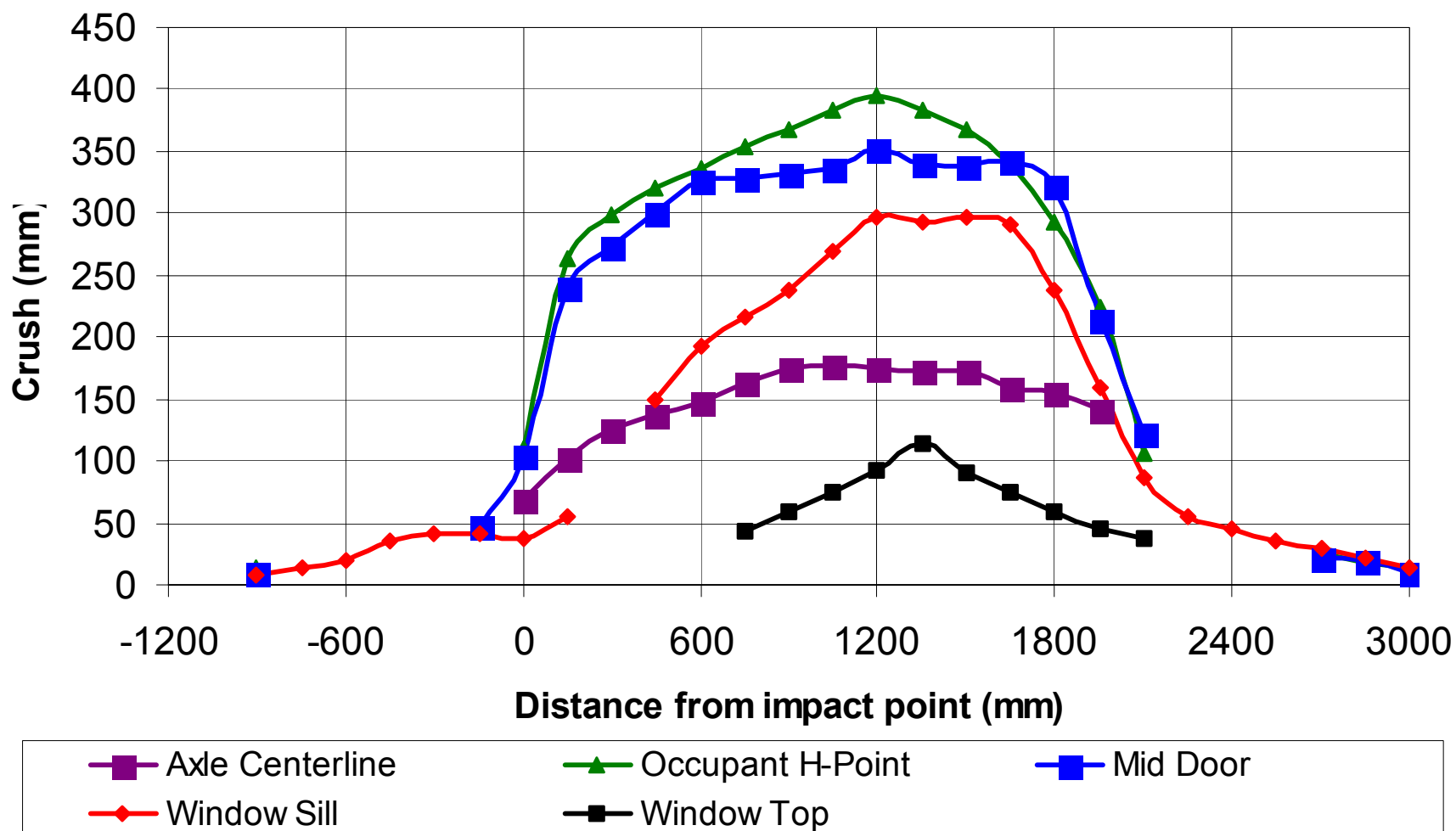
DATA SHEET 10

VEHICLE EXTERIOR CRUSH PROFILES – ALL LEVELS

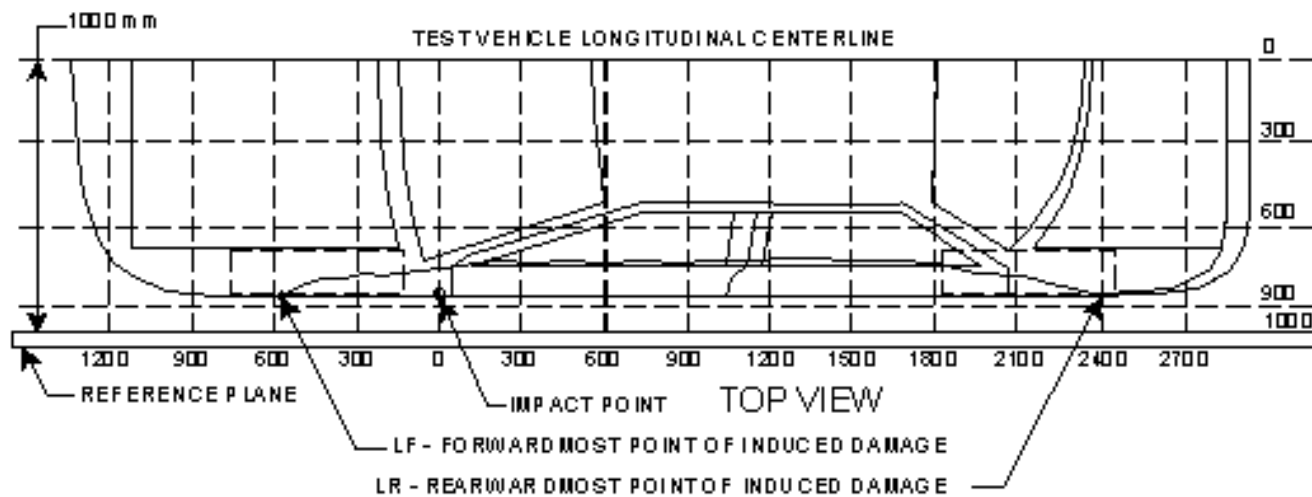
Note: All Dimensions are in millimeters with a tolerance of ± 3 mm

			DISTANCE IN MILLIMETERS (mm) FROM IMPACT POINT																											
HEIGHT			-900	-750	-600	-450	-300	-150	0	150	300	450	600	750	900	1050	1200	1350	1500	1650	1800	1950	2100	2250	2400	2550	2700	2850	3000	
LEVEL 1	252	PRE							220	219	218	218	219	219	220	220	220	220	219	217	214	210								
		POST							289	321	344	355	367	382	394	397	395	392	392	377	369	352								
		CRUSH							69	102	126	137	148	163	174	177	175	172	173	160	155	142								
LEVEL 2	472	PRE	183						165	164	163	162	160	160	159	159	160	159	159	160	159	160	160					171	185	196
		POST	196						275	427	462	482	497	513	527	543	555	542	526	499	452	384	267					196	203	209
		CRUSH	13						110	263	299	320	337	353	368	384	395	383	367	339	293	224	107					25	18	13
LEVEL 3	580	PRE	200					160	161	160	158	157	157	156	156	157	157	158	160	160	162	164	163					185	203	220
		POST	210					207	265	400	432	457	484	485	488	494	508	497	498	502	484	379	285					207	222	229
		CRUSH	10					47	104	240	274	300	327	329	332	337	351	339	338	342	322	215	122					22	19	9
LEVEL 4	899	PRE	280	269	262	254	250	245	244	241		237	240	240	242	241	243	245	246	249	253	257	262	268	276	285	295	305	317	
		POST	287	282	282	290	292	286	282	297		386	432	456	480	510	539	538	543	540	490	416	349	324	321	321	325	326	331	
		CRUSH	7	13	20	36	42	41	38	56		149	192	216	238	269	296	293	297	291	237	159	87	56	45	36	30	21	14	
LEVEL 5	1318	PRE												474	493	502	504	505	506	505	504	499	481							
		POST												518	551	576	596	618	596	579	562	544	5190							
		CRUSH												44	58	74	92	113	90	74	58	45	38							

DATA SHEET 10 (continued)
VEHICLE EXTERIOR CRUSH PROFILES ALL LEVELS



DATA SHEET 11 VEHICLE DAMAGE PROFILE DISTANCES



DPD MEASUREMENTS (mm)		POST-TEST (mm)	PRE-TEST (mm)	STATIC CRUSH (mm)
1	1	191	191	0
2	2	460	194	266
3	3	522	196	326
4	4	536	195	341
5	5	370	195	175
6	6	195	195	0

DATA SHEET 12

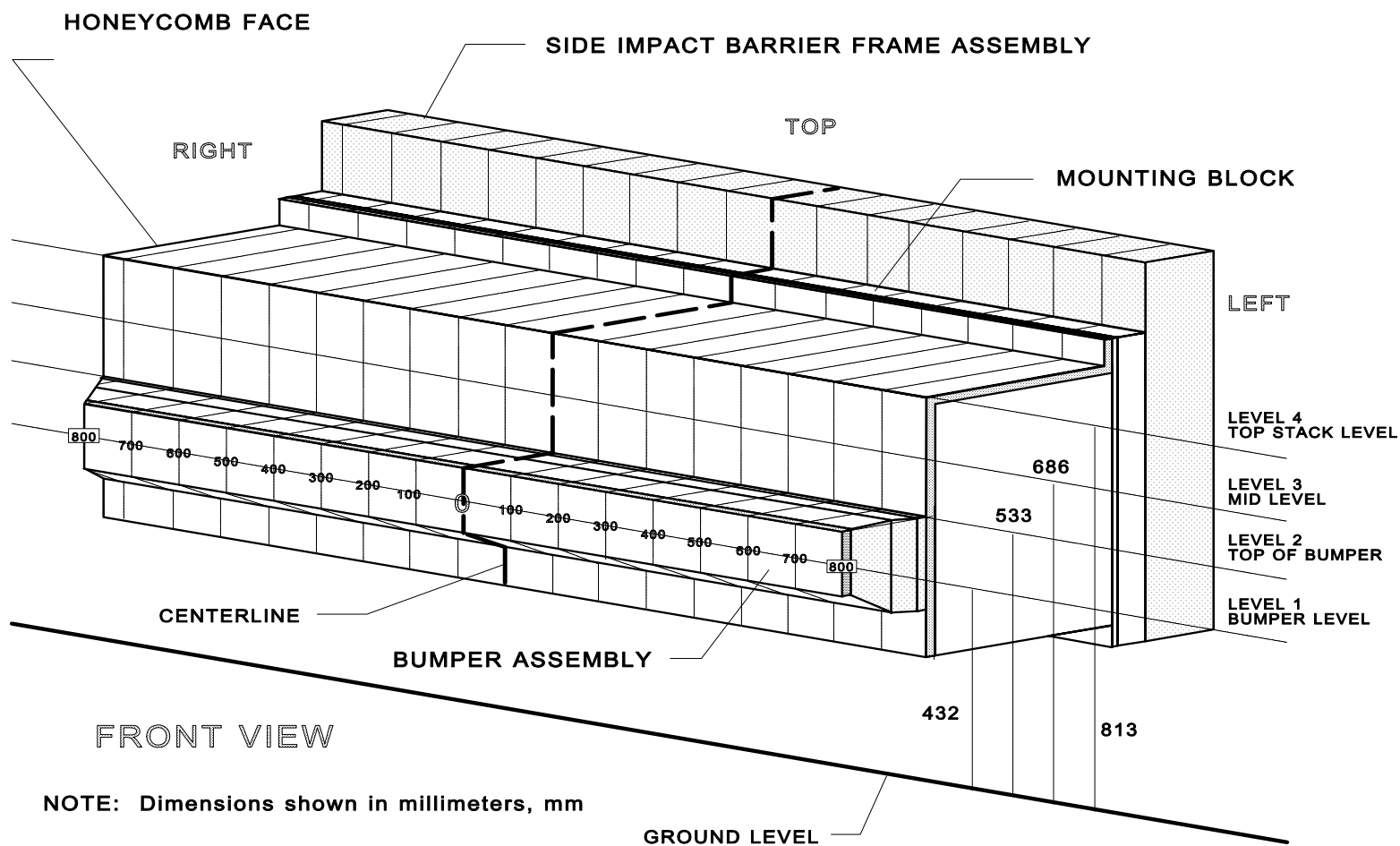
STATIC CRUSH OF IMPACTOR FACE
(Grid as looking at MDB from front)

Note: All Dimensions are in millimeters with a tolerance of ± 3 mm

LEVEL	HEIGHT AT CL (mm)		DISTANCE LEFT OF CENTER								0	DISTANCE RIGHT OF CENTER							
			800	700	600	500	400	300	200	100		100	200	300	400	500	600	700	800
LEVEL 4 TOP STACK	810	PRE-	531	531	530	530	530	530	530	530	530	530	530	529	530	529	530	529	530
		POST-	577	531	520	522	527	540	553	554	551	534	537	542	556	587	632	669	716
		CRUSH	46	0	-10	-8	-3	10	23	24	21	4	7	13	26	58	102	140	186
LEVEL 3 MID- LEVEL	685	PRE-	528	528	528	528	528	528	528	528	528	528	528	527	528	527	528	528	528
		POST-	548	525	526	528	530	547	545	537	533	536	539	542	545	552	570	616	672
		CRUSH	20	-3	-2	0	2	19	17	9	5	8	11	15	17	25	42	88	144
LEVEL 2 TOP BUMPER	560	PRE-	525	525	525	526	526	526	526	526	526	526	526	526	526	526	526	526	526
		POST-	562	555	557	556	557	555	555	561	568	558	562	567	566	567	574	580	596
		CRUSH	37	30	32	30	31	29	29	35	42	32	36	41	40	41	48	54	70
LEVEL 1 MID- BUMPER	432	PRE-	434	422	422	422	422	422	422	422	422	422	422	422	423	422	423	423	436
		POST-	535	512	505	507	515	515	514	512	515	515	514	516	518	524	532	553	570
		CRUSH	101	90	83	85	93	93	92	90	93	93	92	94	95	102	109	130	134

Note: Top of Bumper static crush measurements made 560 mm above ground to avoid glue at bumper/barrier interace

DATA SHEET 12 (continued)
STATIC CRUSH OF IMPACTOR FACE

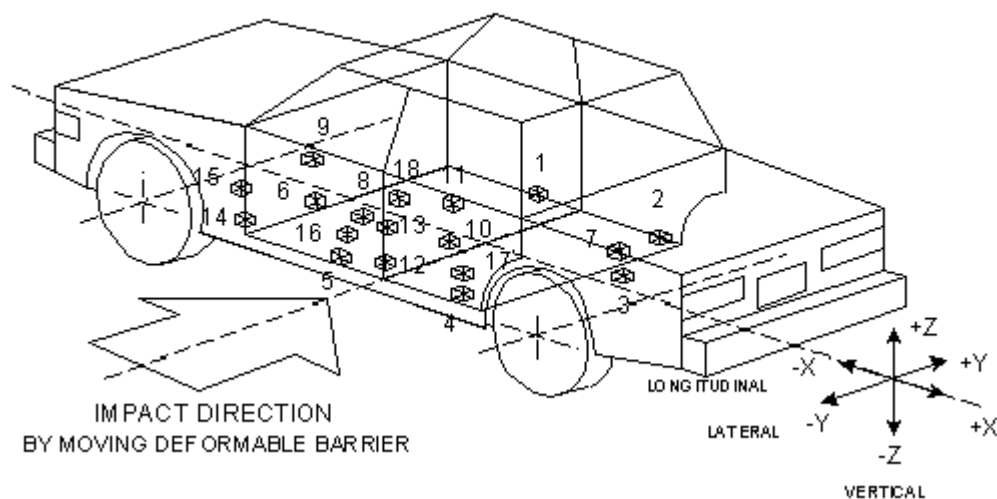


NOTE: Dimensions shown in millimeters, mm

Note: Top of Bumper static crush measurements made 560 mm above ground to avoid glue at bumper/barrier interface

DATA SHEET 13

TEST VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY



- | | |
|-------------------------------------|-------------------------------------|
| 1. Right Side Sill at Front Seat | 10. Mid-rear of Left Rear Door |
| 2. Right Side Sill at Rear Seat | 11. Left Rear Door Upper Centerline |
| 3. Rear Floorpan Above Axle | 12. Left Lower B-Pillar |
| 4. Left Side Sill at Rear Seat | 13. Left Middle B-Pillar |
| 5. Left Side Sill at Front Seat | 14. Left Lower A-Pillar |
| 6. Left Front Door on Centerline | 15. Left Middle A-Pillar |
| 7. Right Rear Occupant Compartment | 16. Front Seat Track |
| 8. Mid-rear of Left Front Door | 17. Rear Seat Track |
| 9. Left Front Door Upper Centerline | 18. Vehicle CG |

DATASHEET 13 (continued)

VEHICLE ACCELEROMETER LOCATIONS AND SUMMARY DATA

Location		Coordinates			Longitudinal (X)				Lateral (Y)				Vertical (Z)				Resultant	
		X mm	Y mm	Z mm	Max		Min		Max		Min		Max		Min		Max	
					G's	msec	G's	msec	G's	msec	G's	msec	G's	msec	G's	msec	G's	msec
1	Right Side Sill at Front Seat	3044	710	412	3.3	55.9	-3.7	8.6	15.9	10.0	-2.0	143.2	3.3	75.7	-7.7	11.0	17.8	10.5
2	Right Side Sill at Rear Seat	2061	705	396	2.3	56.0	-5.9	8.2	18.6	7.1	-2.1	99.6	4.1	91.0	-8.6	16.2	19.9	7.3
3	Rear Floorpan Above Axle	1185	-4	152	4.7	24.3	-3.3	13.1	17.8	24.9	-3.2	106.2	8.1	27.1	-4.8	32.5	18.4	25.0
4	Left Side Sill at Rear Seat	1730	-679	371					102.0	17.0	-14.3	10.1						
5	Left Side Sill at Front Seat	3072	-685	411					37.1	4.9	-5.8	56.2						
6	Left Front Door on Centerline	2896	-780	174					300.6†	4.6†	-85.8†	26.2†						
7	Right Rear Occupant Compartment	2059	588	245					18.1	6.3	-33.2	20.0						
8	Midrear of Left Front Door	2555	-771	134					291.1	3.0	-58.9	15.0						
9	Left Front Door Upper Centerline	2943	-769	-12					175.7	9.0	-128.2	24.3						
10	Midrear of Left Rear Door	Accelerometer not requested																

Axis Origin X – Point L
 Y – Point L
 Z – Point L

Axis Orientation

+(X) Forward where x axis is the vector from middle of rear bumper to mid front bumper
 +(Y) Right where y axis is parallel to ground reference plane
 +(Z) Down where z axis is cross product of +(X) and +(Y)

† Left front door on centerline accelerometer wire broke ~30 msec after impact

DATASHEET 13 (continued)

VEHICLE ACCELEROMETER LOCATIONS AND SUMMARY DATA

Location		Coordinates			Longitudinal (X)				Lateral (Y)				Vertical (Z)				Resultant	
		X mm	Y mm	Z mm	Max		Min		Max		Min		Max		Min		Max	
					G's	msec	G's	msec	G's	msec	G's	msec	G's	msec	G's	msec	G's	msec
11	Left Rear Door Upper Centerline	1898	-777	-138					303.3	8.6	-147.6	17.0						
12	Left Lower B- Pillar	2345	-744	-9					190.0	4.0	-40.5	31.7						
13	Left Middle B- Pillar	2308	-716	-268					125.6	4.2	-49.3	32.8						
14	Left Lower A- Pillar	3376	-713	95					79.7	3.3	-54.8	8.2						
15	Left Middle A- Pillar	3290	-713	-274					20.6	12.8	-2.8	52.0						
16	Front Seat Track	2032	-412	255					92.1	15.1	-24.6	24.9						
17	Rear Seat Track	2022	-380	261					27.4	21.9	-16.8	57.1						
18	Vehicle CG	3002	6	110	3.5	56.2	-7.9	7.3	19.4	23.8	-3.6	72.9	12.7	12.2	-11.3	7.1	22.3	7.4

Axis Origin

X – Point L

Y – Point L

Z – Point L

Axis Orientation

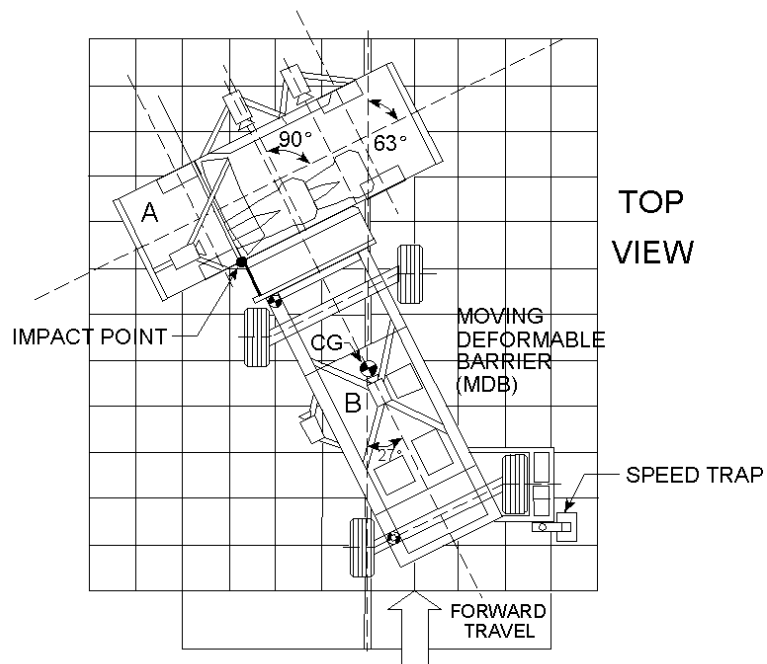
+(X) Forward where x axis is the vector from middle of rear bumper to mid front bumper

+(Y) Right where y axis is parallel to ground reference plane

+(Z) Down where z axis is cross product of +(X) and +(Y)

DATA SHEET 14

MDB ACCELEROMETER LOCATIONS AND DATA SUMMARY



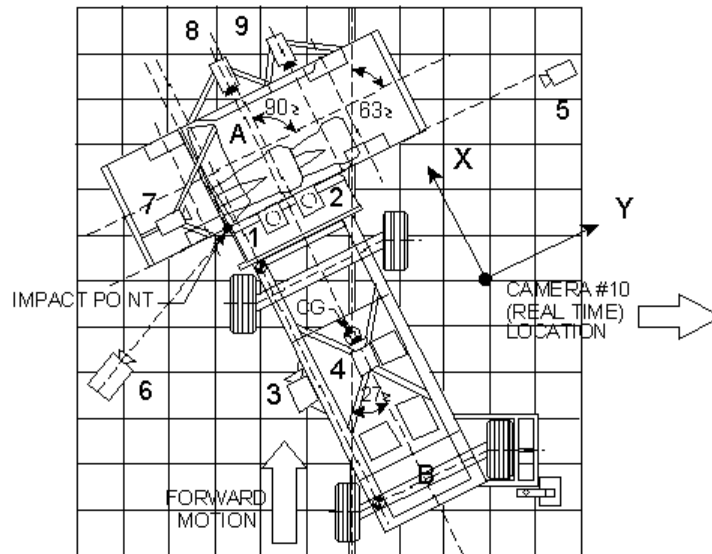
Location		Coordinates			Longitudinal (X)				Lateral (Y)				Vertical (Z)				Resultant	
		X mm	Y mm	Z mm	Max		Min		Max		Min		Max		Min		Max	
					G's	msec	G's	msec	G's	msec	G's	msec	G's	msec	G's	msec	G's	msec
1	MDB Center of Gravity	1113	-1	311	2.0	106.8	-23.4	38.7	6.1	58.1	-8.6	23.8	27.6	35.1	-6.2	64.4	32.8	35.6
2	MDB Rear Frame Member	2812	-614	585	2.6	120.4	-22.9	40.0	6.1	29.0	-2.6	51.4						

Axis Origin X – Rear Bumper
 Y – Vehicle Centerline
 Z – Middle of rear bumper

Axis Orientation +(X) Forward
 +(Y) Right
 +(Z) Down

DATA SHEET 15

HIGH-SPEED CAMERA LOCATIONS AND DATA SUMMARY



Camera No.	View	Coordinates (mm)*			Angle wrt Horiz.	Lens (mm)	Film Speed (fps)
		X	Y	Z			
1	Overhead view of test vehicle	150	992	4663	-90	10	1000
2	Overhead close-up view of impact plane	30	305	4669	-90	13	1000
3	MDB onboard close-up view of impact point	-2333	-60	-38	0	35	1000
4	MDB onboard view of driver dummy	-2262	840	740	-5	13	1000
5	Right side ground level overall view	10195	670	542	-5	62	1000
6	Left side ground level overall view	7994	-870	682	-10	25	1000
7	Test vehicle onboard driver front view	†	†	†	†	†	†
8	Test vehicle onboard driver side view	†	†	†	†	†	†
9	Test vehicle onboard passenger side view	†	†	†	†	†	†
10	Real-time film coverage of test	-	-	-	-	-	-

* Reference: Middle of rear bumper on test vehicle (Point L)

+ (X) Forward where x axis is the vector from middle of rear bumper to mid front bumper

+ (Y) Right where y axis is parallel to ground reference plane

+ (Z) Down where z axis is cross product of + (X) and + (Y)

† Vehicle onboard cameras did not trigger

SECTION 5
FUEL SYSTEM INTEGRITY

DATA SHEET 16**FUEL SYSTEM INTEGRITY DATA****TEST REQUIREMENTS:**

Drain the test vehicle's fuel system and operate the engine until the fuel system is dry. Add Stoddard solvent, which has been dyed purple, until 92-94% of the stated usable capacity is reached. Operate the engine to assure the Stoddard solvent is present throughout the entire fuel system.

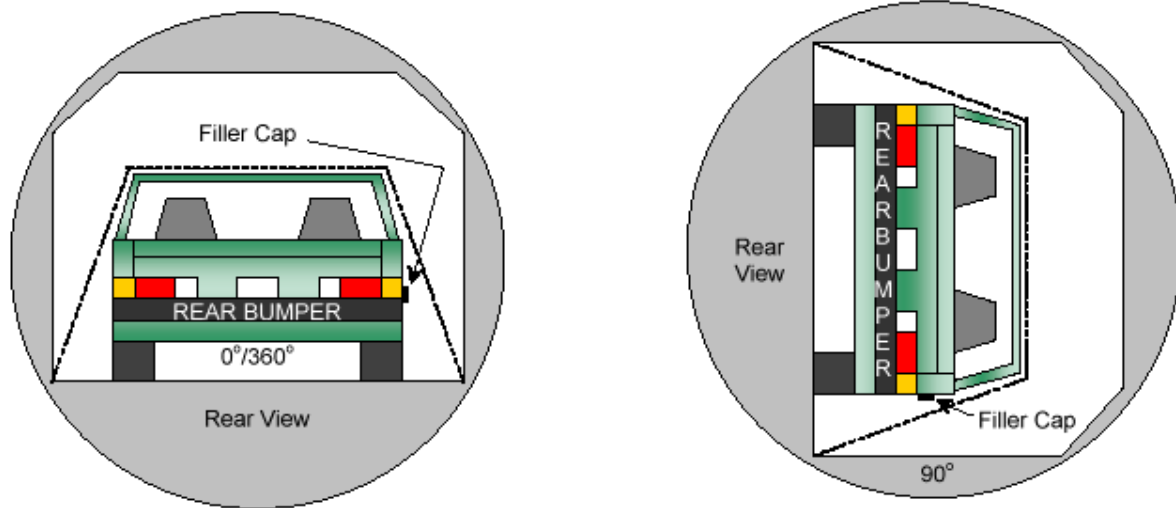
TEST VEHICLE IMPACT TYPE: Side impacting Moving Deformable Barrier contacting the driver side.

FUEL SPILLAGE MEASUREMENT:

POST IMPACT TEST	TEST RESULTS	MAXIMUM ALLOWABLE
1. From impact until vehicle motion ceases	0	1 oz.
2. For 5 minute period after vehicle motion ceases	0	5 oz.
3. For next 25 minutes	0	1 oz./minute

FUEL SPILLAGE LOCATION(S): None

DATA SHEET 17
ROLLOVER DATA



0° TO 90°

DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90° Rotation Time	<u>1</u> minutes	<u>5</u> seconds
(Spec Range =1 to 3 minutes)		
FMVSS 301 Position Hold Time	<u>5</u> minutes	<u>2</u> seconds
TOTAL	<u>6</u> minutes	<u>7</u> seconds
Next whole minute interval	<u>7</u> minutes	

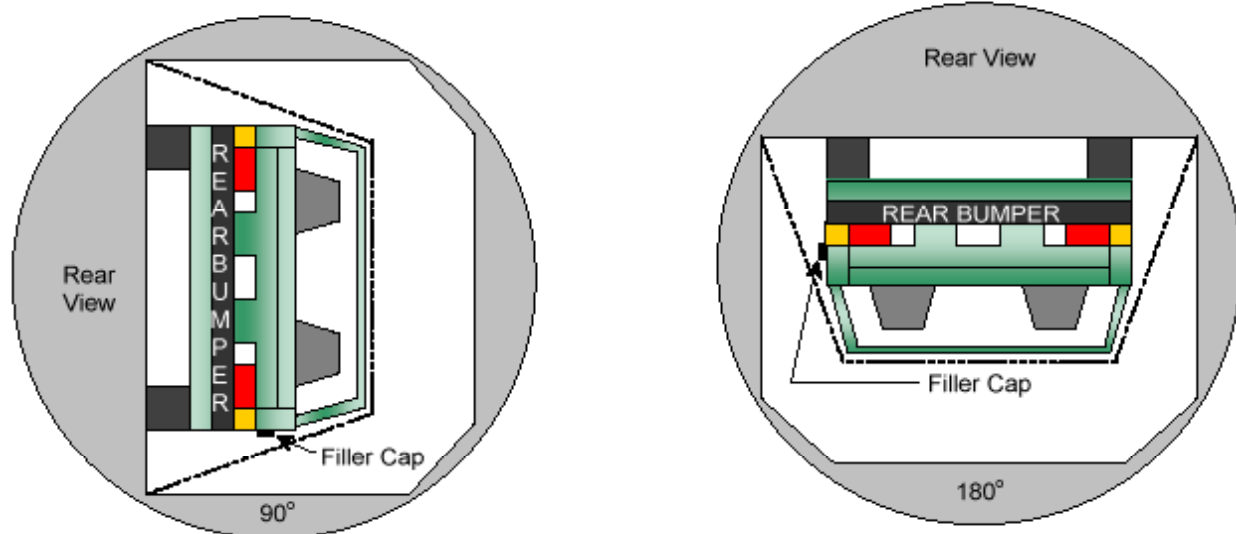
FUEL SPILLAGE MEASUREMENT:

0° TO 90° ROTATION	TEST RESULTS	MAXIMUM ALLOWABLE
1. First 5 Minutes From Onset of Rotation	0	5 oz.
2. Sixth Minute From Onset of Rotation	0	1 oz.
3. Seventh Minute From Onset of Rotation	0	1 oz.
4. Eighth Minute if Required	-	1 oz.

FUEL SPILLAGE LOCATION(S): None

DATA SHEET 17 (continued)

ROLLOVER VEHICLE



90° TO 180°

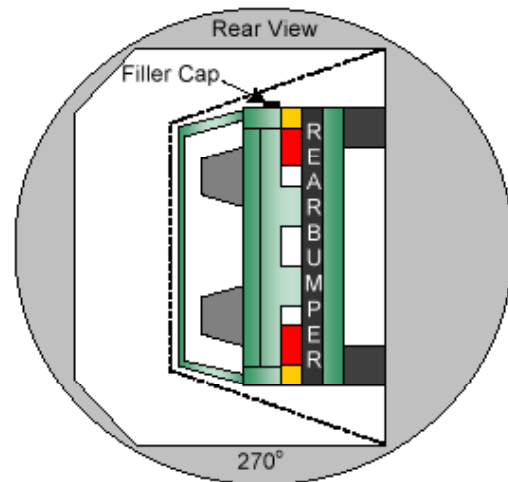
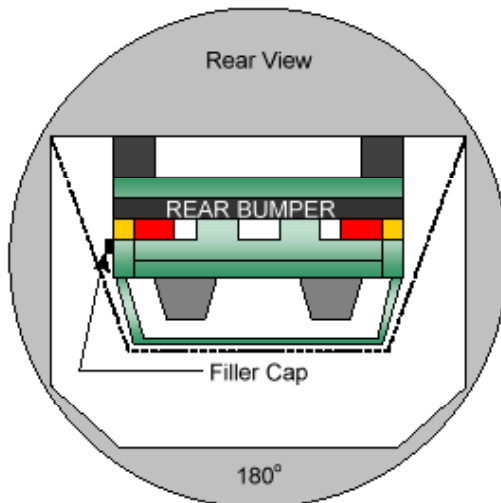
DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90° Rotation Time	<u>1</u>	minutes	<u>7</u>	seconds
(Spec Range =1 to 3 minutes)				
FMVSS 301 Position Hold Time	<u>5</u>	minutes	<u>3</u>	seconds
TOTAL	<u>6</u>	minutes	<u>10</u>	seconds
Next whole minute interval	<u>7</u>	minutes		

FUEL SPILLAGE MEASUREMENT:

90° TO 180° ROTATION	TEST RESULTS	MAXIMUM ALLOWABLE
1. First 5 Minutes From Onset of Rotation	0	5 oz.
2. Sixth Minute From Onset of Rotation	0	1 oz.
3. Seventh Minute From Onset of Rotation	0	1 oz.
4. Eighth Minute if Required	-	1 oz.

FUEL SPILLAGE LOCATION(S): None

DATA SHEET 17 (continued)**ROLLOVER VEHICLE****180° TO 270°**DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90° Rotation Time	<u>1</u> minutes	<u>6</u> seconds
(Spec Range =1 to 3 minutes)		
FMVSS 301 Position Hold Time	<u>5</u> minutes	<u>0</u> seconds
TOTAL	<u>6</u> minutes	<u>6</u> seconds
Next whole minute interval	<u>7</u> minutes	

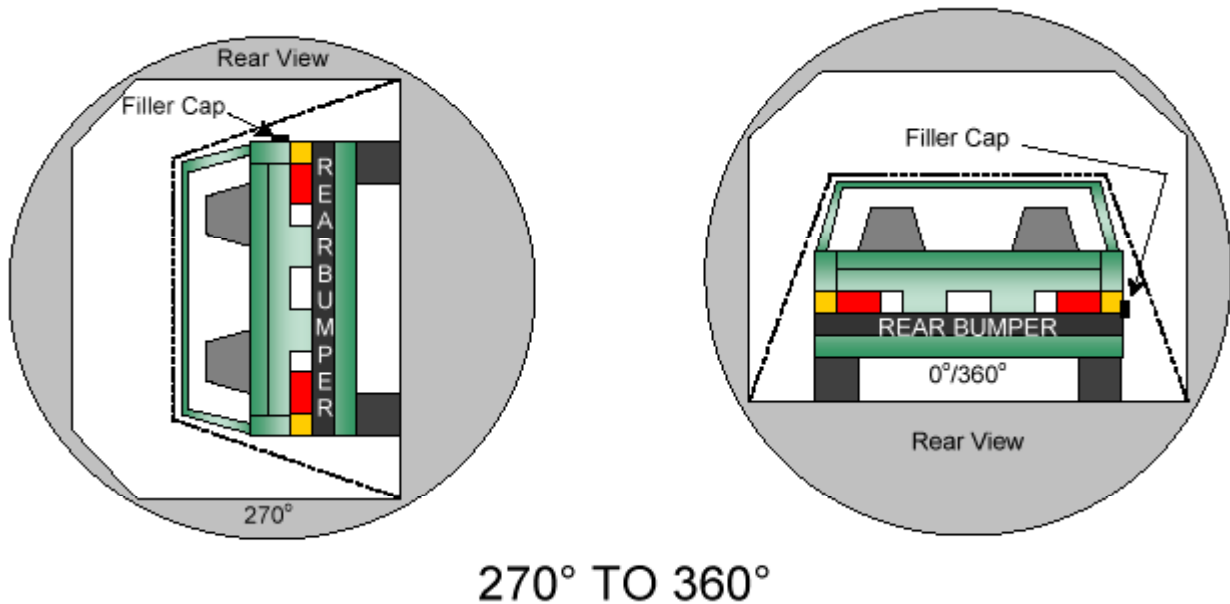
FUEL SPILLAGE MEASUREMENT:

180° TO 270° ROTATION	TEST RESULTS	MAXIMUM ALLOWABLE
1. First 5 Minutes From Onset of Rotation	0	5 oz.
2. Sixth Minute From Onset of Rotation	0	1 oz.
3. Seventh Minute From Onset of Rotation	0	1 oz.
4. Eighth Minute From Onset of Rotation	-	1 oz.

FUEL SPILLAGE LOCATION(S): None

DATA SHEET 17 (continued)

ROLLOVER VEHICLE

DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90° Rotation Time	<u>1</u> minutes	<u>6</u> seconds
(Spec Range =1 to 3 minutes)		
FMVSS 301 Position Hold Time	<u>5</u> minutes	<u>3</u> seconds
TOTAL	<u>6</u> minutes	<u>9</u> seconds
Next whole minute interval	<u>7</u> minutes	

FUEL SPILLAGE MEASUREMENT:

270° TO 360° ROTATION	TEST RESULTS	MAXIMUM ALLOWABLE
1. First 5 Minutes From Onset of Rotation	0	5 oz.
2. Sixth Minute From Onset of Rotation	0	1 oz.
3. Seventh Minute From Onset of Rotation	0	1 oz.
4. Eighth Minute if Required	-	1 oz.

FUEL SPILLAGE LOCATION(S): None

APPENDIX A
PHOTOGRAPHS

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Figure A-10: POST-TEST REAR VIEW OF TEST VEHICLE (TRUNK OPENED POST TEST TO ACCESS DATA)



Figure A-11 PRE-TEST RIGHT REAR VIEW OF TEST VEHICLE



Figure A-12 POST-TEST RIGHT REAR VIEW OF TEST VEHICLE (TRUNK OPENED POST TEST TO ACCESS DATA)



Figure A-13: PRE-TEST RIGHT SIDE VIEW OF TEST VEHICLE



Figure A-14: POST-TEST RIGHT SIDE VIEW OF TEST VEHICLE (TRUNK OPENED POST TEST TO ACCESS DATA)



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Figure A-16: POST-TEST FRONT RIGHT VIEW OF TEST VEHICLE



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Figure A-19: PRE-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF REAR SID H3



Figure A-20: POST-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF REAR SID H3



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Figure A-22: POST-TEST LEFT OCCUPANT COMPARTMENT VIEW OF FRONT SID H3



Figure A-23: PRE-TEST LEFT OCCUPANT COMPARTMENT VIEW OF REAR SID H3



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Figure A-39: VEHICLE TIRE PLACARD



Figure A-40: VEHICLE CERTIFICATION LABEL



Figure A-41: IMPACT



Figure A-42: ROLLOVER 0 DEGREES

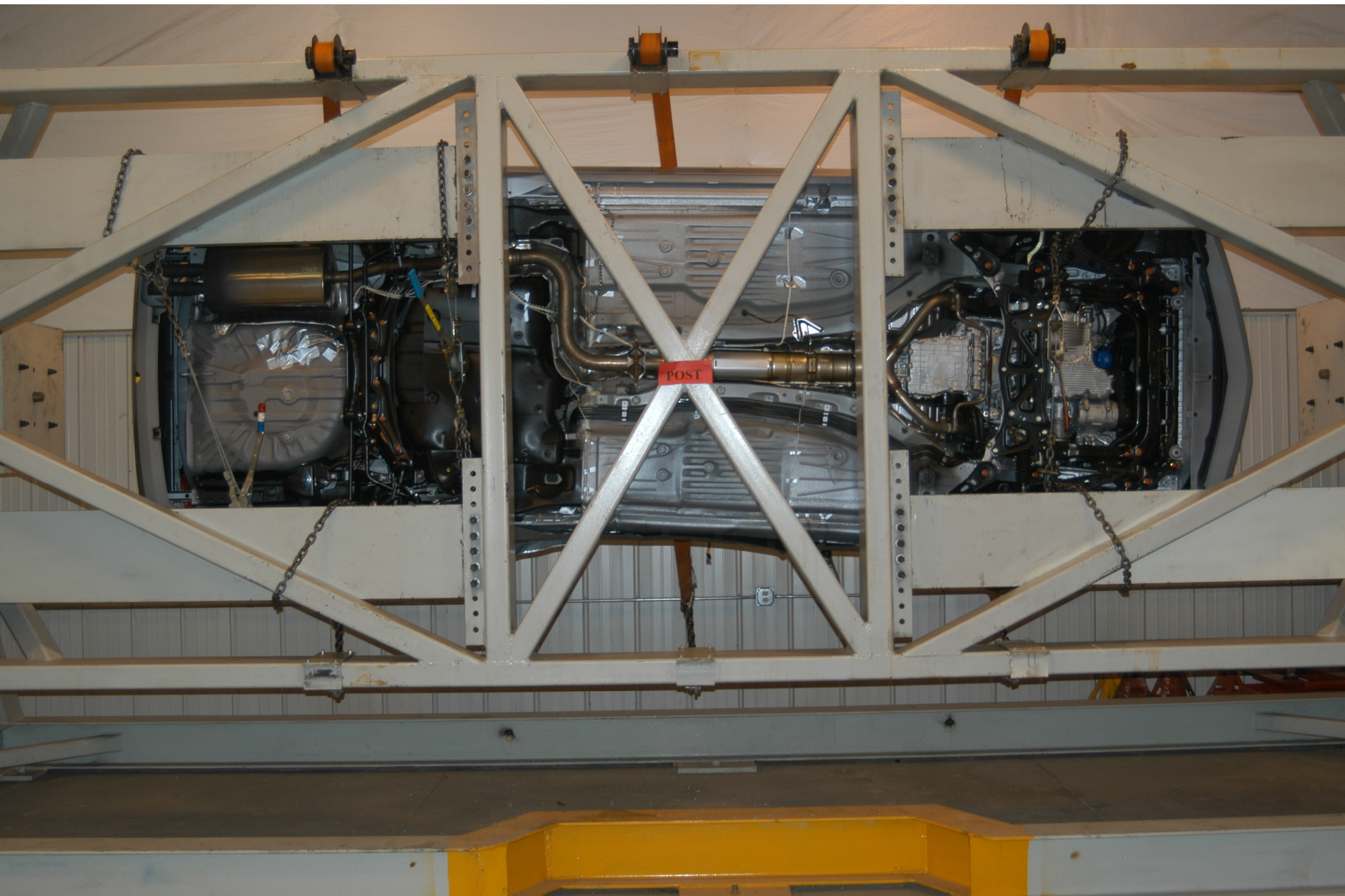


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Figure A-49: PRE-TEST ALUMINUM BARRIER LEFT SIDE



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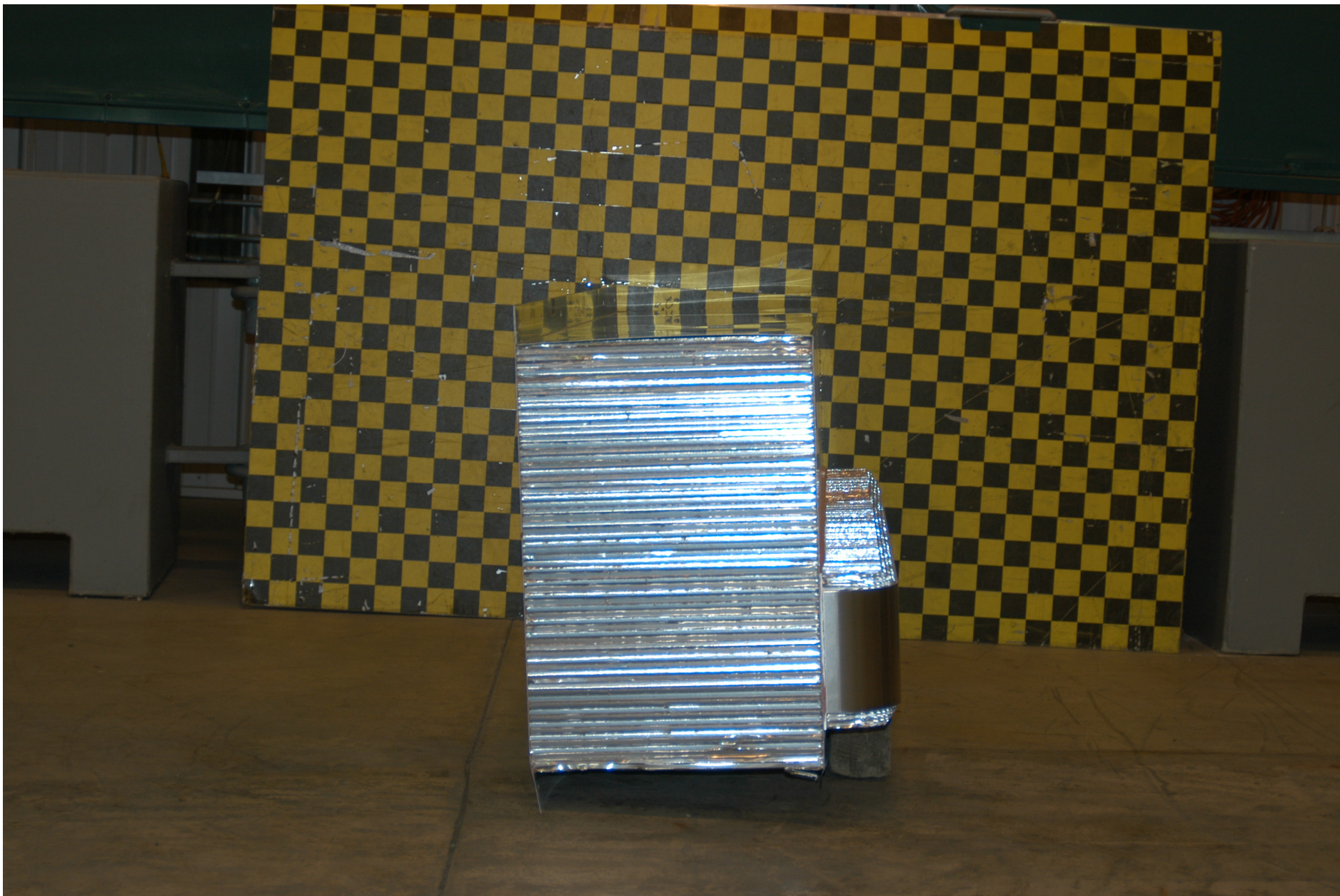


Figure A-51: PRE-TEST ALUMINUM BARRIER RIGHT SIDE



Figure A-52: POST-TEST ALUMINUM BARRIER RIGHT SIDE

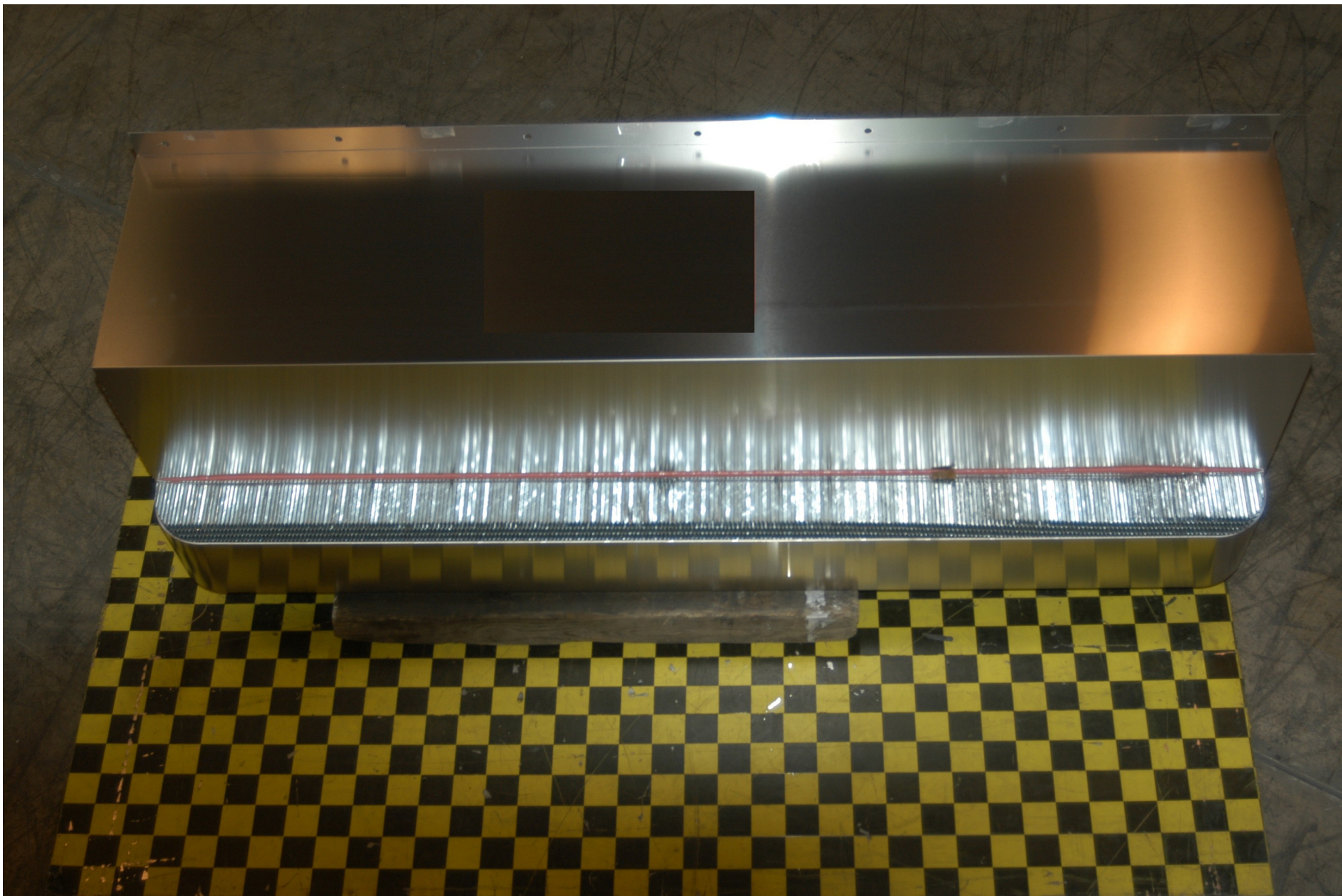


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VEHICLE, MDB, AND SID RESPONSE DATA

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 UPPER NECK FORCES – FILTER CLASS 1000; UPPER NECK MOMENTS FILTER CLASS 600
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DRIVER AND PASSENGER DUMMY INSTRUMENTATION PLOTS

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DRIVER AND PASSENGER DUMMY INSTRUMENTATION PLOTS (REDUNDANT)
 ACCELERATION DATA – FILTER CLASS 1000, LOWER SPINE FILTER CLASS 180
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DRIVER AND PASSENGER DUMMY INSTRUMENTATION PLOT (REDUNDANT)
 ACCELERATION DATA – FIR FILTERED

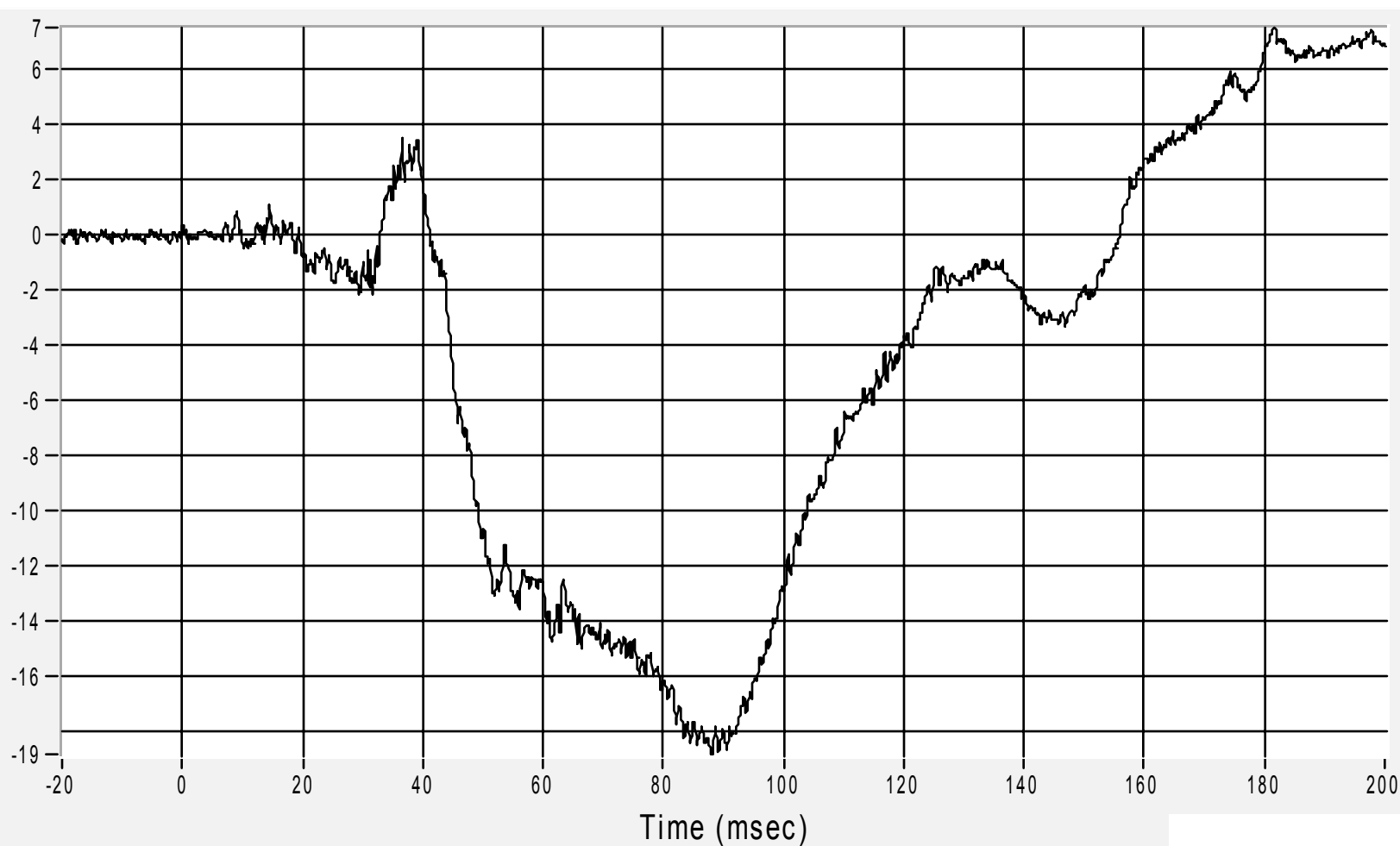
<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
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Driver Head CG (X) Acceleration

Acceleration (G's) CFC1000

Max 7.5 G at 181.8 msec

Min -18.8 G at 88.1 msec



04SN04 - 2004 ACURA 3.5RL 4-DOOR SEDAN

13 January 2004

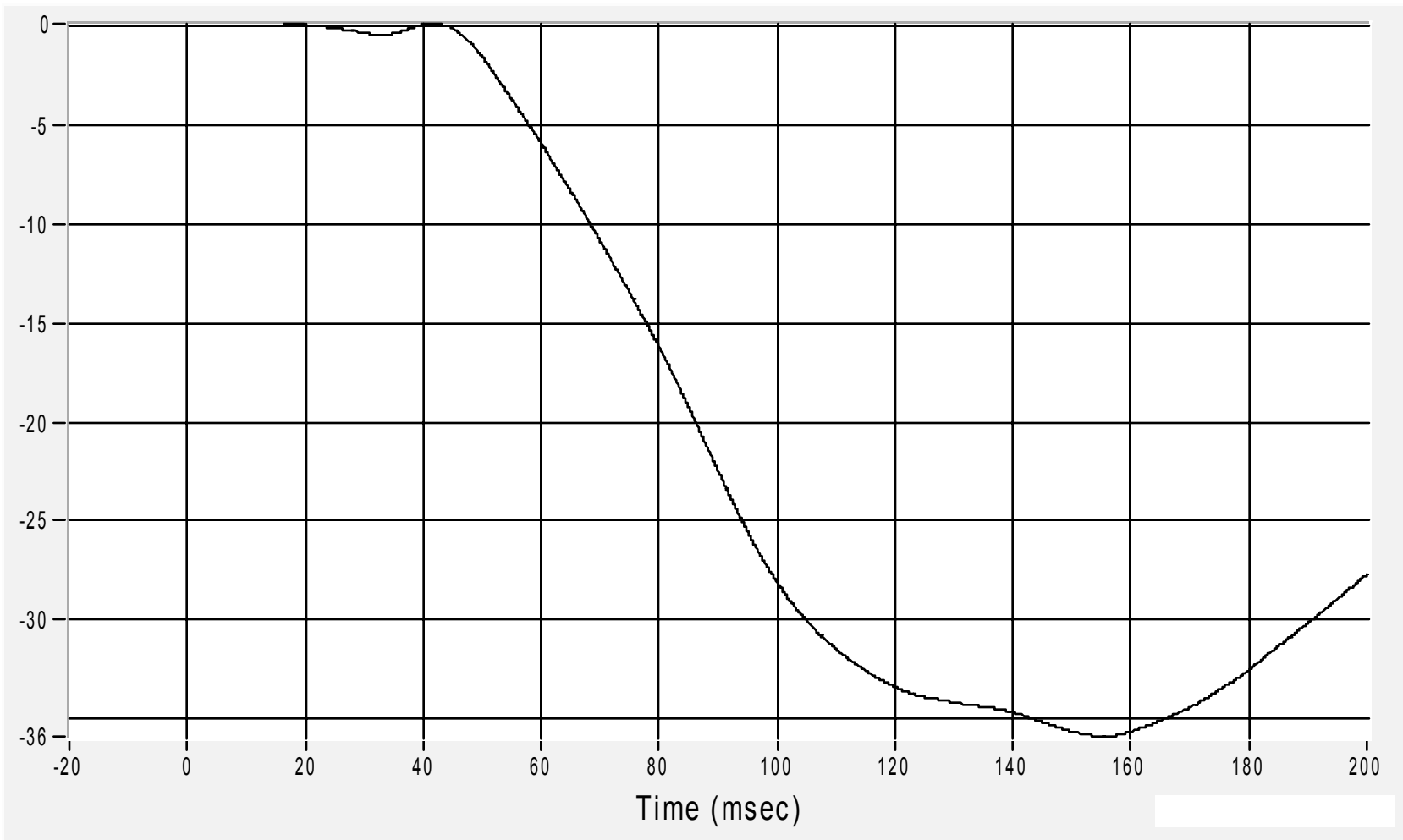
*Medical College of Wisconsin
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Driver Head CG (X) Velocity

Velocity (km/h) CFC180

Max 0.1 km/h at 41.1 msec

Min -35.9 km/h at 155.7 msec



04SN04 - 2004 ACURA 3.5RL 4-DOOR SEDAN

13 January 2004

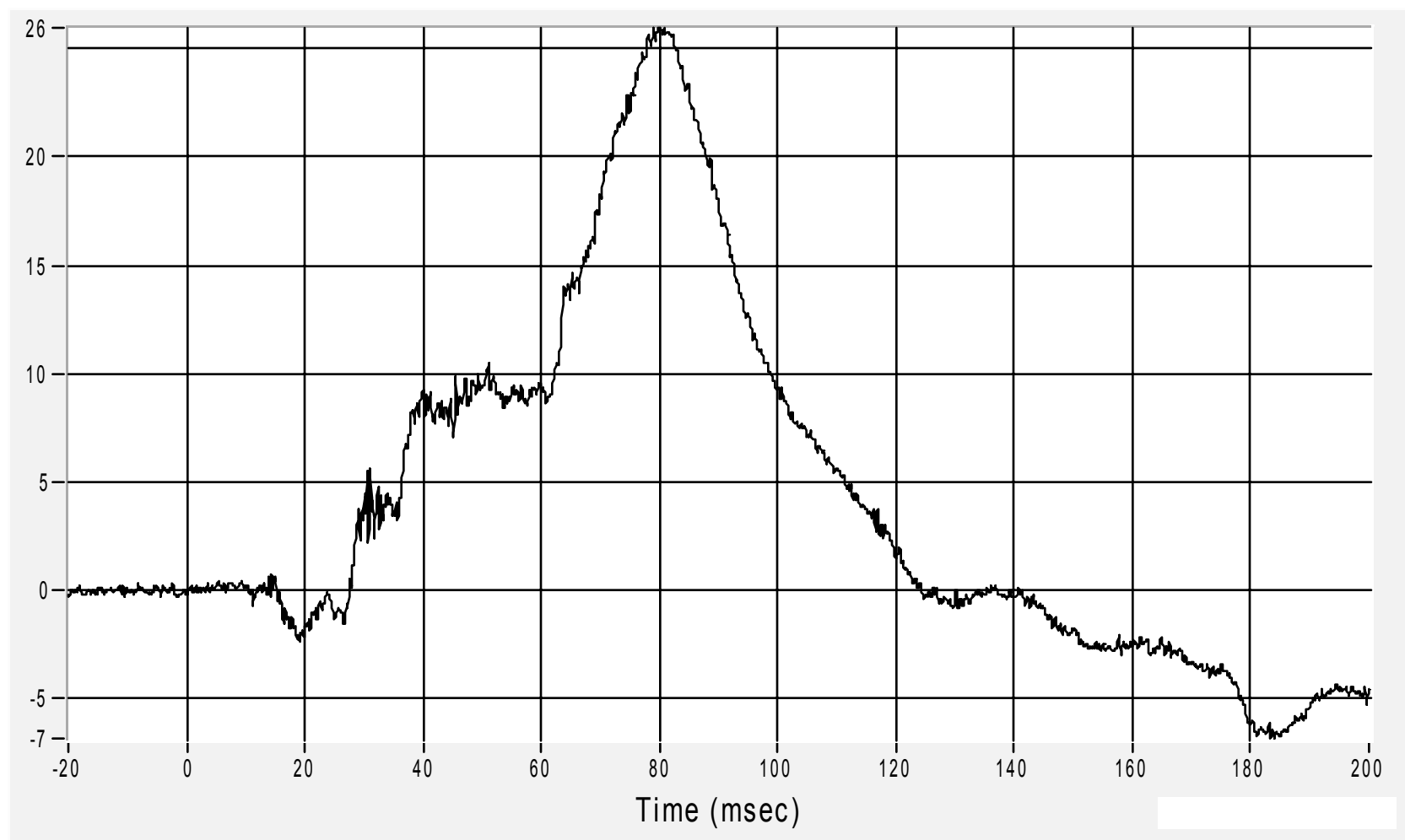
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Driver Head CG (Y) Acceleration

Acceleration (G's) CFC1000

Max 26.0 G at 80.8 msec

Min -6.8 G at 183.4 msec



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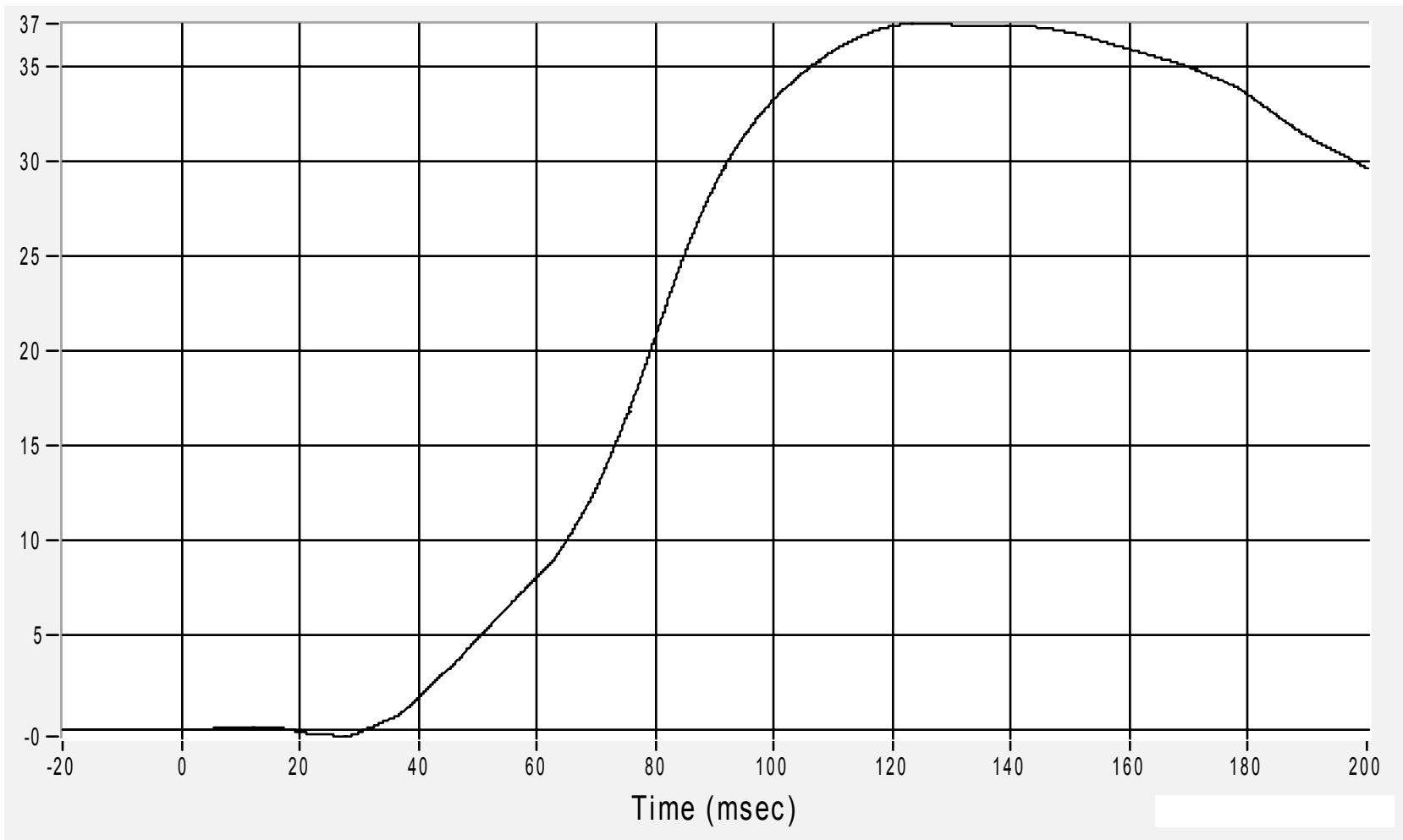
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Driver Head CG (Y) Velocity

Velocity (km/h) CFC180

Max 37.3 km/h at 124.2 msec

Min -0.4 km/h at 27.4 msec



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13 January 2004

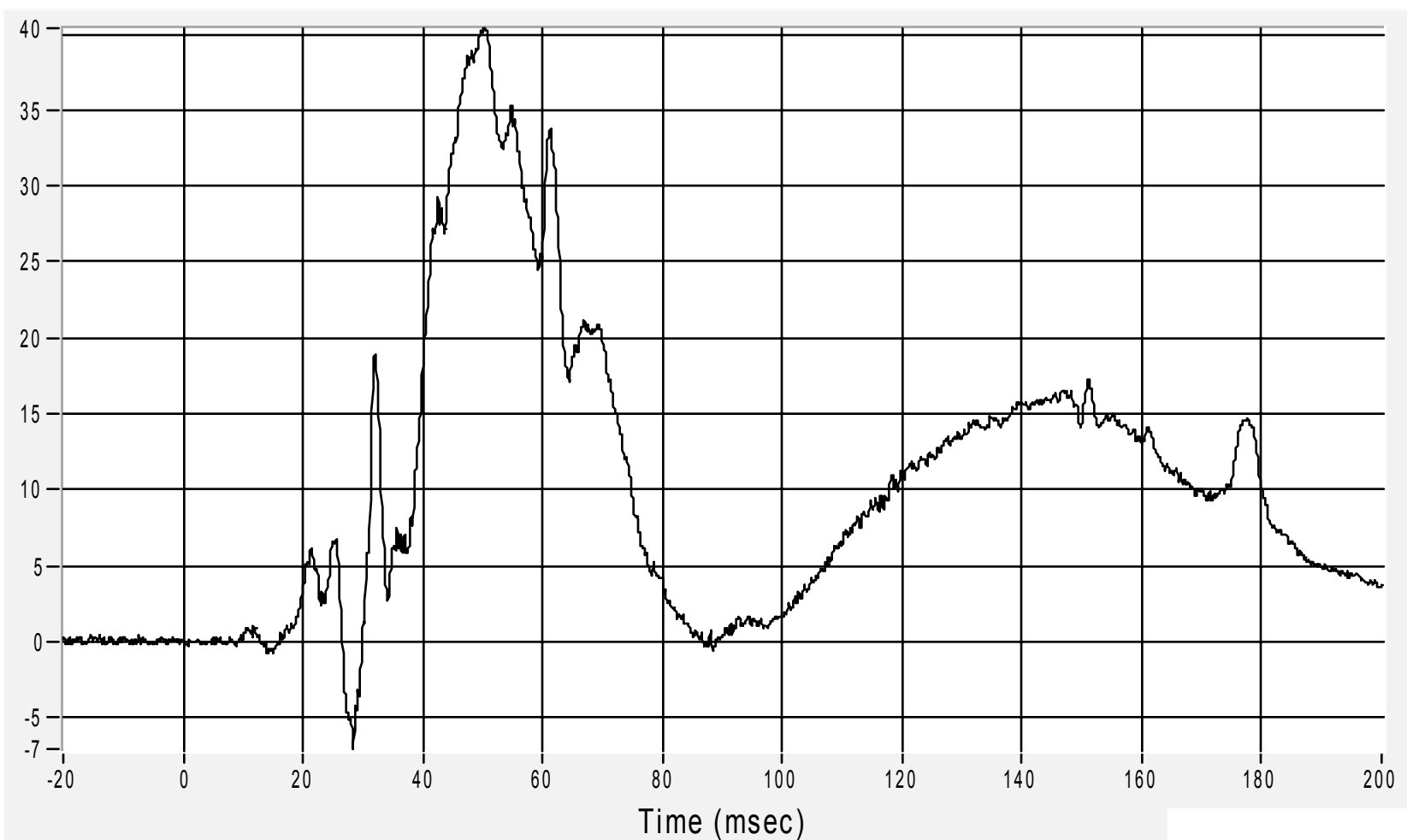
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Driver Head CG (Z) Acceleration

Acceleration (G's) CFC1000

Max 40.4 G at 50.2 msec

Min -7.1 G at 28.4 msec



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13 January 2004

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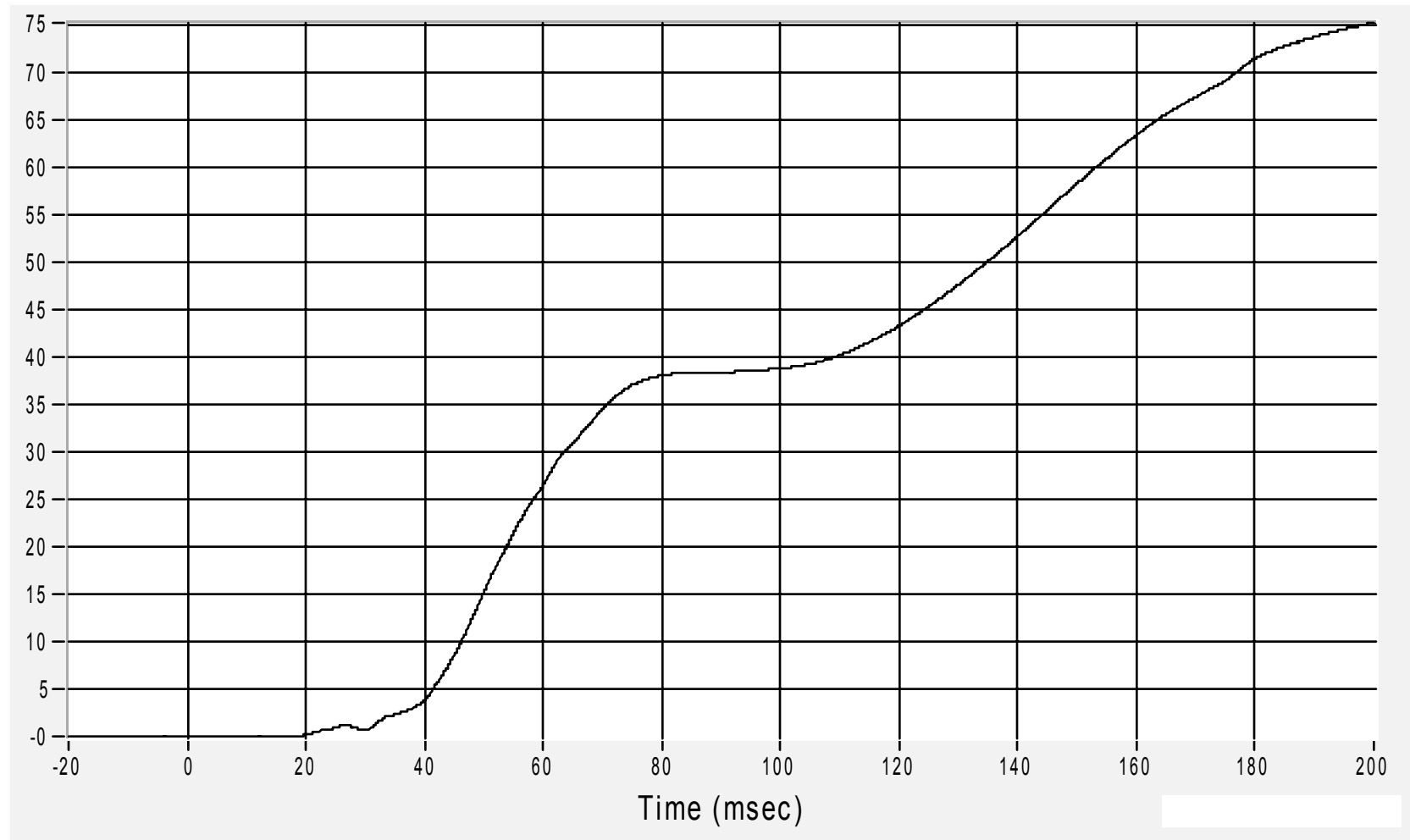
B-10

Driver Head CG (Z) Velocity

Velocity (km/h) CFC180

Max 75.3 km/h at 199.9 msec

Min 0.0 km/h at 9.1 msec



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13 January 2004

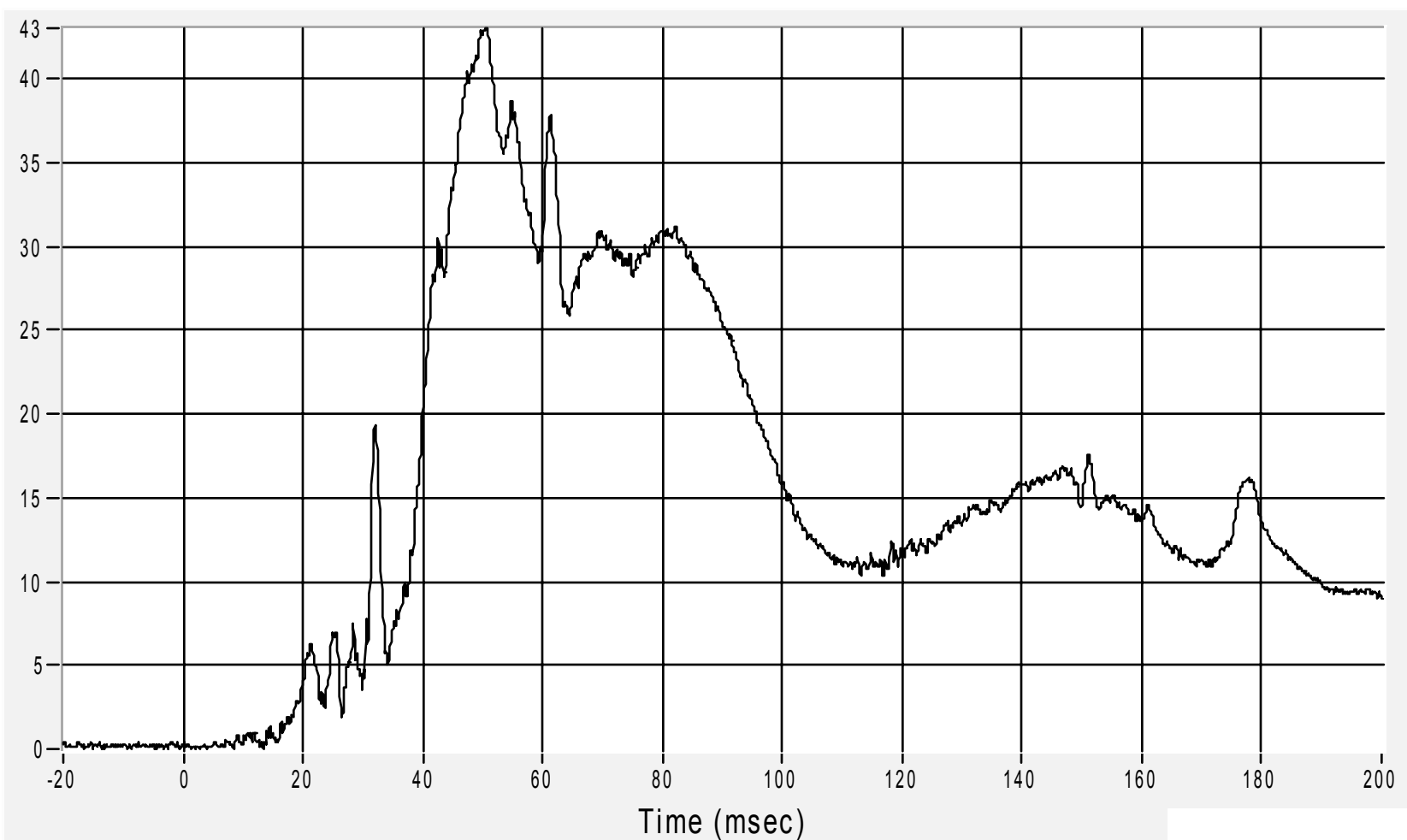
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Driver Head Resultant Acceleration

Acceleration (G's) CFC1000

Max 43.0 G's at 50.6 msec

Min 0.1 G's at 2.7 msec



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13 January 2004

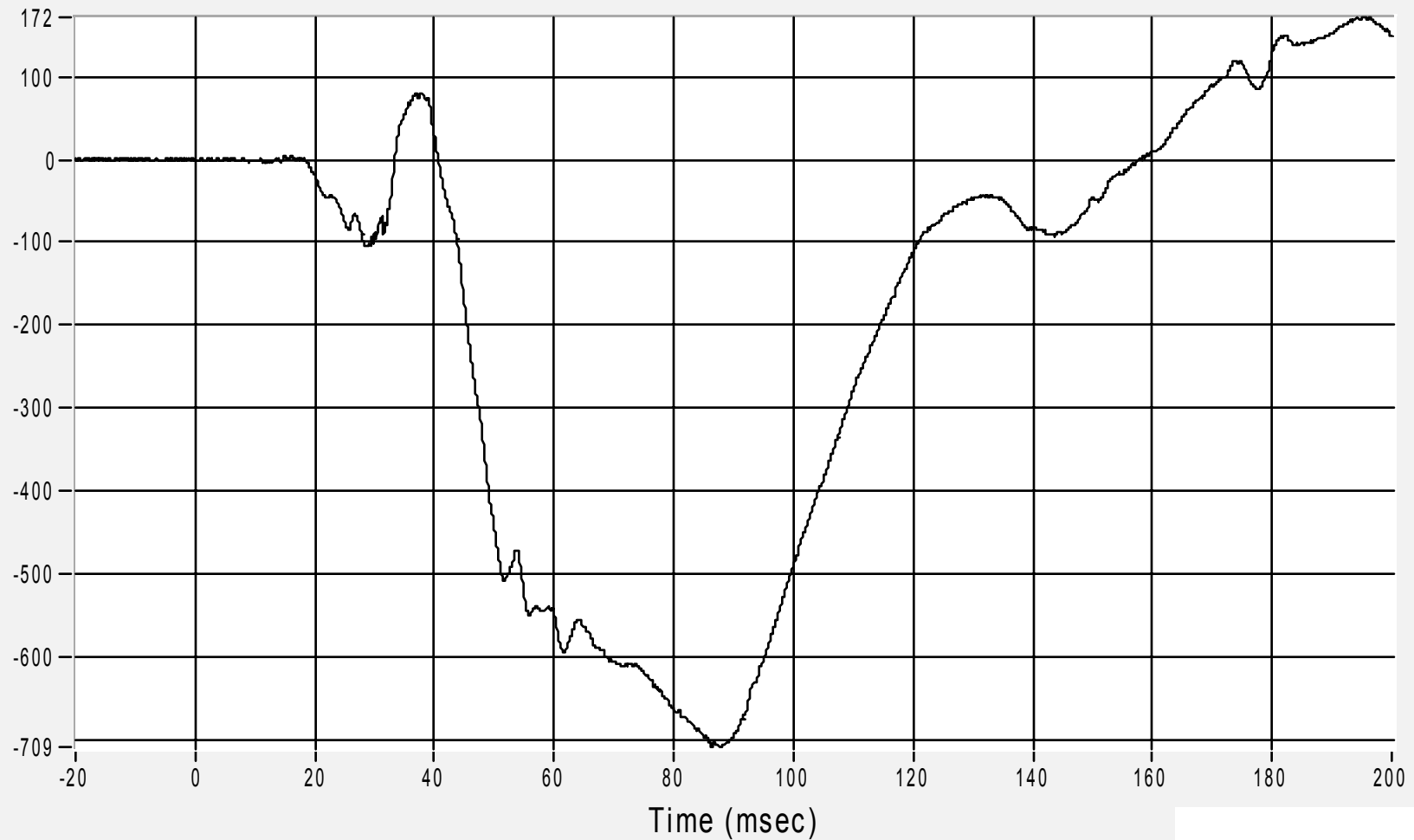
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Driver Upper Neck (X) Force

Force (N) CFC1000

Max 171.6 N at 195.3 msec

Min -709.1 N at 86.4 msec



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13 January 2004

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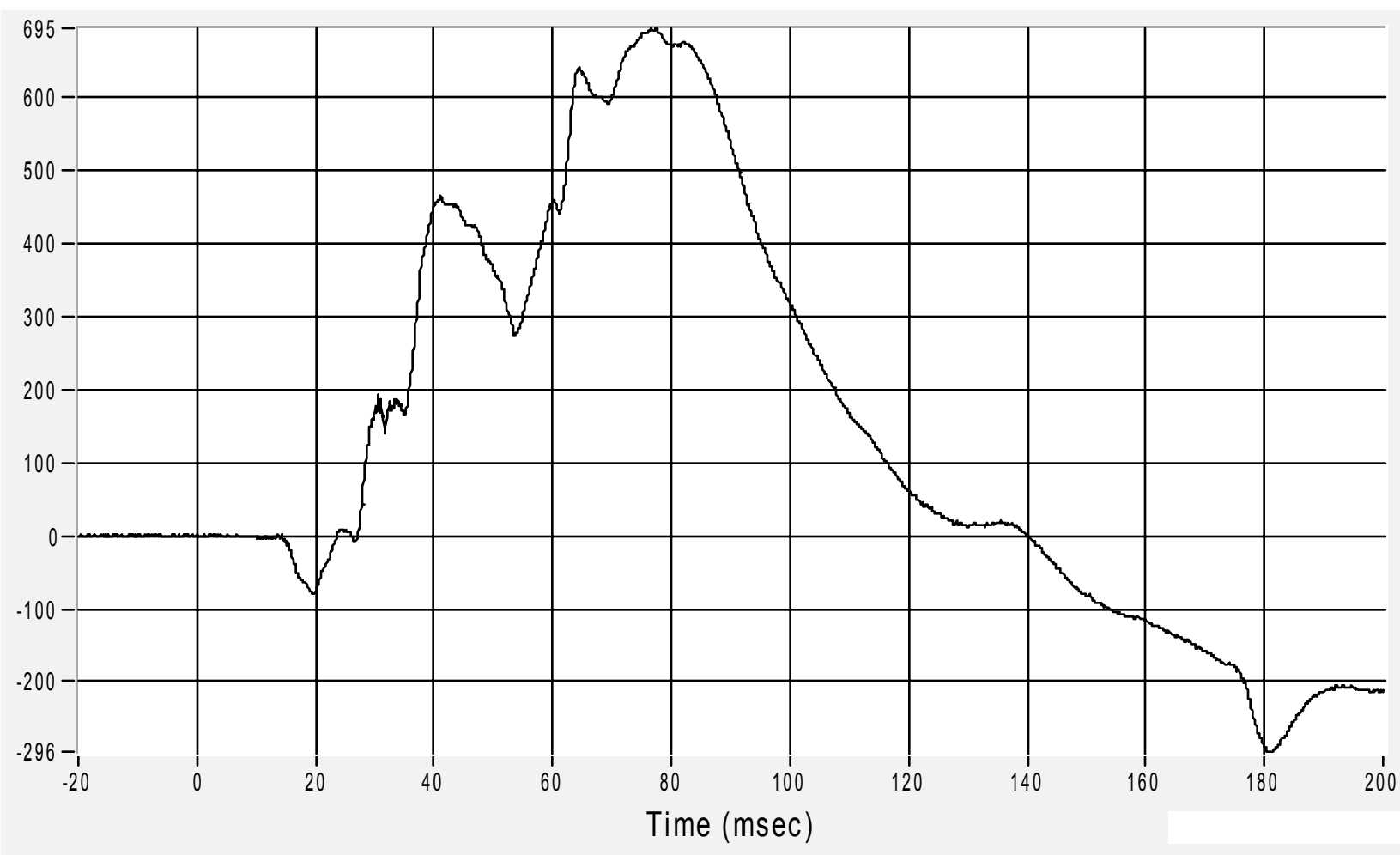
Driver Upper Neck (Y) Force

Force (N)

CFC1000

Max 694.7 N at 76.6 msec

Min -295.9 N at 180.8 msec



04SN04 - 2004 ACURA 3.5RL 4-DOOR SEDAN

13 January 2004

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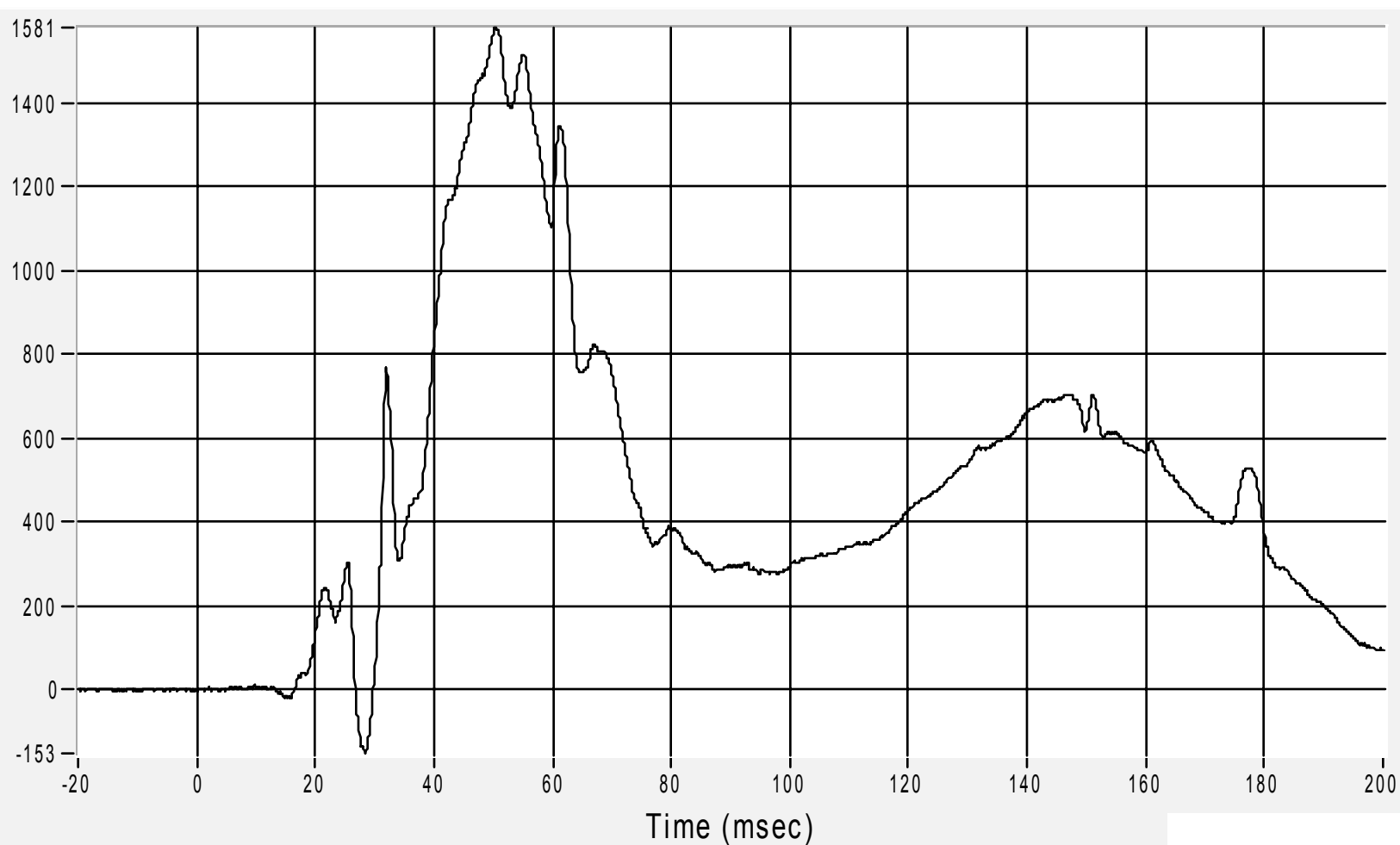
Driver Upper Neck (Z) Force

Force (N)

CFC1000

Max 1580.7 N at 50.3 msec

Min -152.5 N at 28.4 msec



04SN04 - 2004 ACURA 3.5RL 4-DOOR SEDAN

13 January 2004

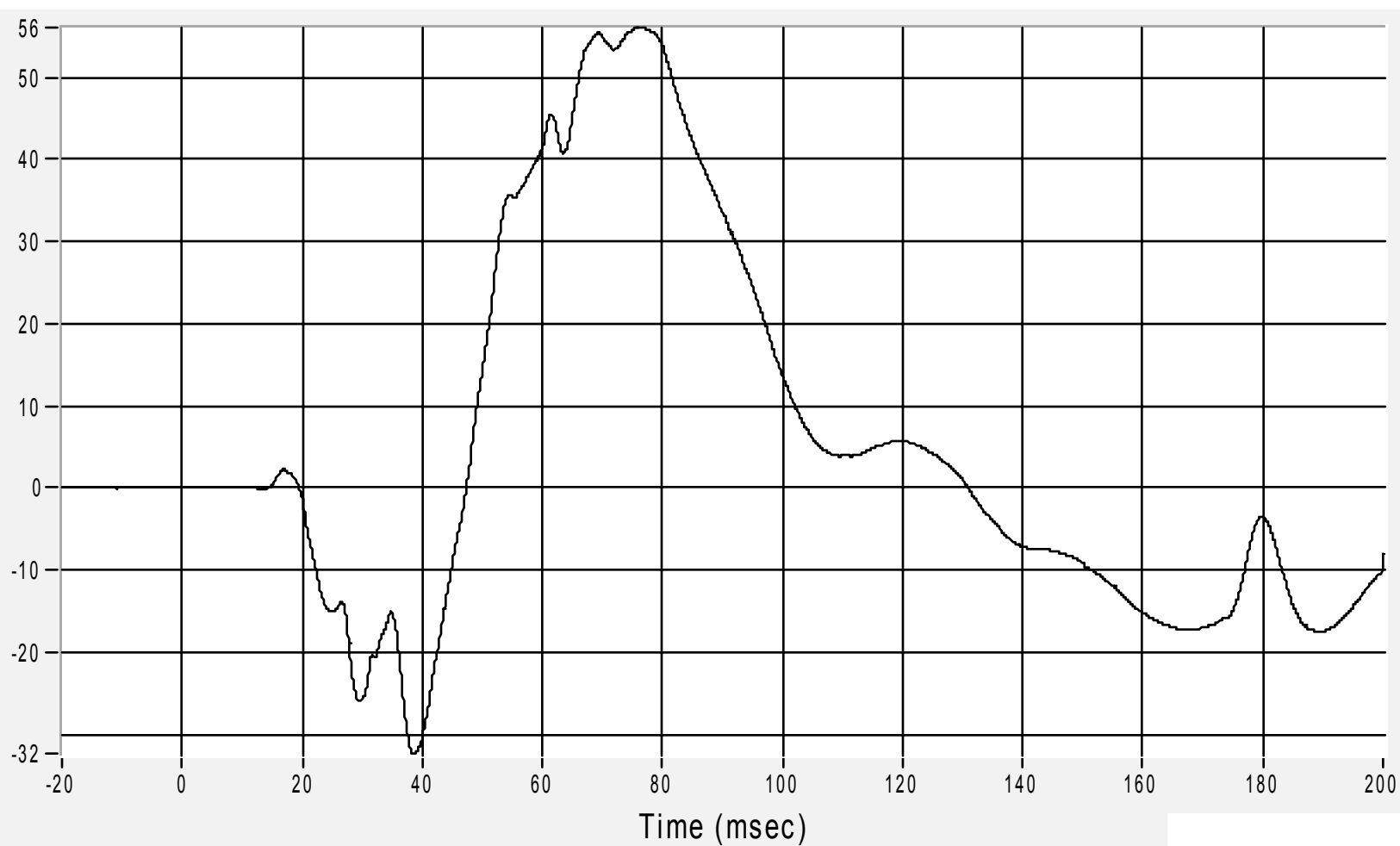
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Driver Upper Neck (X) Moment

Moment (Nm) CFC600

Max 56.0 Nm at 76.6 msec

Min -32.4 Nm at 38.6 msec



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13 January 2004

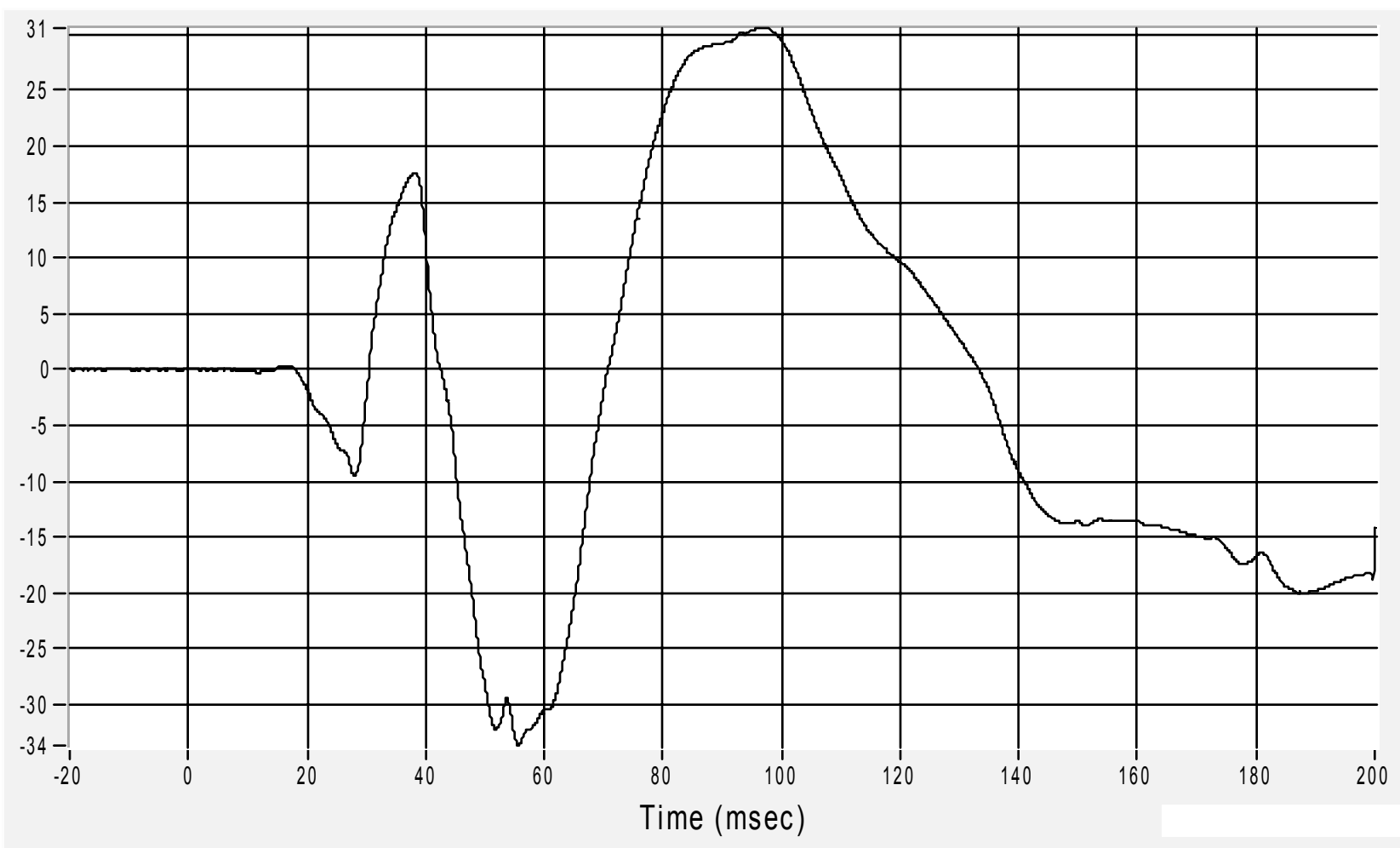
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Driver Upper Neck (Y) Moment

Moment (Nm) CFC600

Max 30.6 Nm at 96.4 msec

Min -33.6 Nm at 55.7 msec



04SN04 - 2004 ACURA 3.5RL 4-DOOR SEDAN

13 January 2004

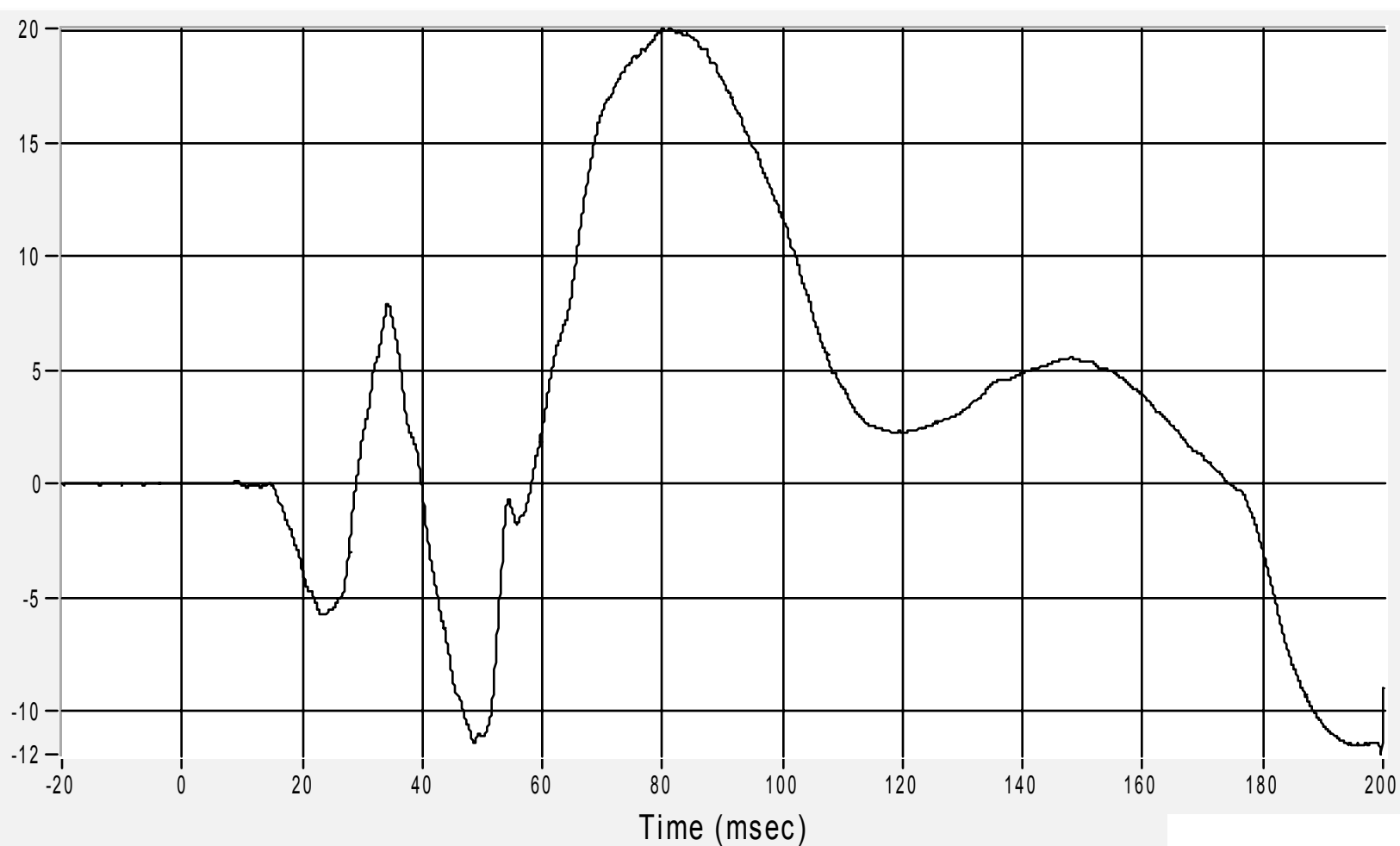
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Driver Upper Neck (Z) Moment

Moment (Nm) CFC600

Max 20.1 Nm at 81.3 msec

Min -11.9 Nm at 199.7 msec



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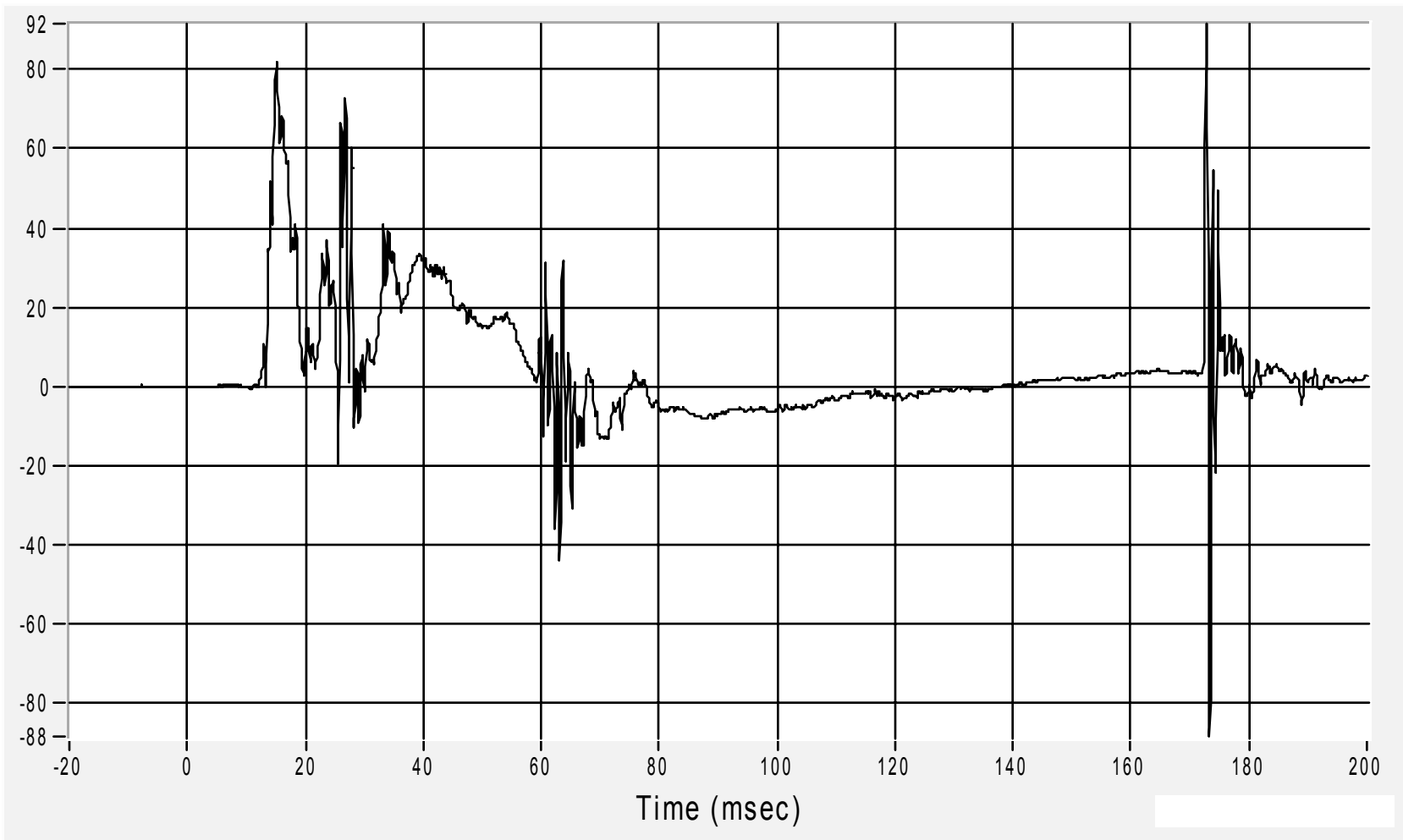
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Driver Upper Rib (Y) Acceleration

Acceleration (G's) CFC1000

Max 91.5 G at 172.8 msec

Min -88.3 G at 173.4 msec



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13 January 2004

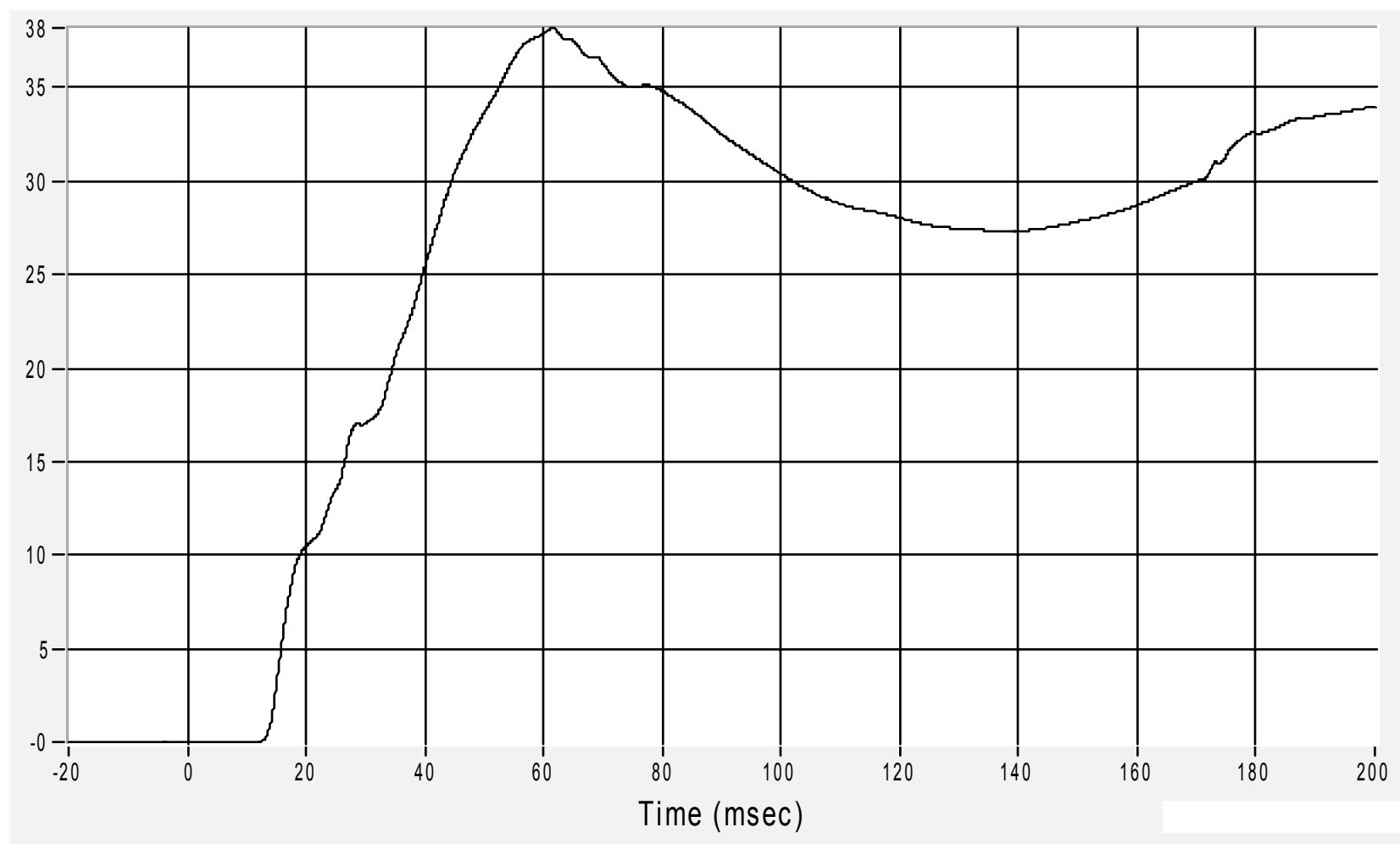
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Driver Upper Rib (Y) Velocity

Velocity (km/h) CFC180

Max 38.2 km/h at 61.5 msec

Min 0.0 km/h at 3.9 msec



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13 January 2004

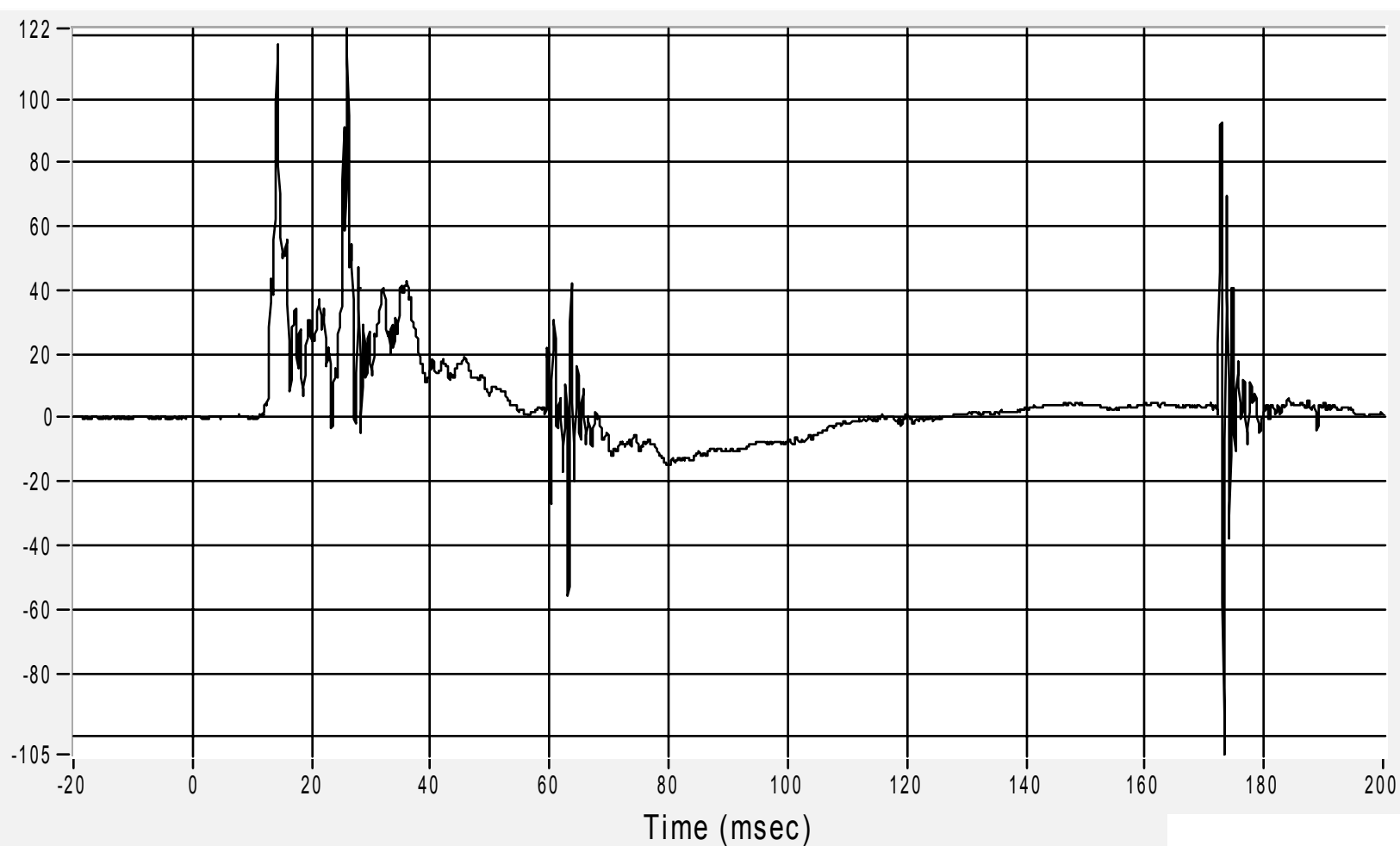
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Driver Lower Rib (Y) Acceleration

Acceleration (G's) CFC1000

Max 122.1 G at 26.0 msec

Min -105.5 G at 173.3 msec



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13 January 2004

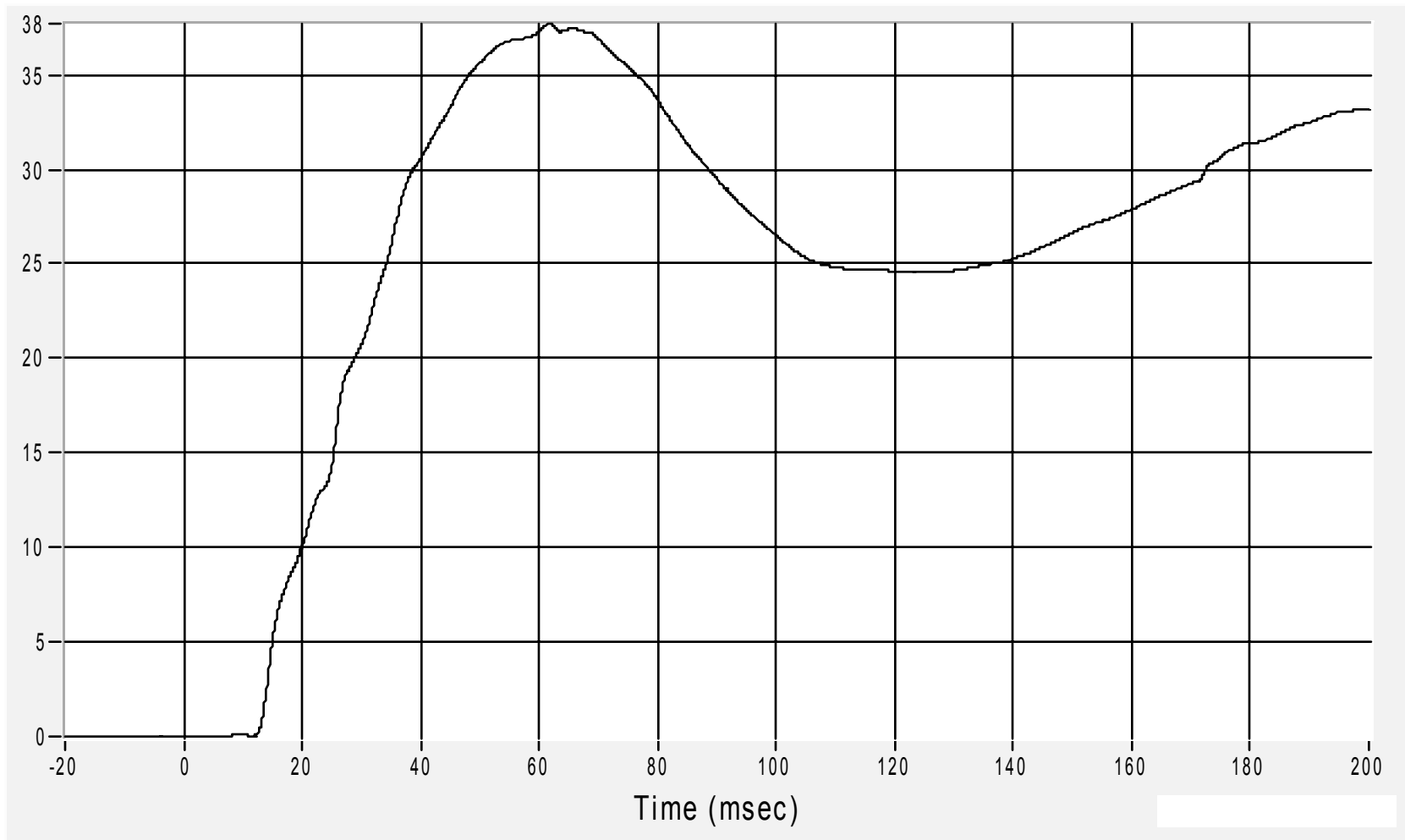
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Driver Lower Rib (Y) Velocity

Velocity (km/h) CFC180

Max 37.7 km/h at 61.7 msec

Min 0.0 km/h at 0.0 msec



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13 January 2004

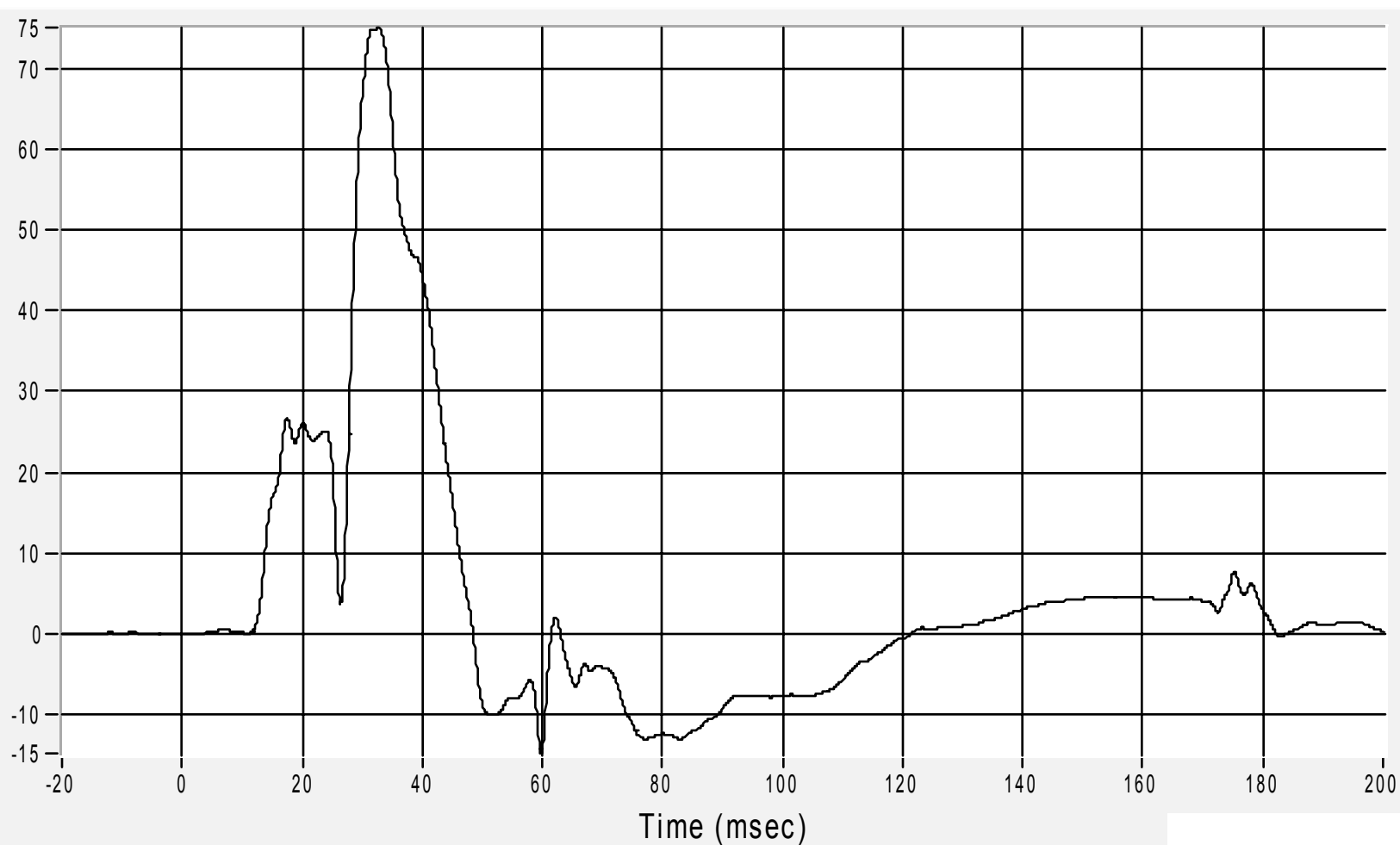
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Driver Lower Spine (Y) Acceleration

Acceleration (G's) CFC180

Max 75.1 G at 32.7 msec

Min -14.9 G at 59.8 msec



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13 January 2004

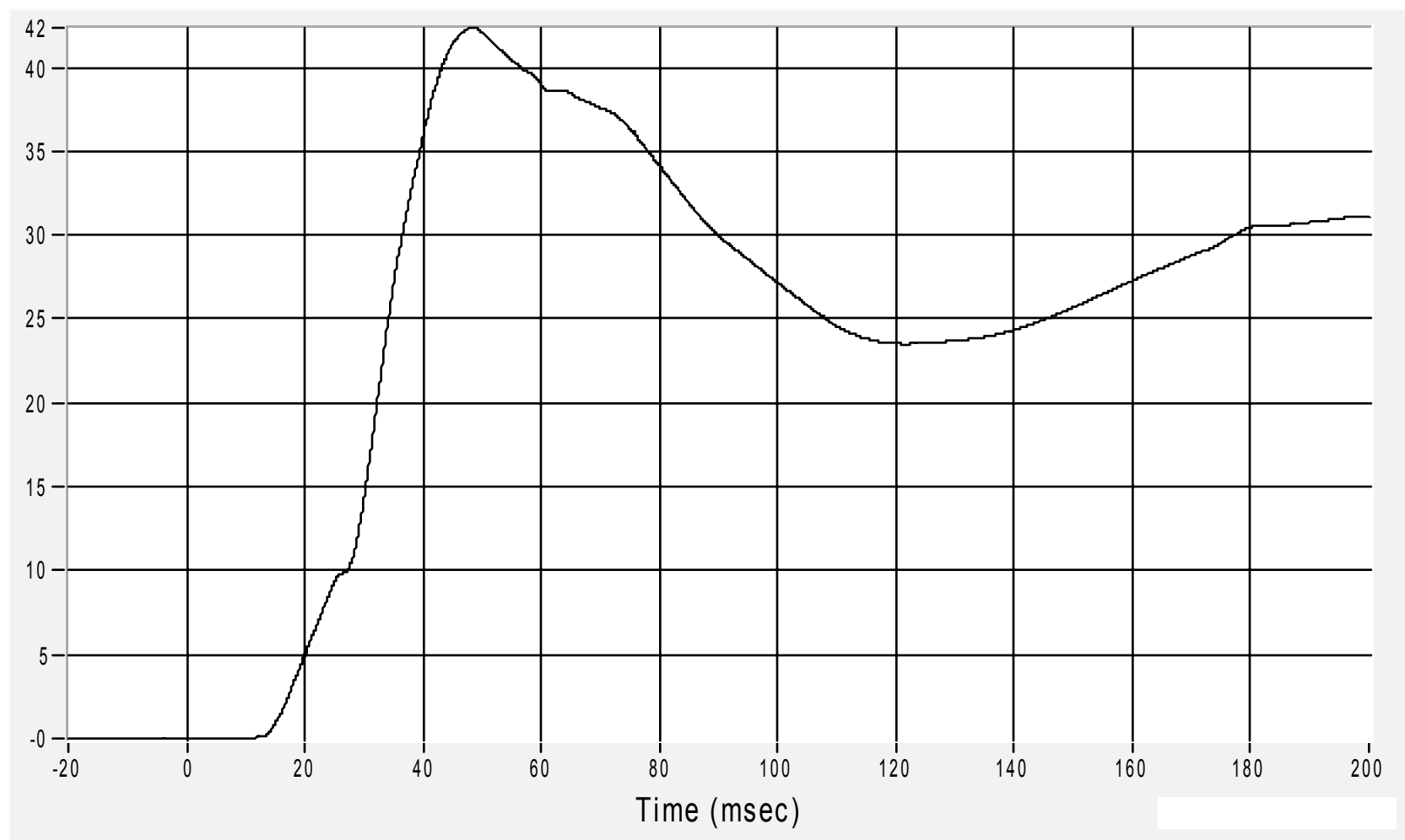
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Driver Lower Spine (Y) Velocity

Velocity (km/h) CFC180

Max 42.3 km/h at 48.5 msec

Min 0.0 km/h at 2.6 msec



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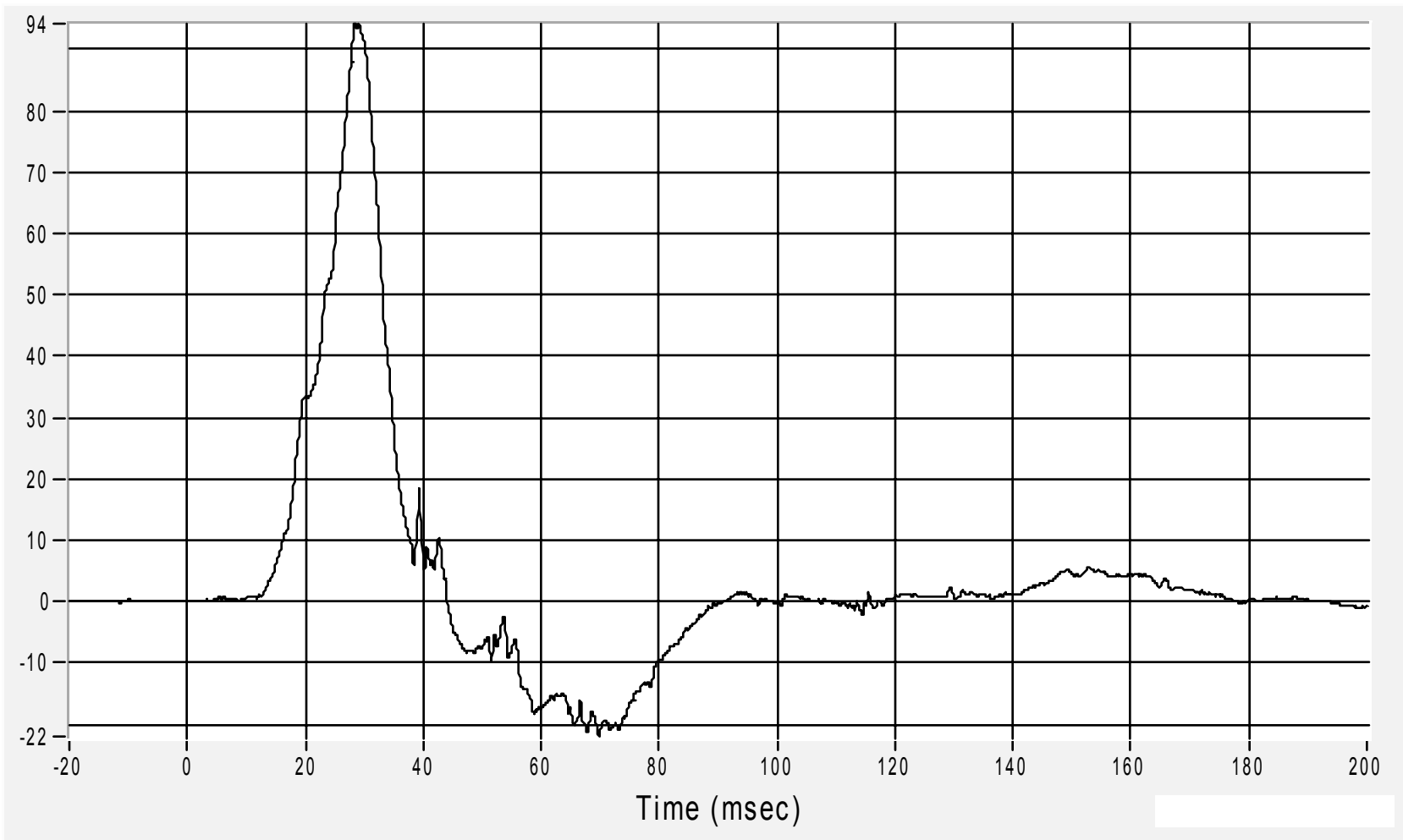
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Driver Pelvic (Y) Acceleration

Acceleration (G's) CFC1000

Max 94.2 G at 28.4 msec

Min -22.0 G at 69.8 msec



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13 January 2004

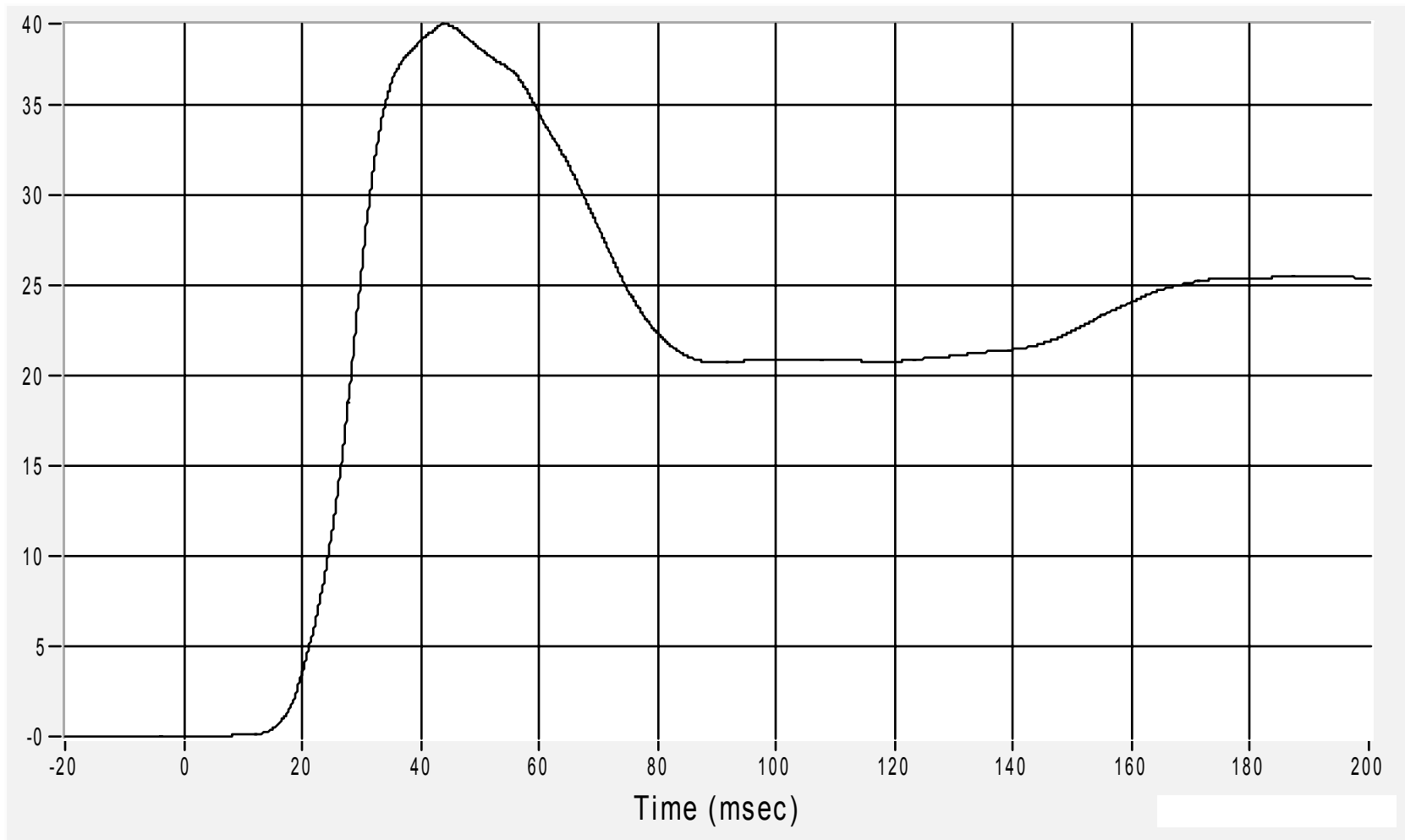
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Driver Pelvic (Y) Velocity

Velocity (km/h) CFC180

Max 39.5 km/h at 44.1 msec

Min 0.0 km/h at 1.4 msec



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13 January 2004

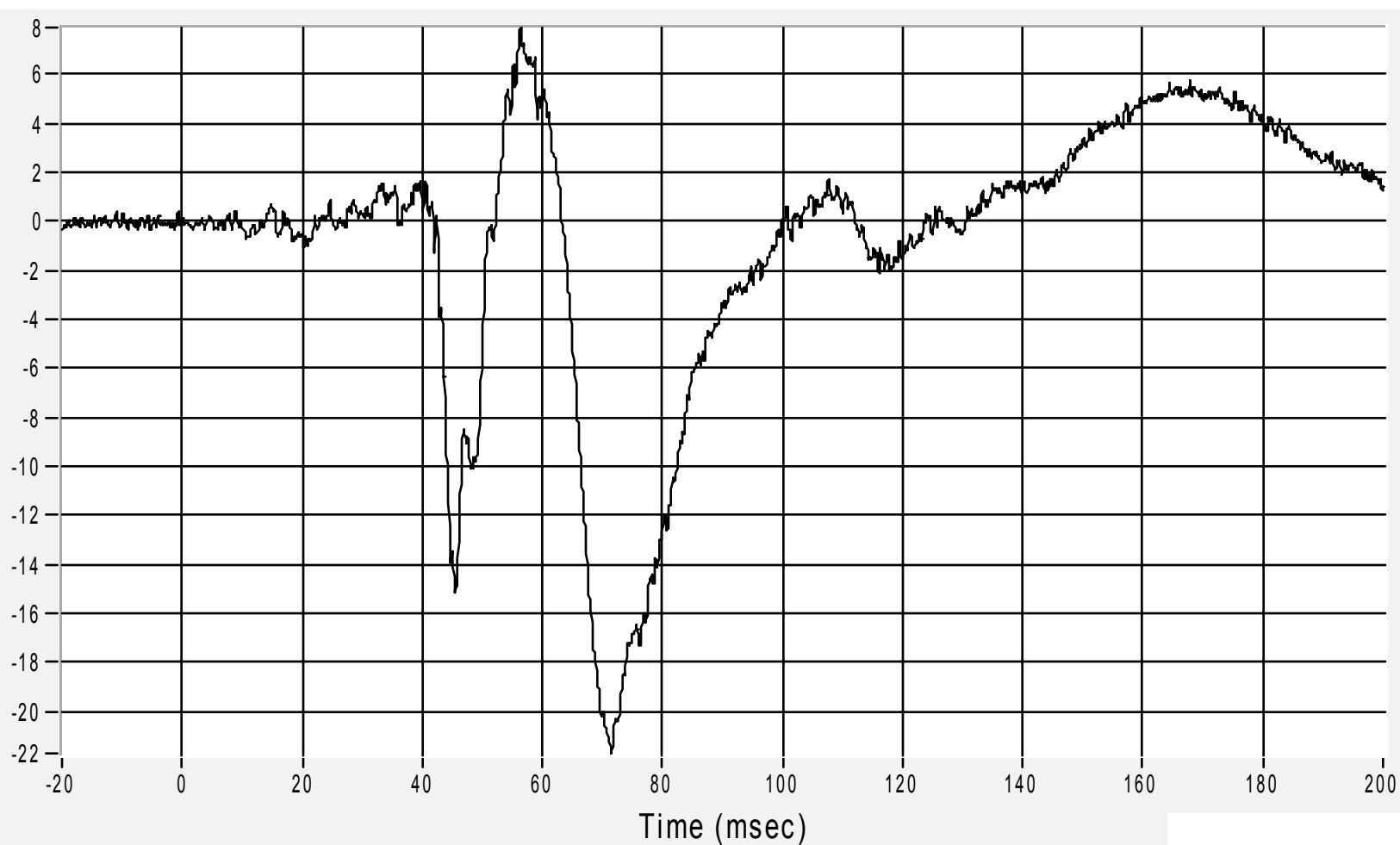
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Passenger Head CG (X) Acceleration

Acceleration (G's) CFC1000

Max 7.9 G at 56.4 msec

Min -21.7 G at 71.5 msec



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13 January 2004

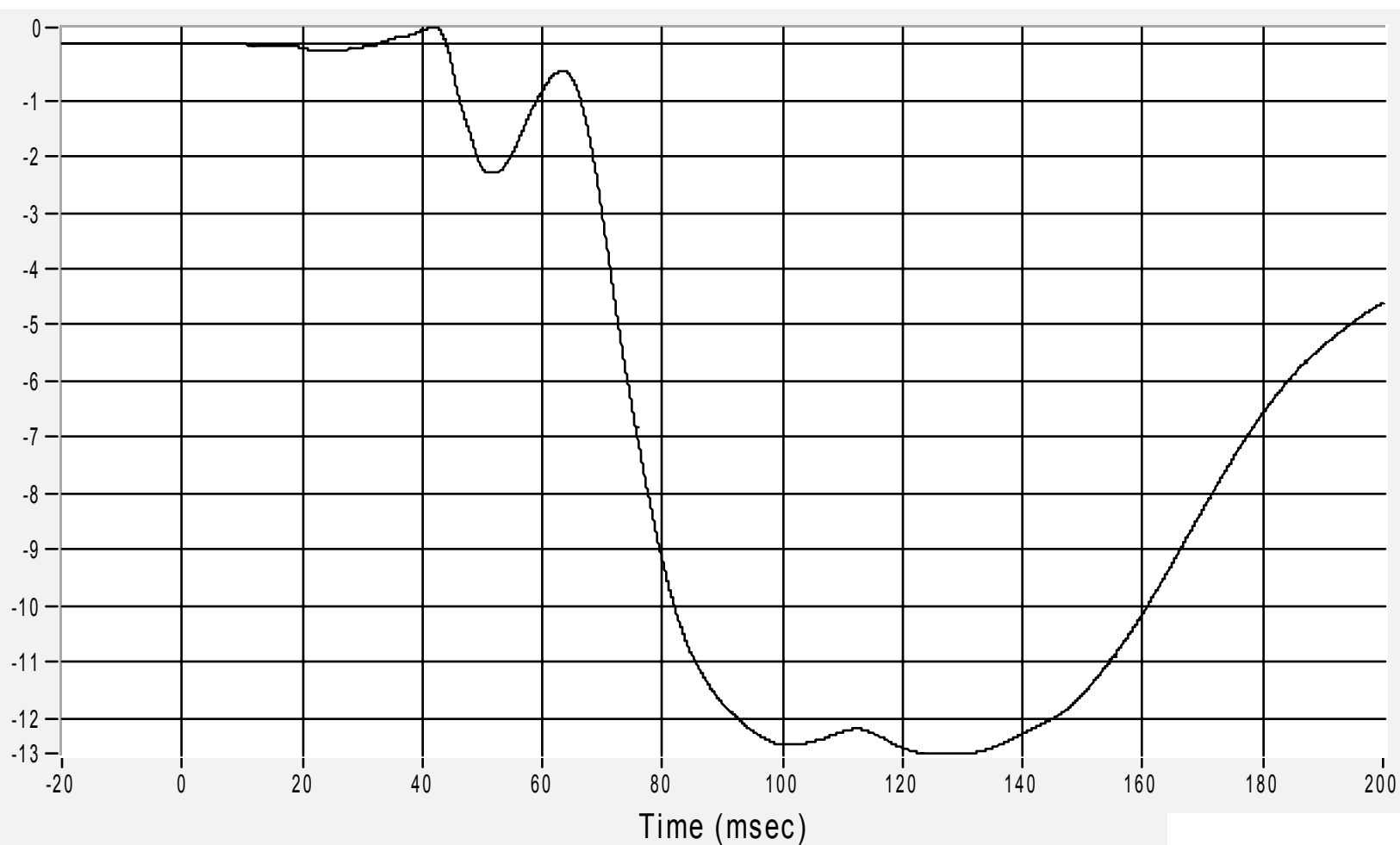
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Passenger Head CG (X) Velocity

Velocity (km/h) CFC180

Max 0.3 km/h at 41.8 msec

Min -12.6 km/h at 130.4 msec



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13 January 2004

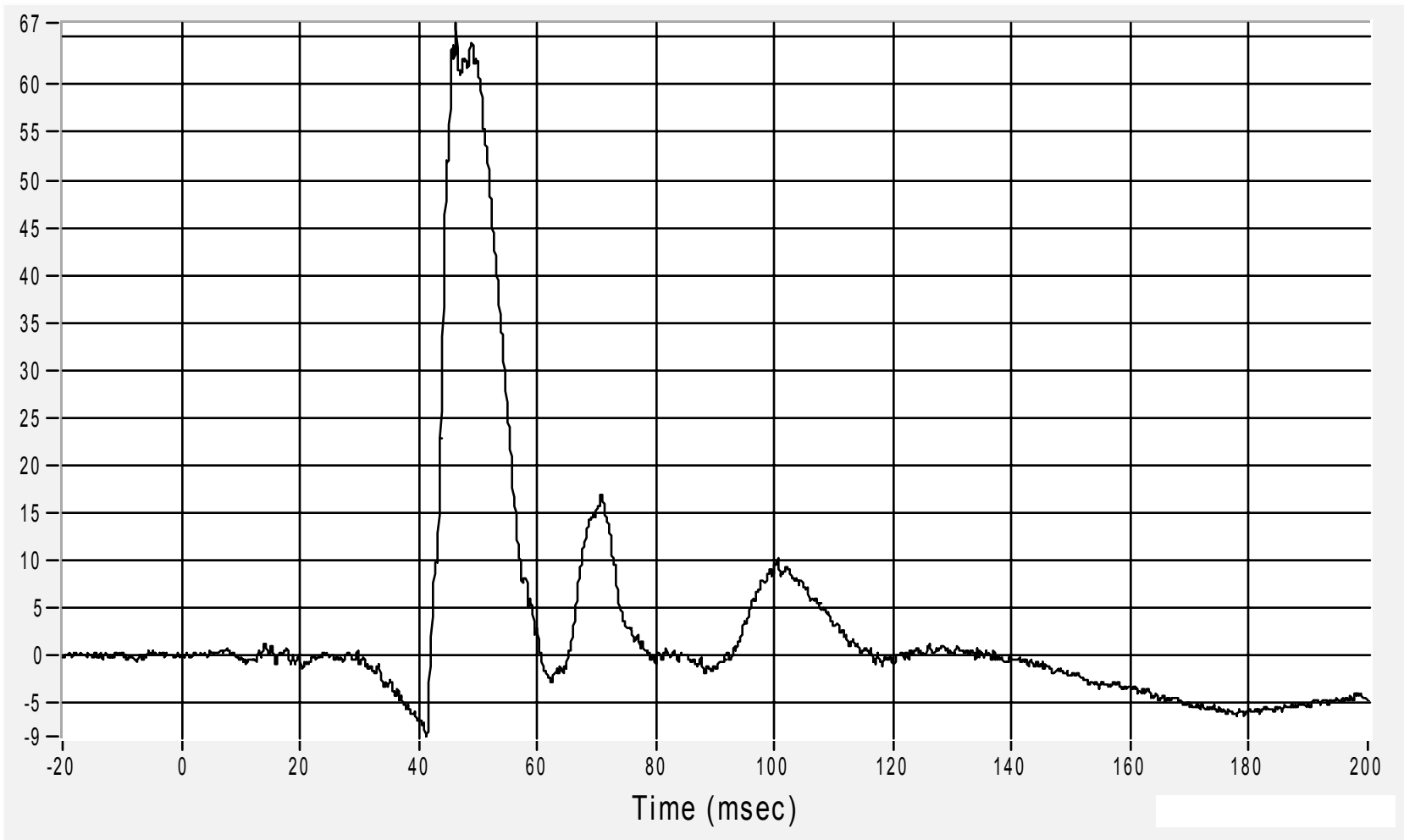
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Passenger Head CG (Y) Acceleration

Acceleration (G's) CFC1000

Max 66.5 G at 46.3 msec

Min -8.5 G at 41.4 msec



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13 January 2004

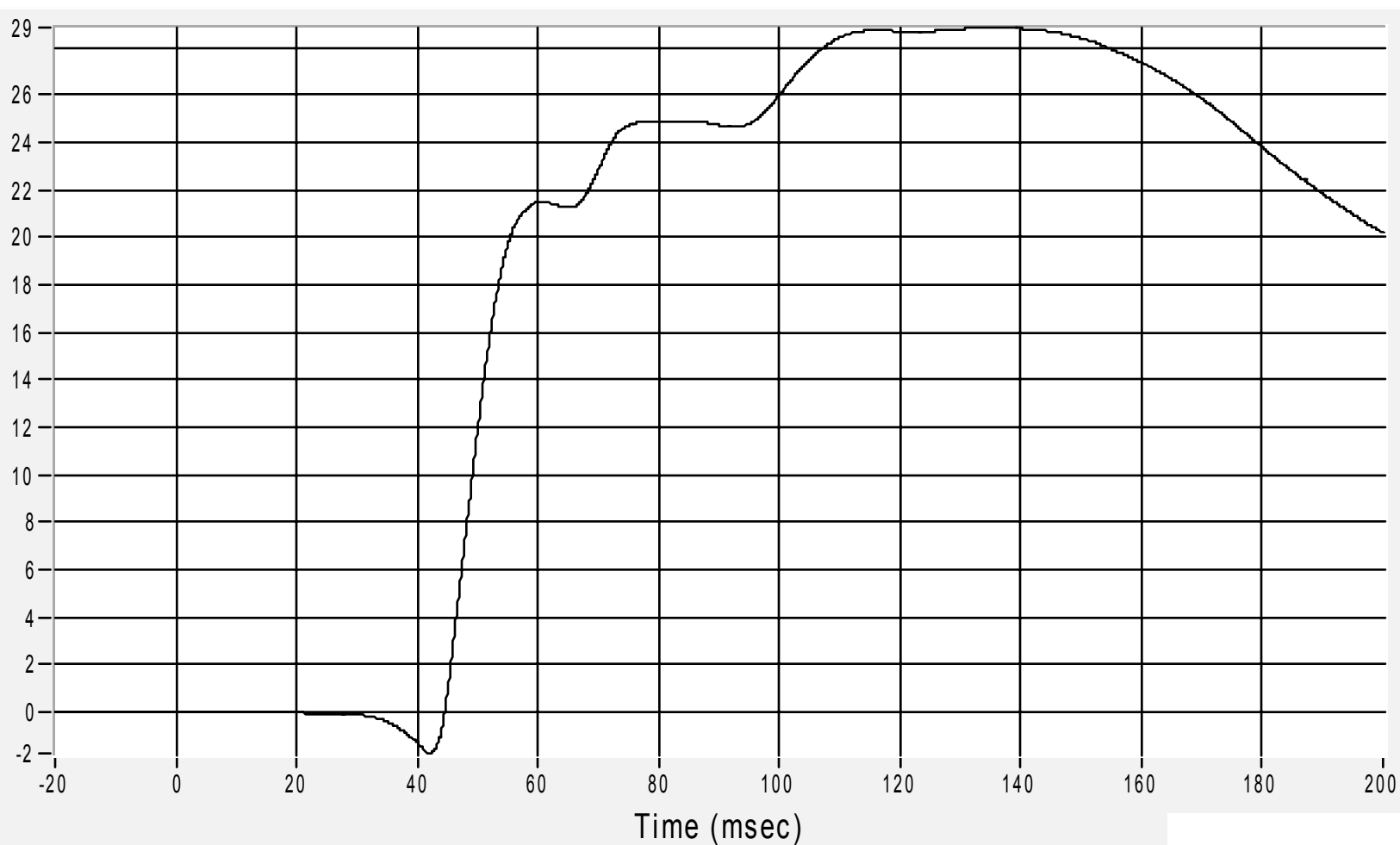
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Passenger Head CG (Y) Velocity

Velocity (km/h) CFC180

Max 28.8 km/h at 136.5 msec

Min -1.7 km/h at 42.0 msec



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13 January 2004

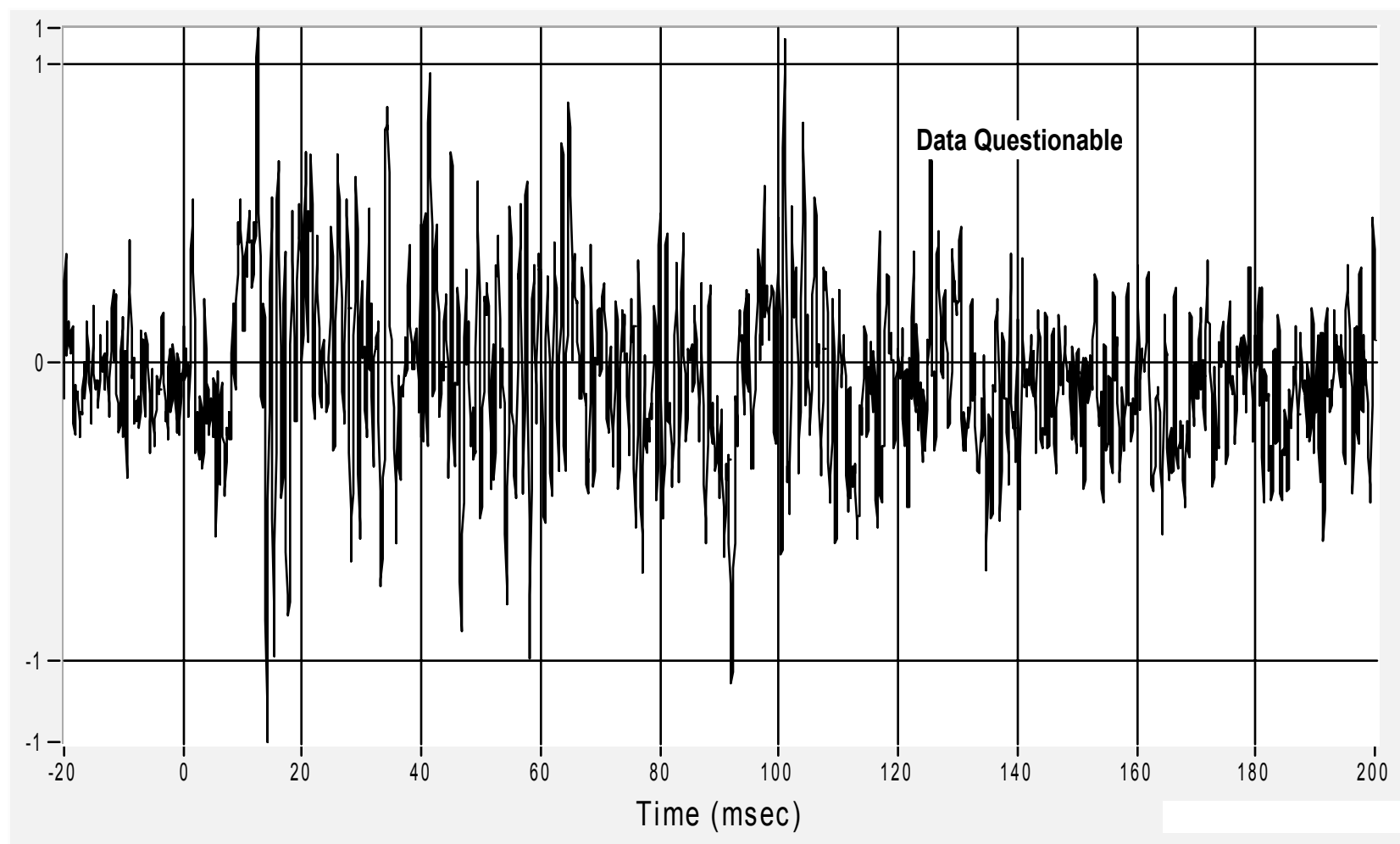
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Passenger Head CG (Z) Acceleration

Acceleration (G's) CFC1000

Max 1.1 G at 12.5 msec

Min -1.3 G at 14.1 msec



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13 January 2004

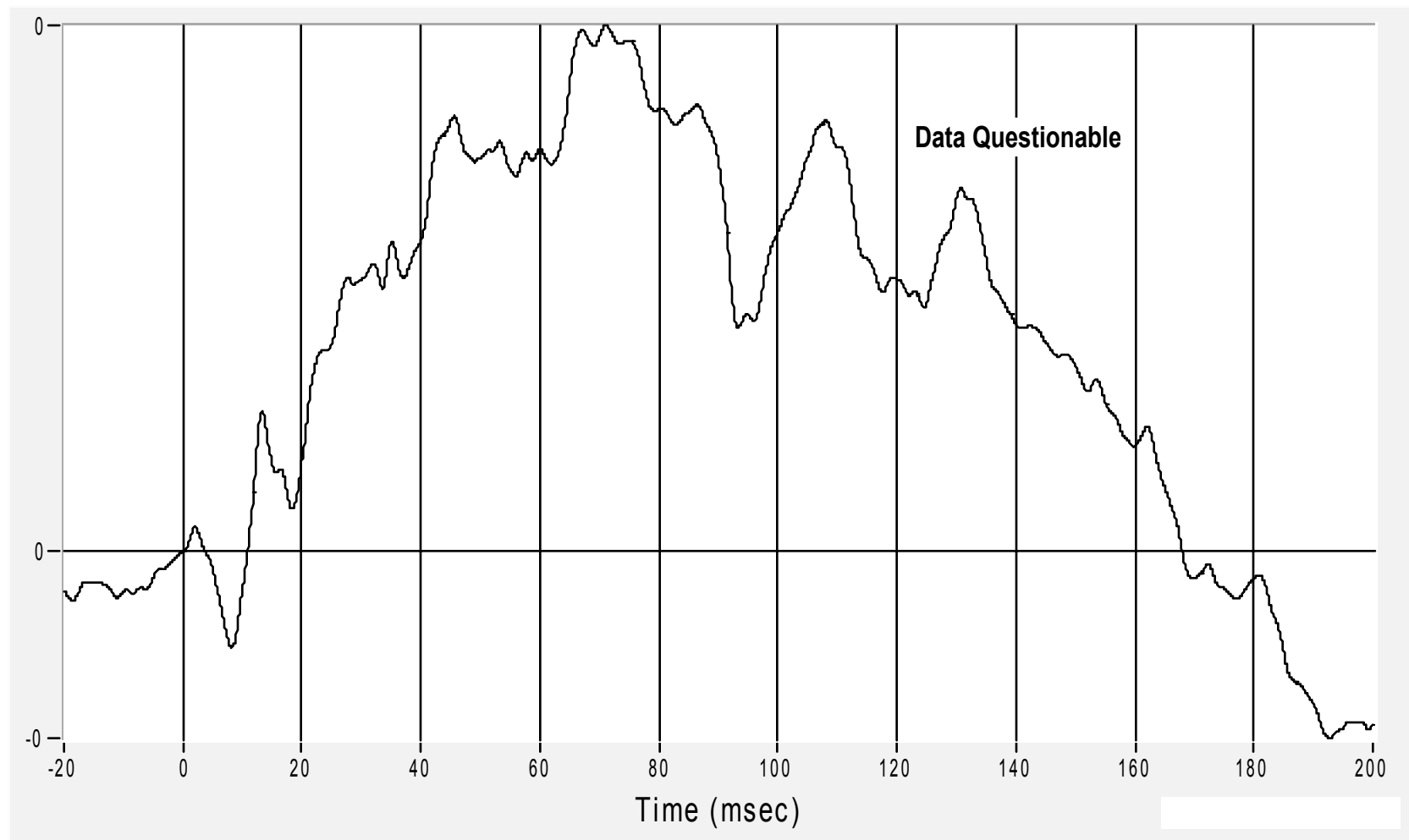
*Medical College of Wisconsin
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Passenger Head CG (Z) Velocity

Velocity (km/h) CFC180

Max 0.2 km/h at 71.0 msec

Min 0.0 km/h at 192.7 msec



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13 January 2004

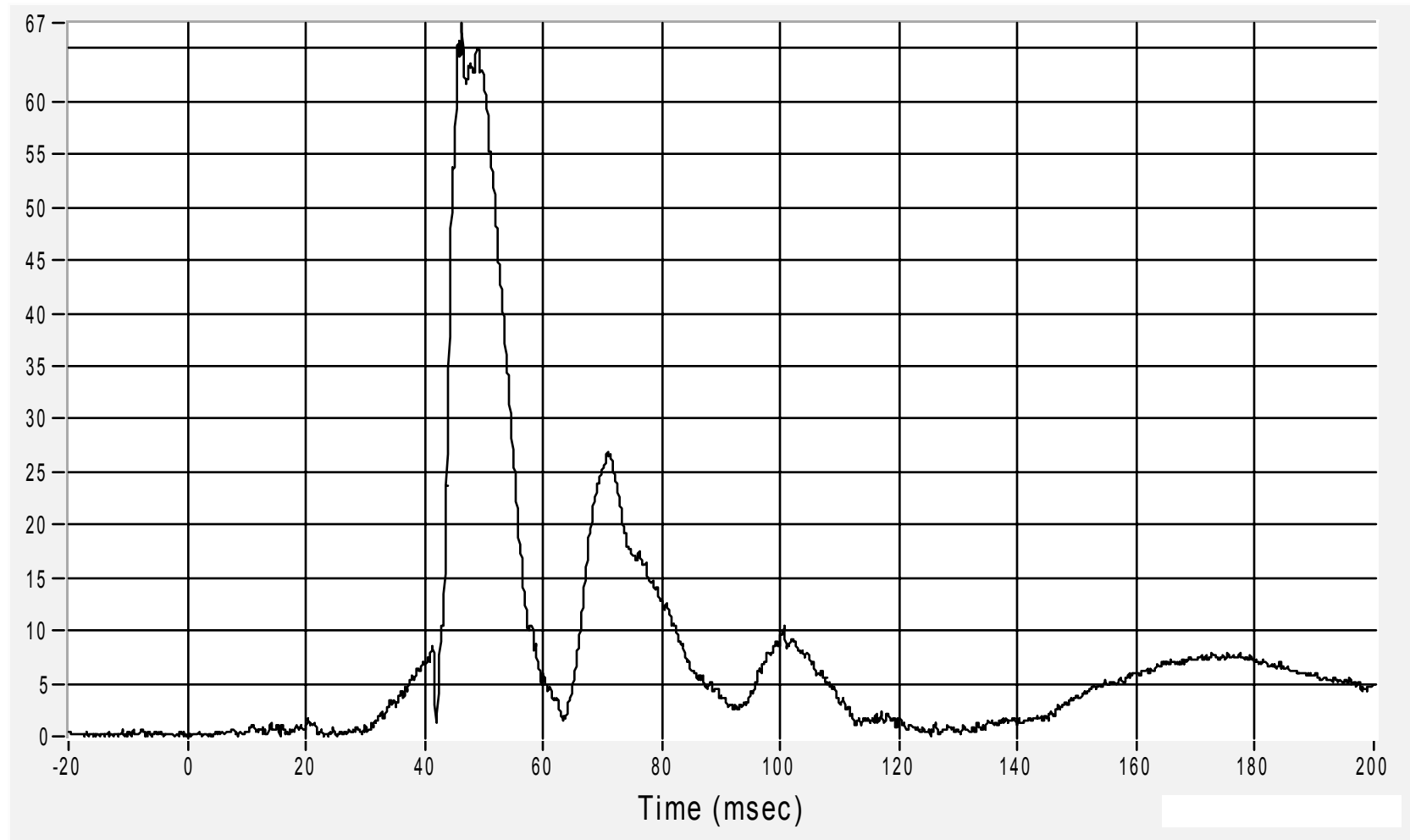
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Passenger Head Resultant Acceleration

Acceleration (G's) CFC1000

Max 67.4 G's at 46.3 msec

Min 0.0 G's at 8.6 msec



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Vehicle Crashworthiness Lab

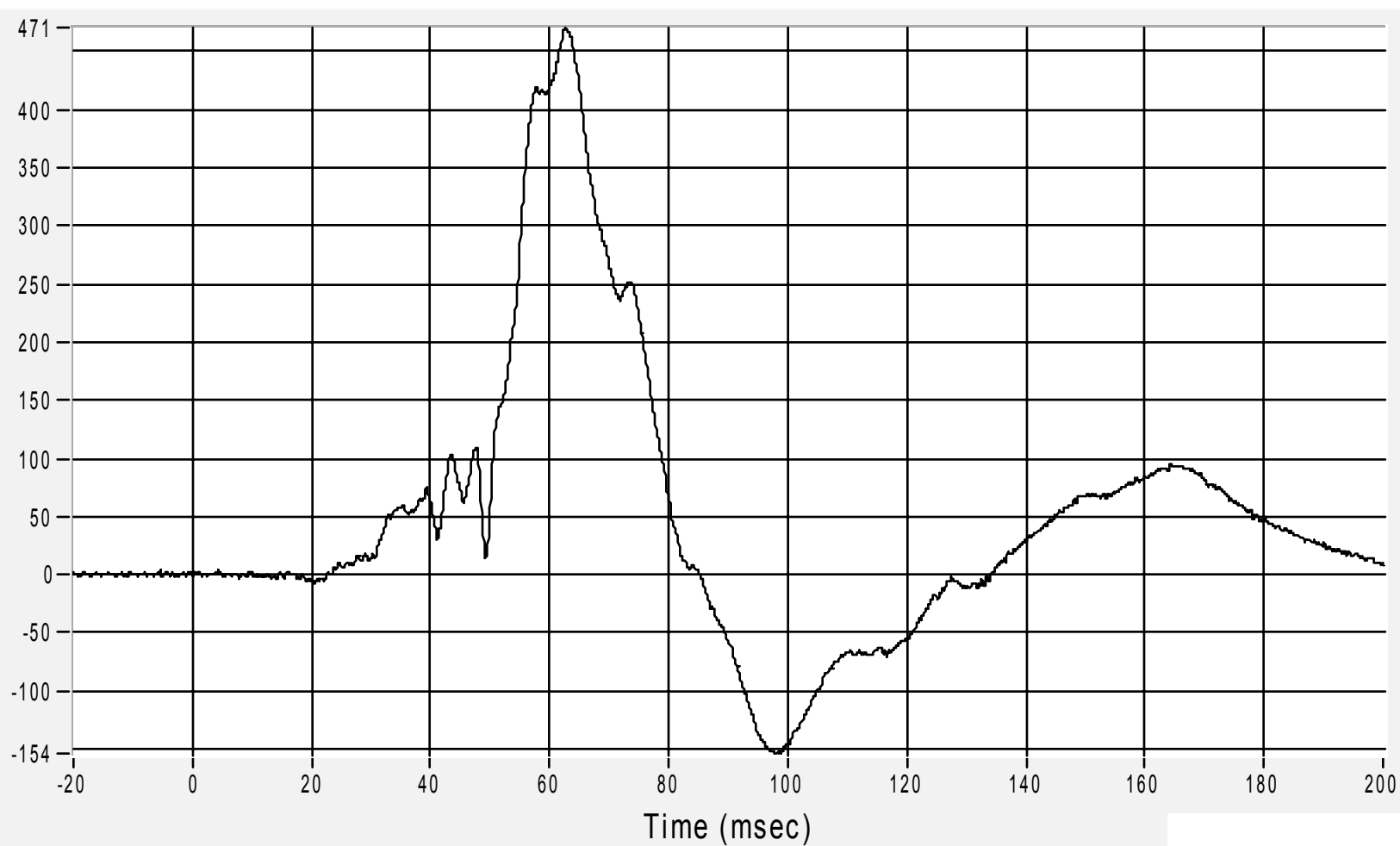
Passenger Upper Neck (X) Force

Force (N)

CFC1000

Max 470.5 N at 62.6 msec

Min -153.8 N at 98.1 msec



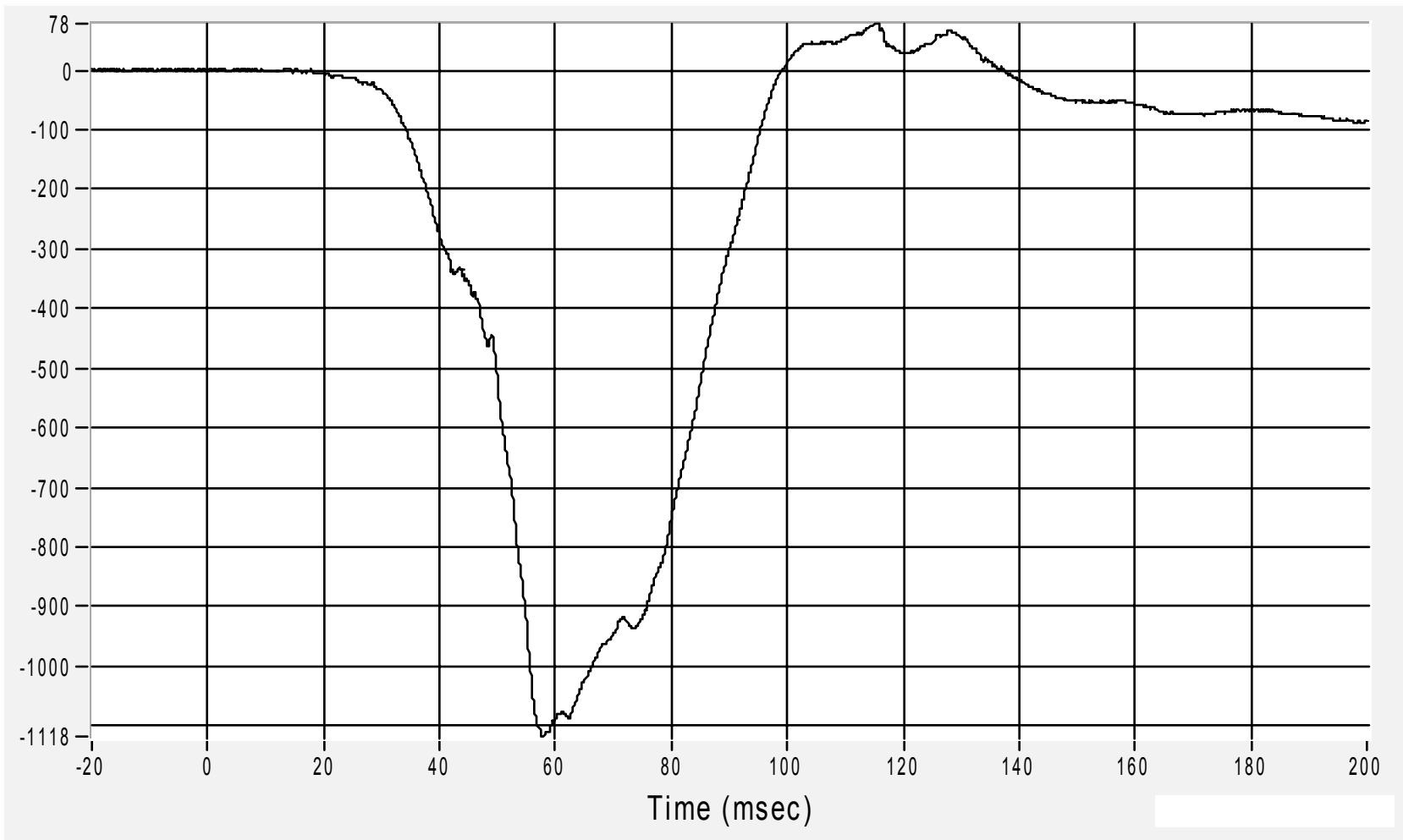
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Vehicle Crashworthiness Lab

Passenger Upper Neck (Y) Force
 Force (N) CFC1000

Max 77.9 N at 115.2 msec
 Min -1117.7 N at 57.8 msec

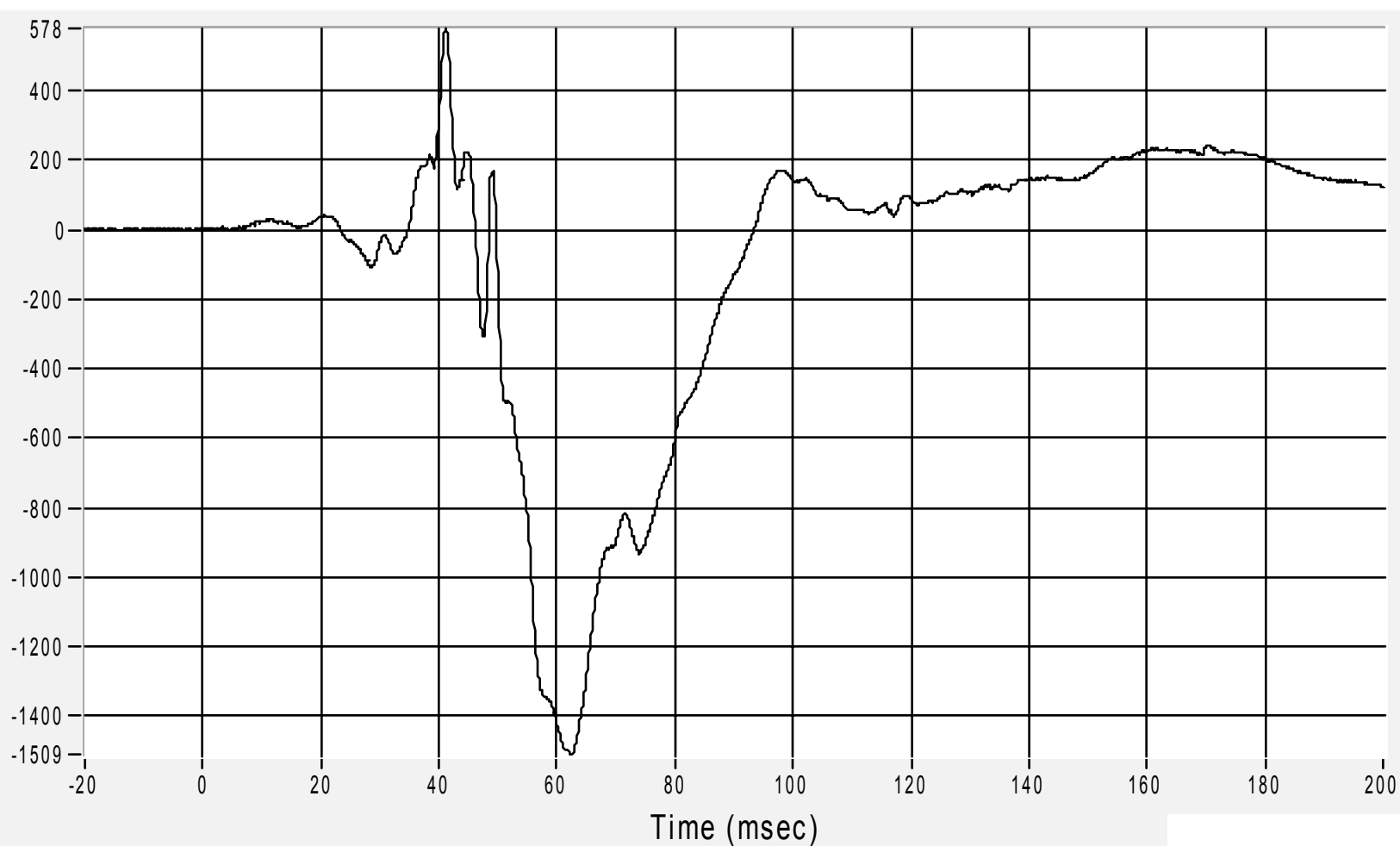


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 Vehicle Crashworthiness Lab

Passenger Upper Neck (Z) Force
Force (N) CFC1000

Max 578.0 N at 41.1 msec
Min -1509.0 N at 62.5 msec



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13 January 2004

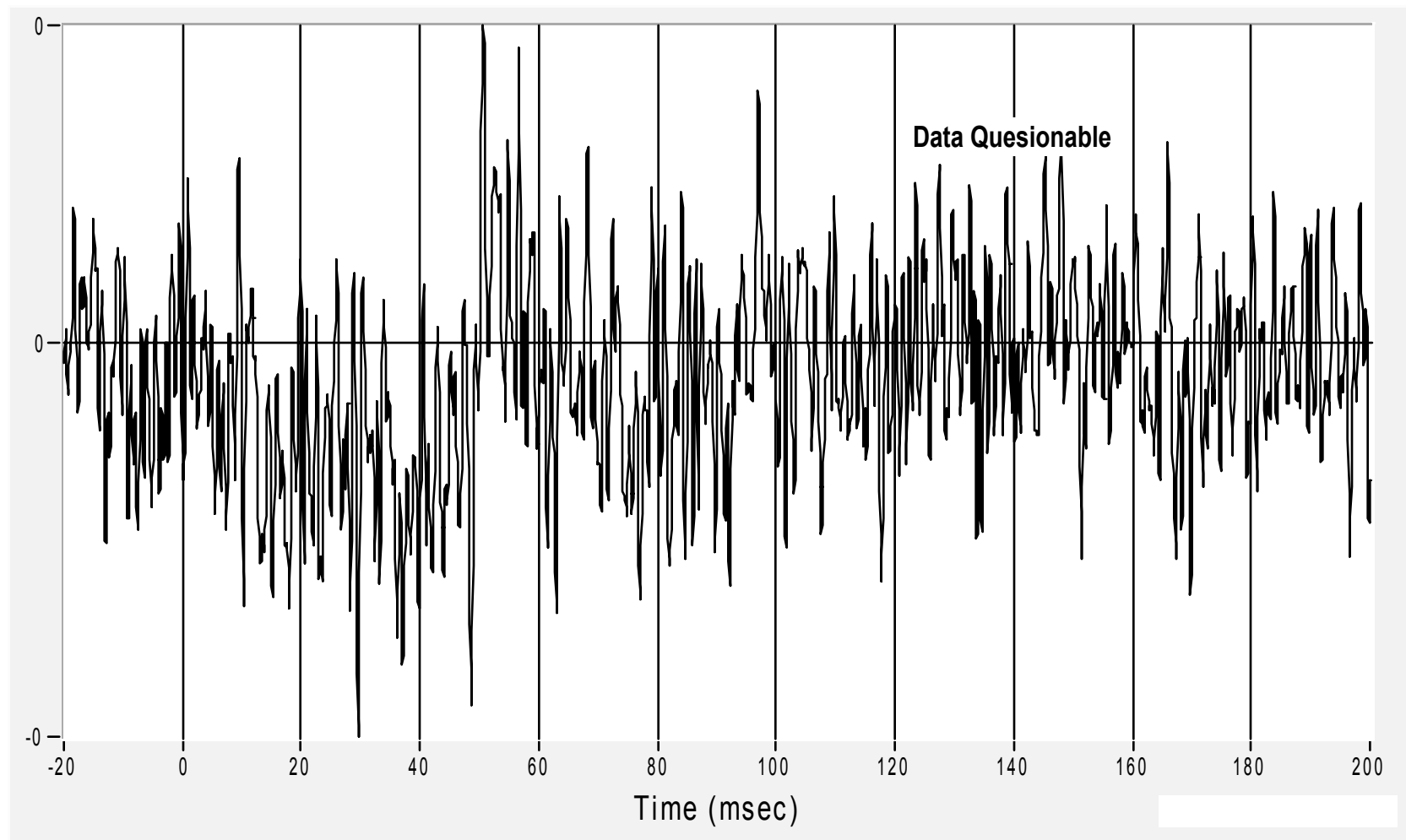
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Passenger Upper Neck (X) Moment

Moment (Nm) CFC600

Max 0.1 Nm at 50.6 msec

Min -0.1 Nm at 29.6 msec



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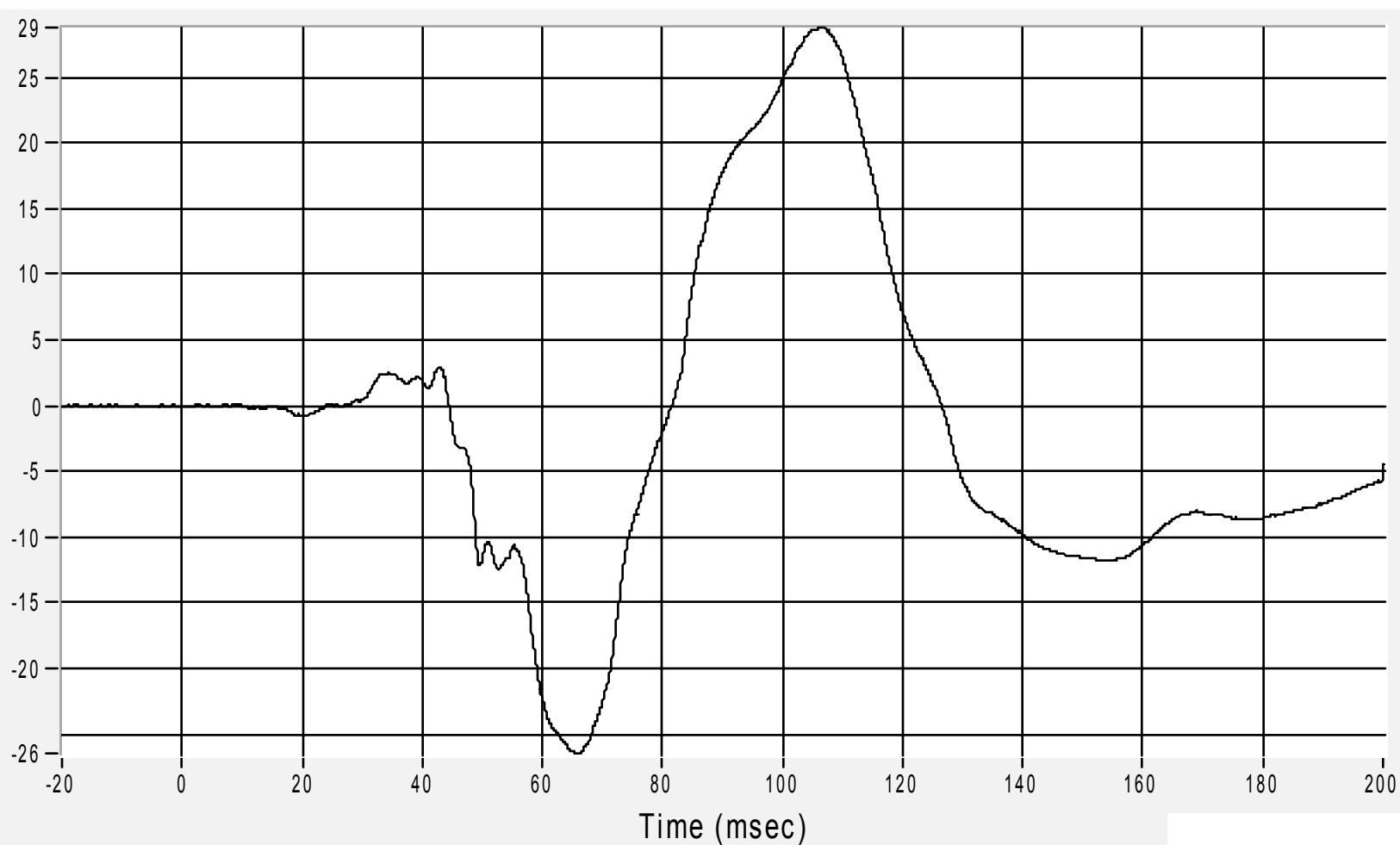
Passenger Upper Neck (Y) Moment

Moment (Nm)

CFC600

Max 28.8 Nm at 106.4 msec

Min -26.5 Nm at 66.1 msec



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13 January 2004

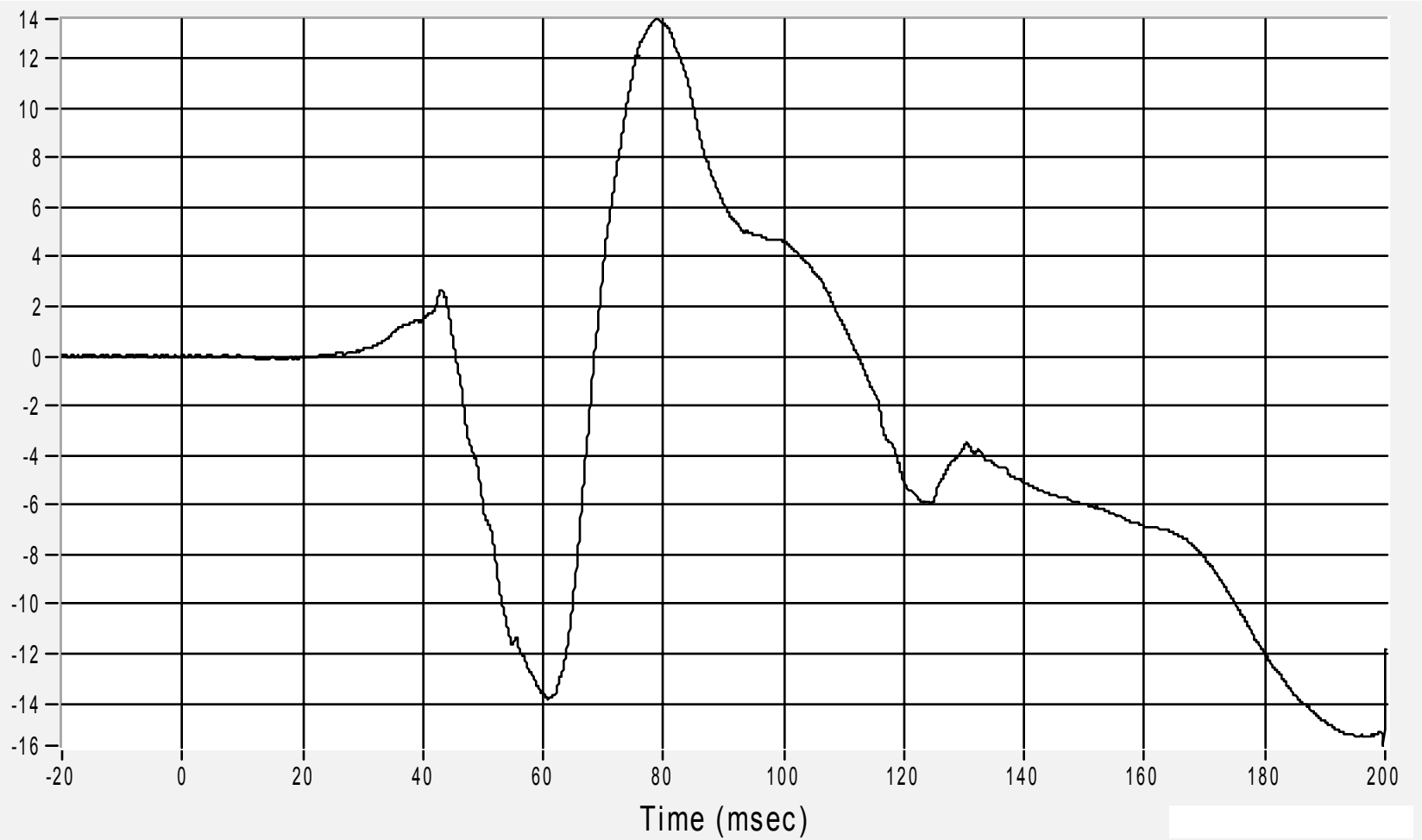
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Passenger Upper Neck (Z) Moment

Moment (Nm) CFC600

Max 13.6 Nm at 79.1 msec

Min -15.7 Nm at 199.7 msec



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13 January 2004

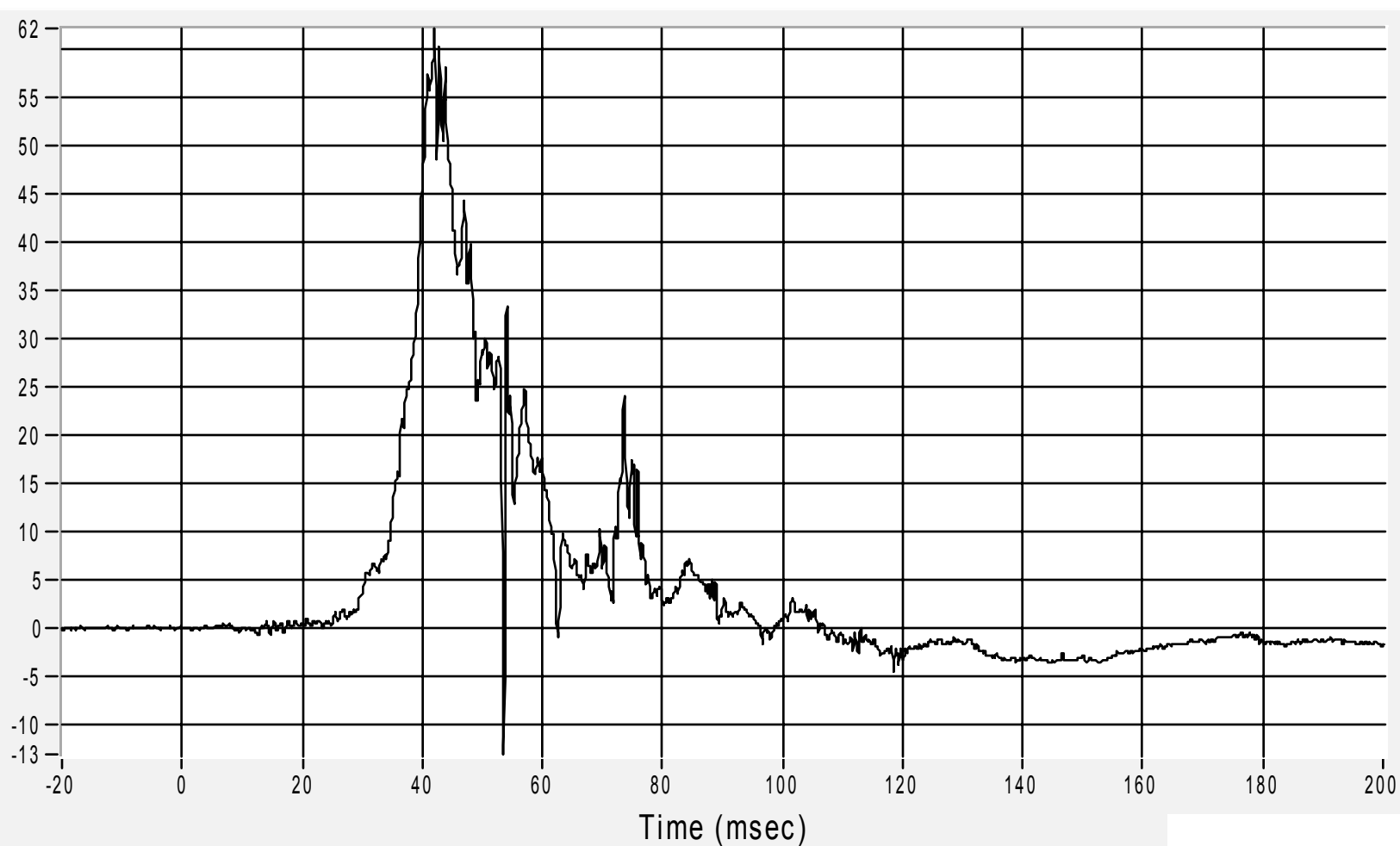
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Passenger Upper Rib (Y) Acceleration

Acceleration (G's) CFC1000

Max 62.1 G at 42.1 msec

Min -13.1 G at 53.5 msec



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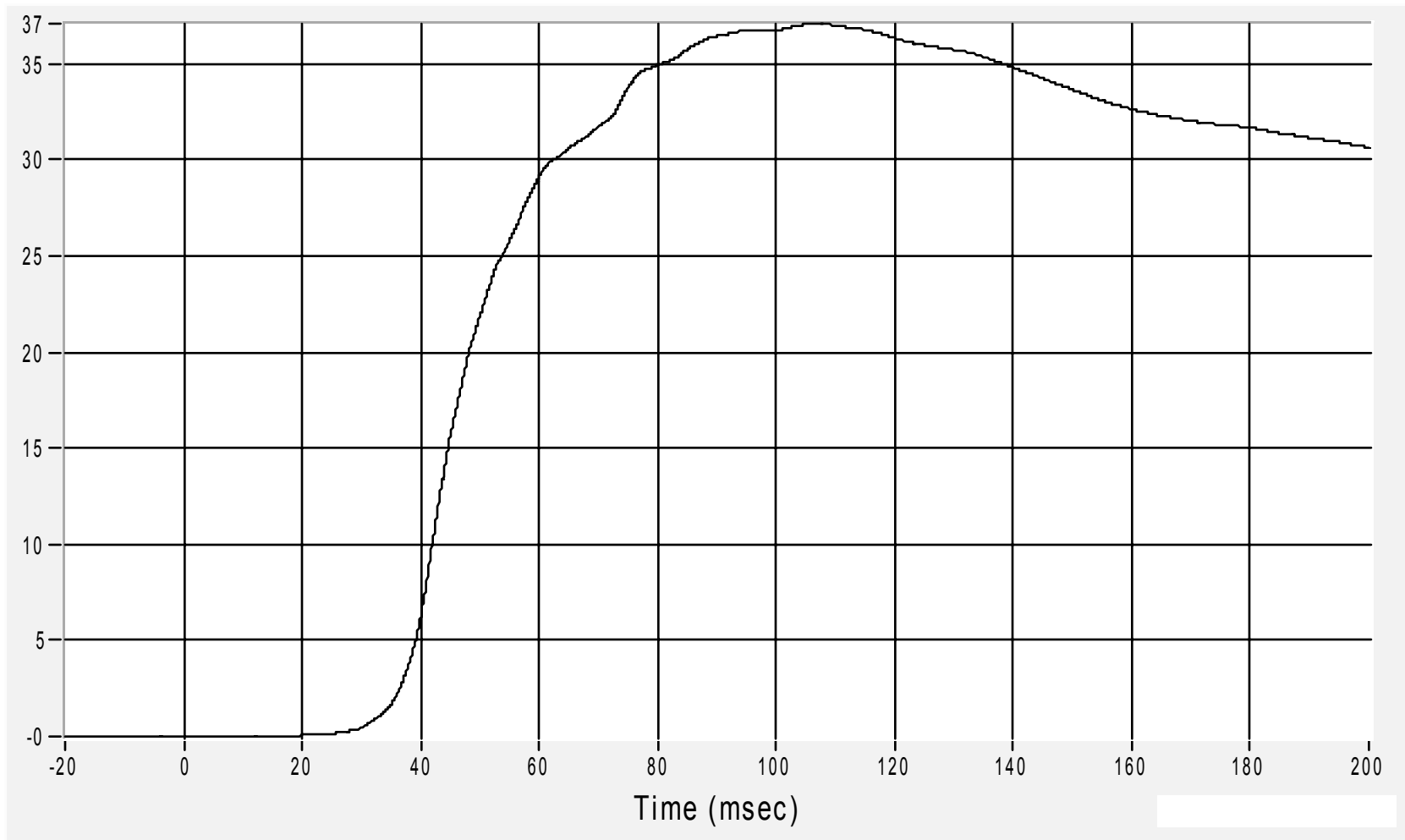
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Passenger Upper Rib (Y) Velocity

Velocity (km/h) CFC180

Max 37.1 km/h at 106.6 msec

Min 0.0 km/h at 3.4 msec



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13 January 2004

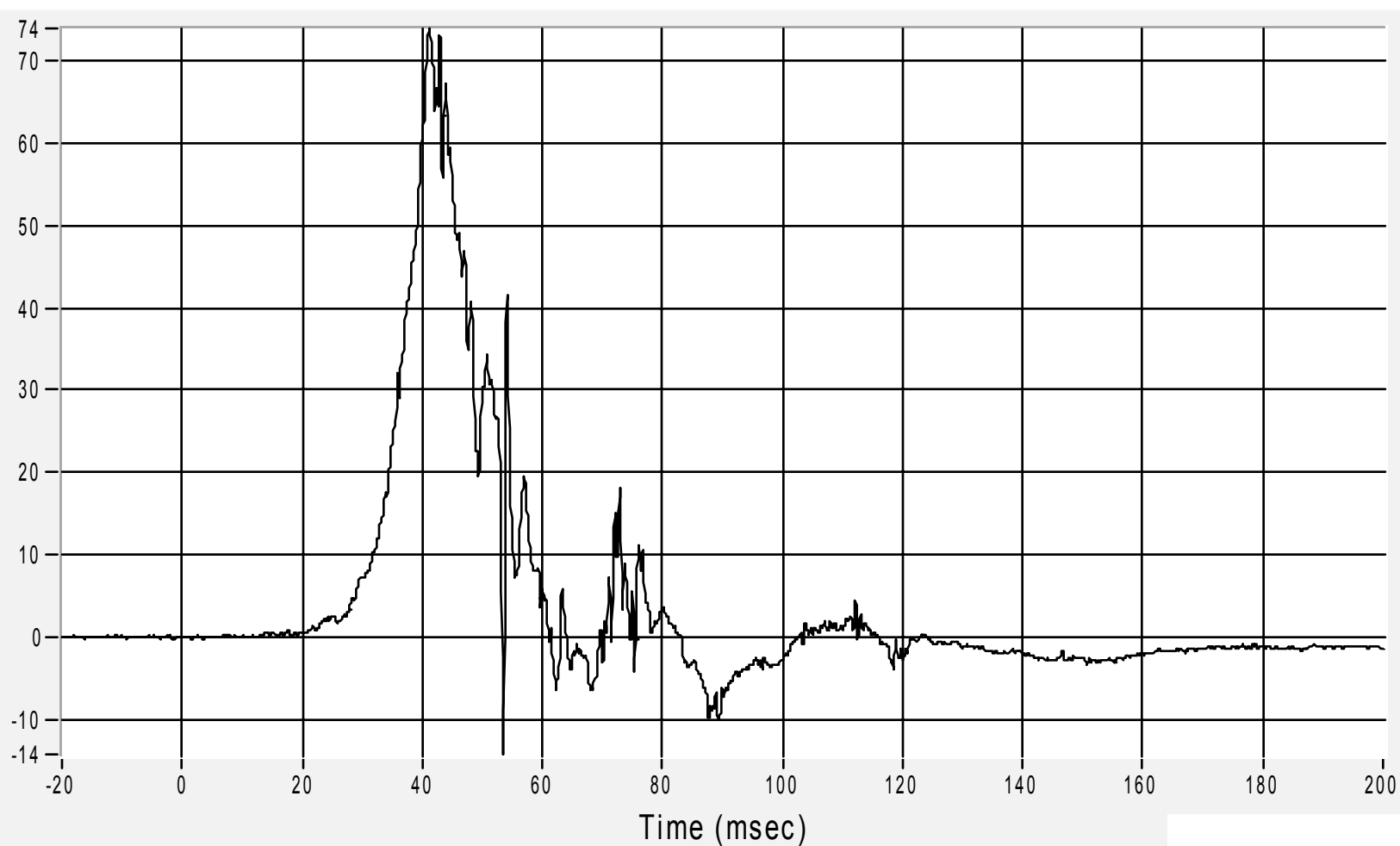
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Passenger Lower Rib (Y) Acceleration

Acceleration (G's) CFC1000

Max 73.9 G at 41.1 msec

Min -14.2 G at 53.4 msec



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13 January 2004

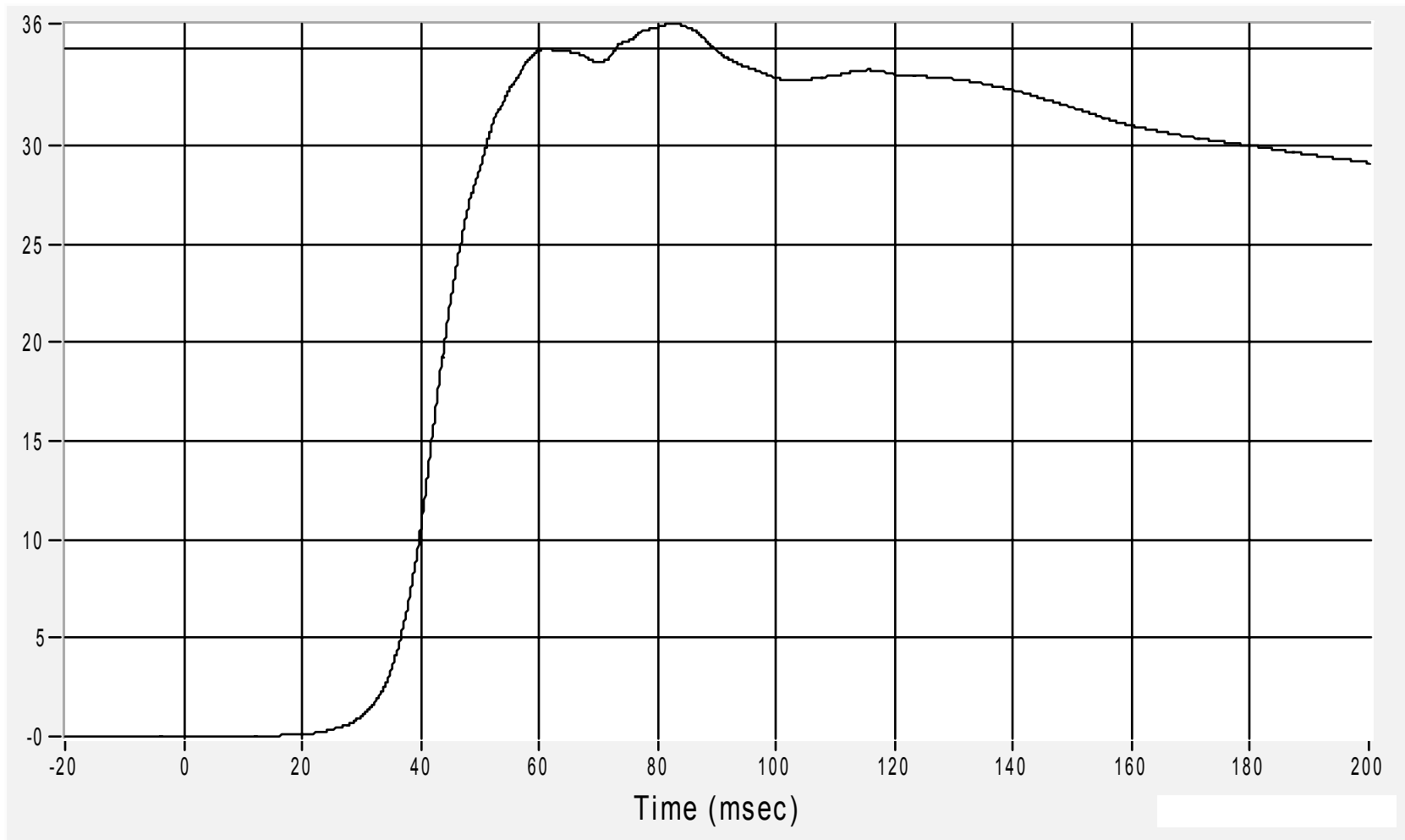
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Passenger Lower Rib (Y) Velocity

Velocity (km/h) CFC180

Max 36.2 km/h at 82.6 msec

Min 0.0 km/h at 5.7 msec



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13 January 2004

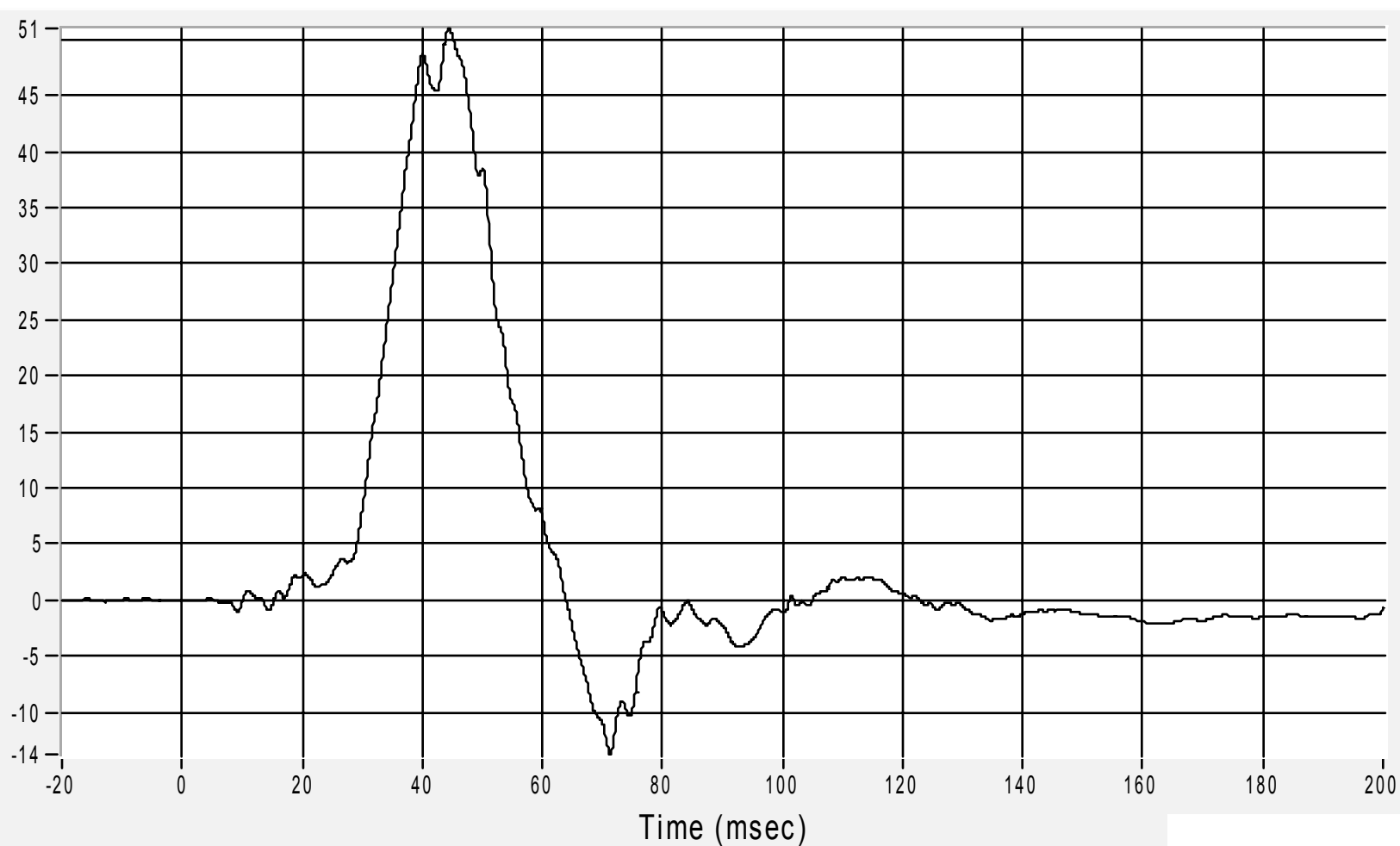
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Passenger Lower Spine (Y) Acceleration

Acceleration (G's) CFC180

Max 51.0 G at 44.4 msec

Min -13.8 G at 71.3 msec



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13 January 2004

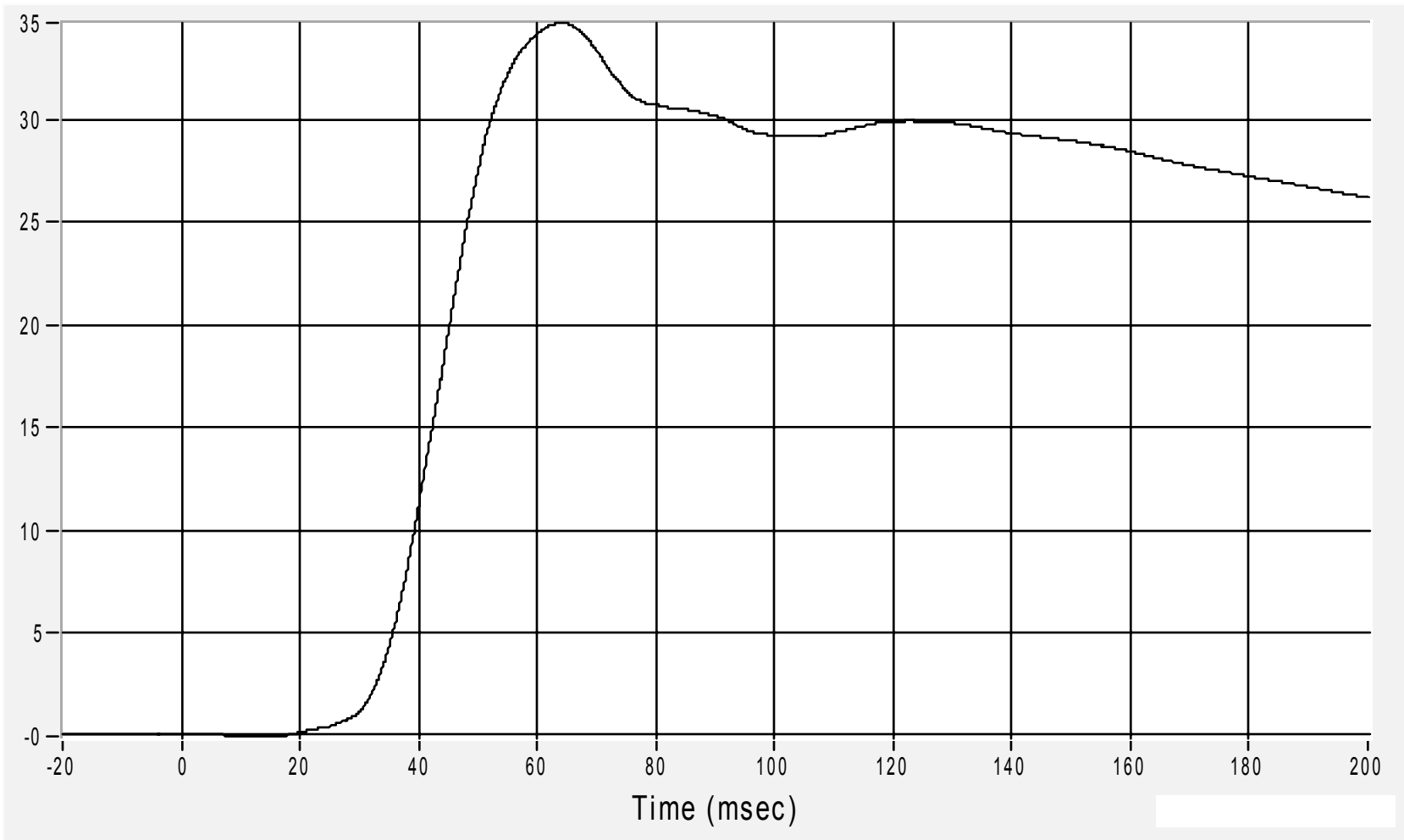
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Passenger Lower Spine (Y) Velocity

Velocity (km/h) CFC180

Max 34.8 km/h at 63.9 msec

Min 0.0 km/h at 10.1 msec



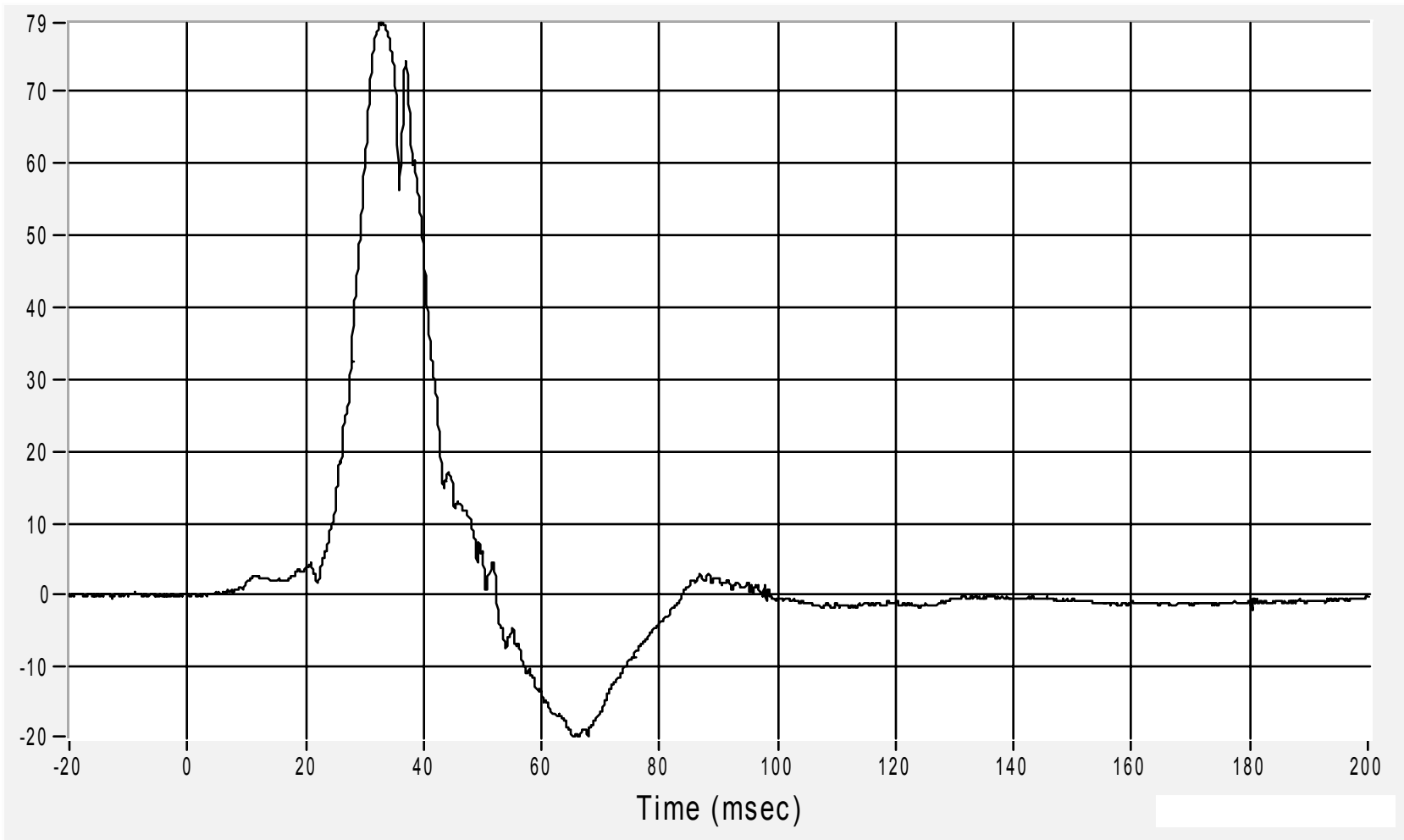
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Vehicle Crashworthiness Lab

Passenger Pelvic (Y) Acceleration
Acceleration (G's) CFC1000

Max	79.3	G	at	32.6	msec
Min	-19.6	G	at	66.2	msec



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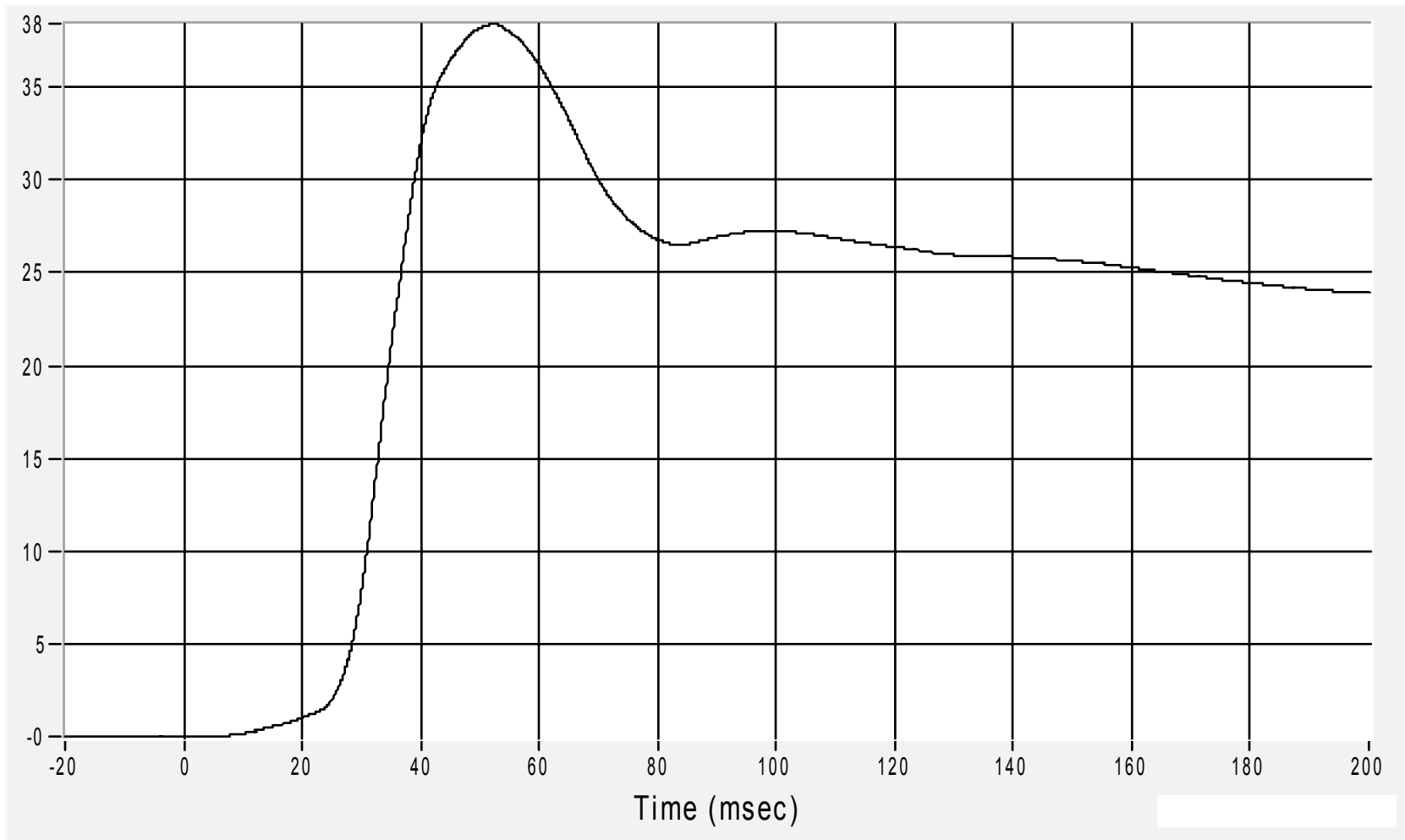
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Passenger Pelvic (Y) Velocity

Velocity (km/h) CFC180

Max 38.4 km/h at 52.3 msec

Min 0.0 km/h at 2.3 msec



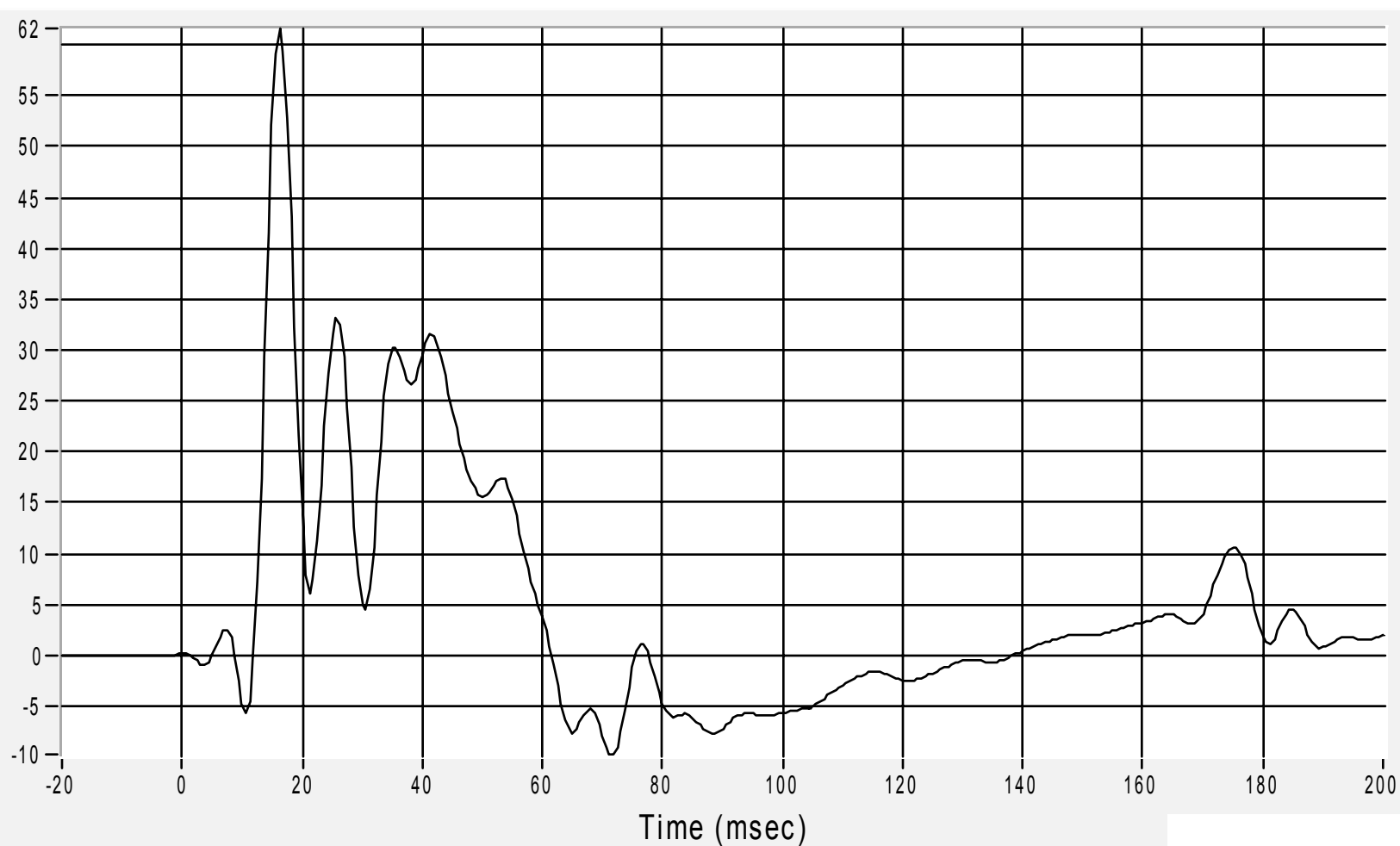
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Vehicle Crashworthiness Lab

Driver Upper Rib (Y) Acceleration

Acceleration (G's) FIR100

Max 61.6 G at 16.2 msec**Min -9.7 G at 71.9 msec**

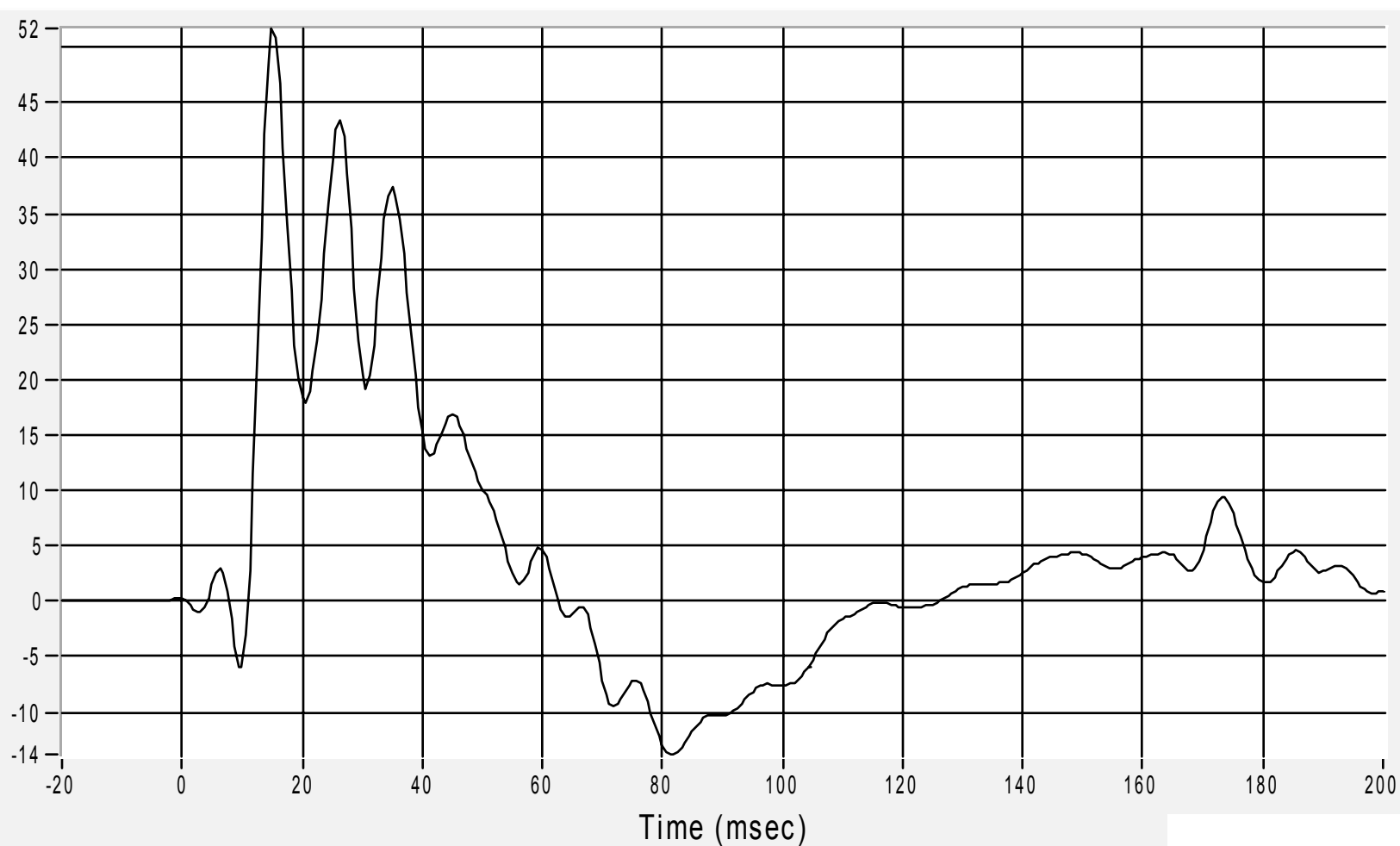
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*Medical College of Wisconsin
Vehicle Crashworthiness Lab*

Driver Lower Rib (Y) Acceleration

Acceleration (G's) FIR100

Max 51.7 G at 15.0 msec**Min -13.8 G at 81.2 msec**

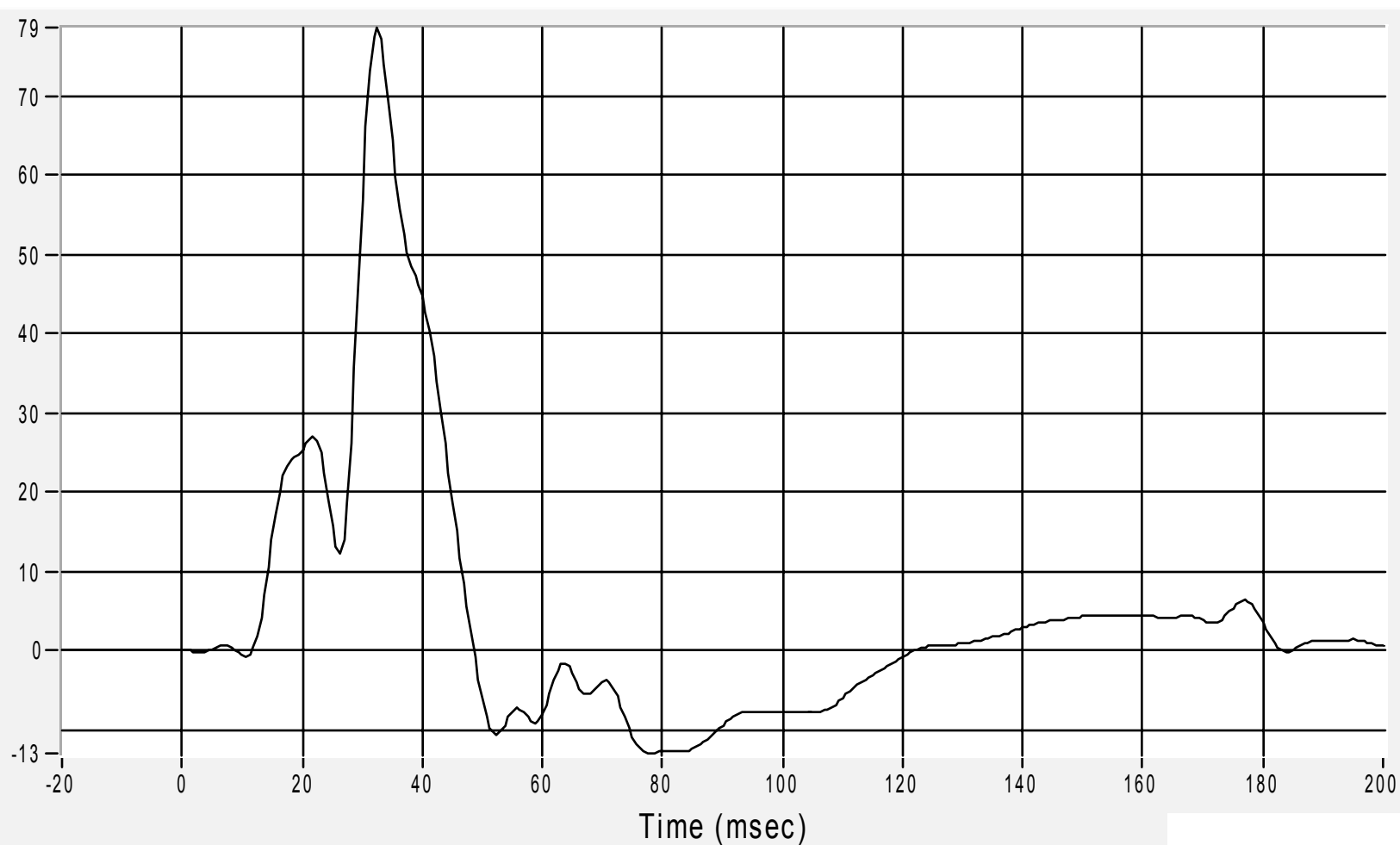
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13 January 2004

*Medical College of Wisconsin
Vehicle Crashworthiness Lab*

Driver Lower Spine (Y) Acceleration

Acceleration (G's) FIR100

Max 78.7 G at 32.5 msec**Min -13.0 G at 78.1 msec**

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13 January 2004

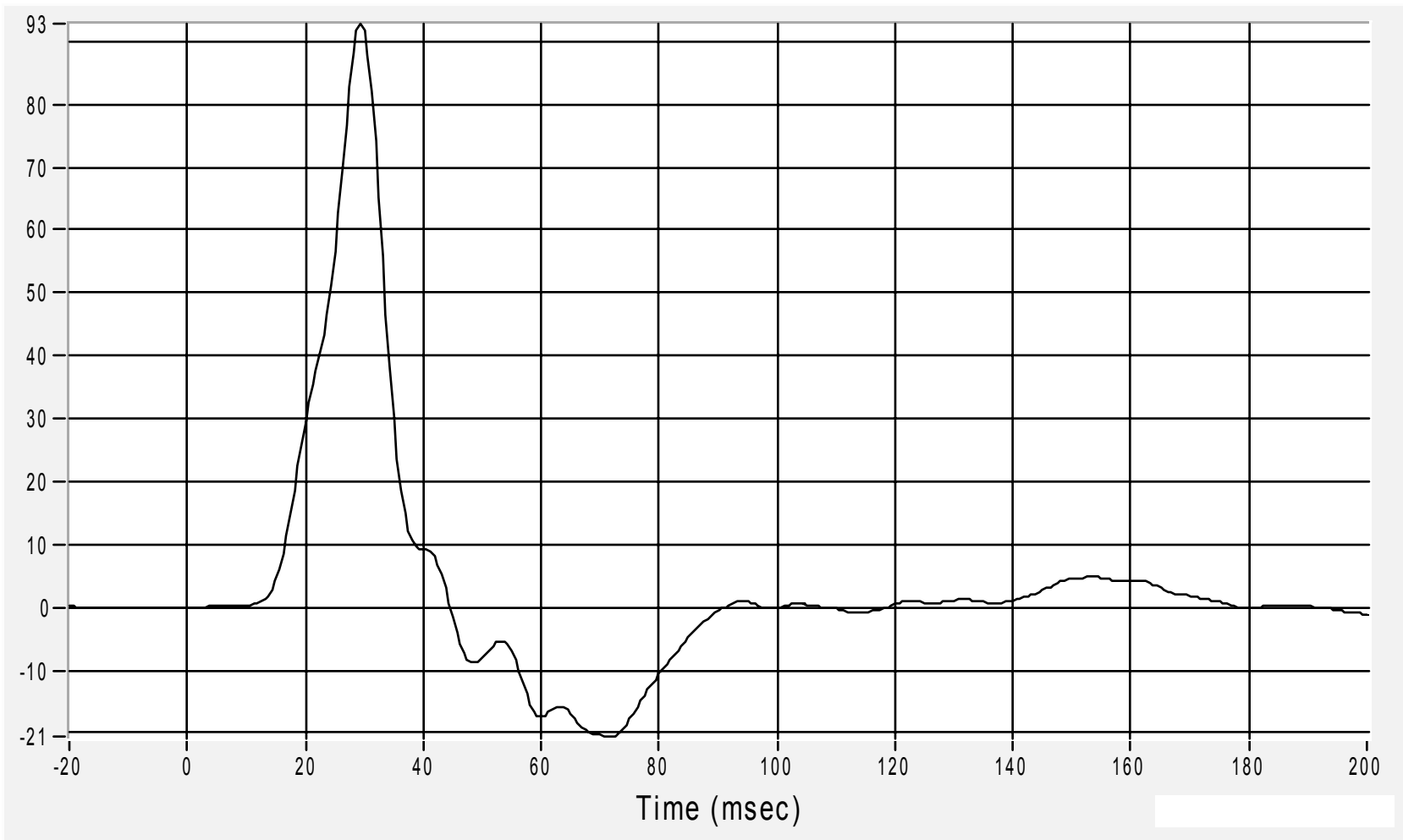
*Medical College of Wisconsin
Vehicle Crashworthiness Lab*

Driver Pelvic (Y) Acceleration

Acceleration (G's) FIR100

Max 92.8 G at 29.4 msec

Min -20.5 G at 71.2 msec



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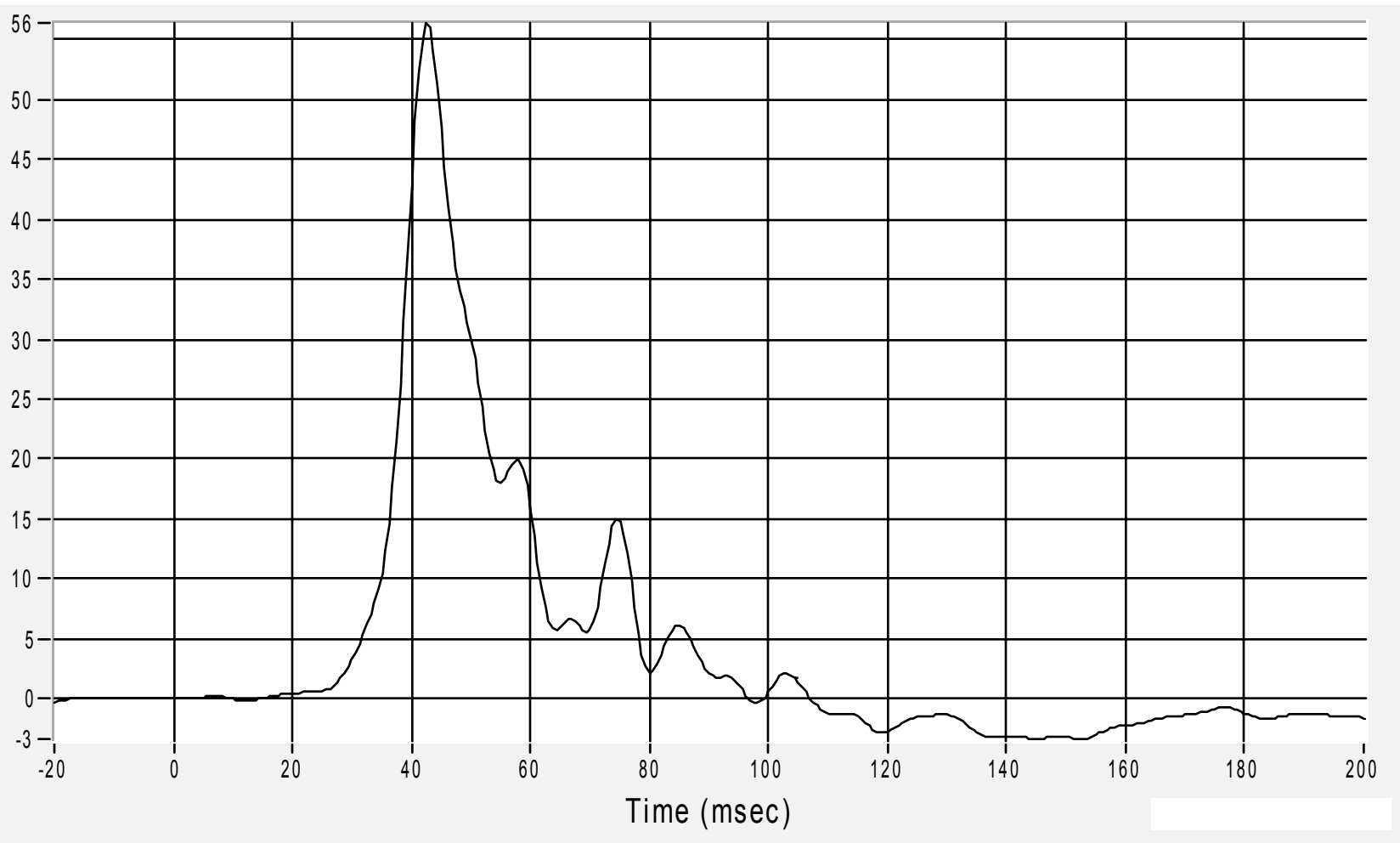
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Passenger Upper Rib (Y) Acceleration

Acceleration (G's) FIR100

Max 56.4 G at 42.5 msec

Min -3.4 G at 152.5 msec



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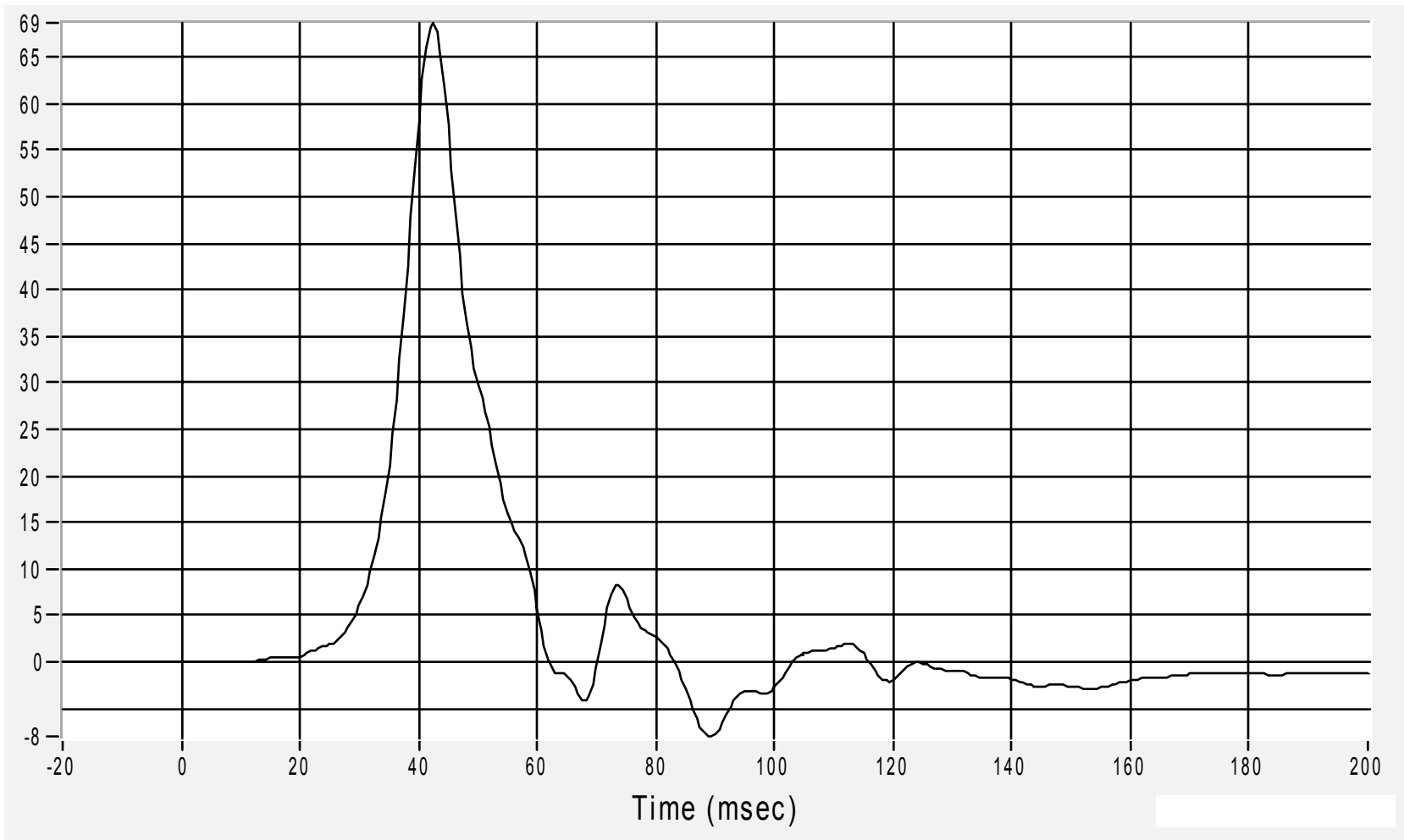
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Passenger Lower Rib (Y) Acceleration

Acceleration (G's) FIR100

Max 68.7 G at 42.5 msec

Min -8.0 G at 89.4 msec



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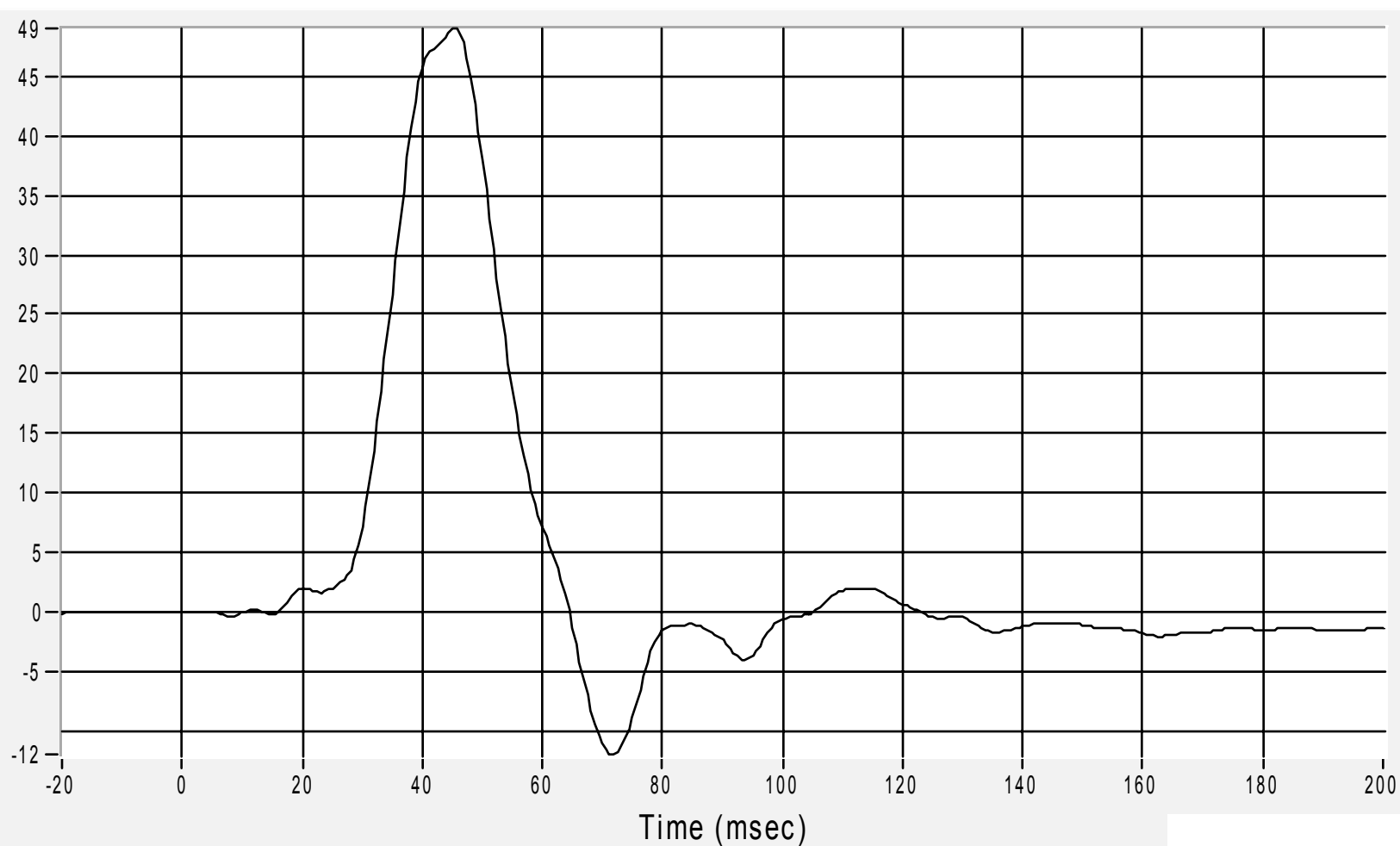
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Passenger Lower Spine (Y) Acceleration

Acceleration (G's) FIR100

Max 49.1 G at 45.6 msec

Min -12.0 G at 71.9 msec



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13 January 2004

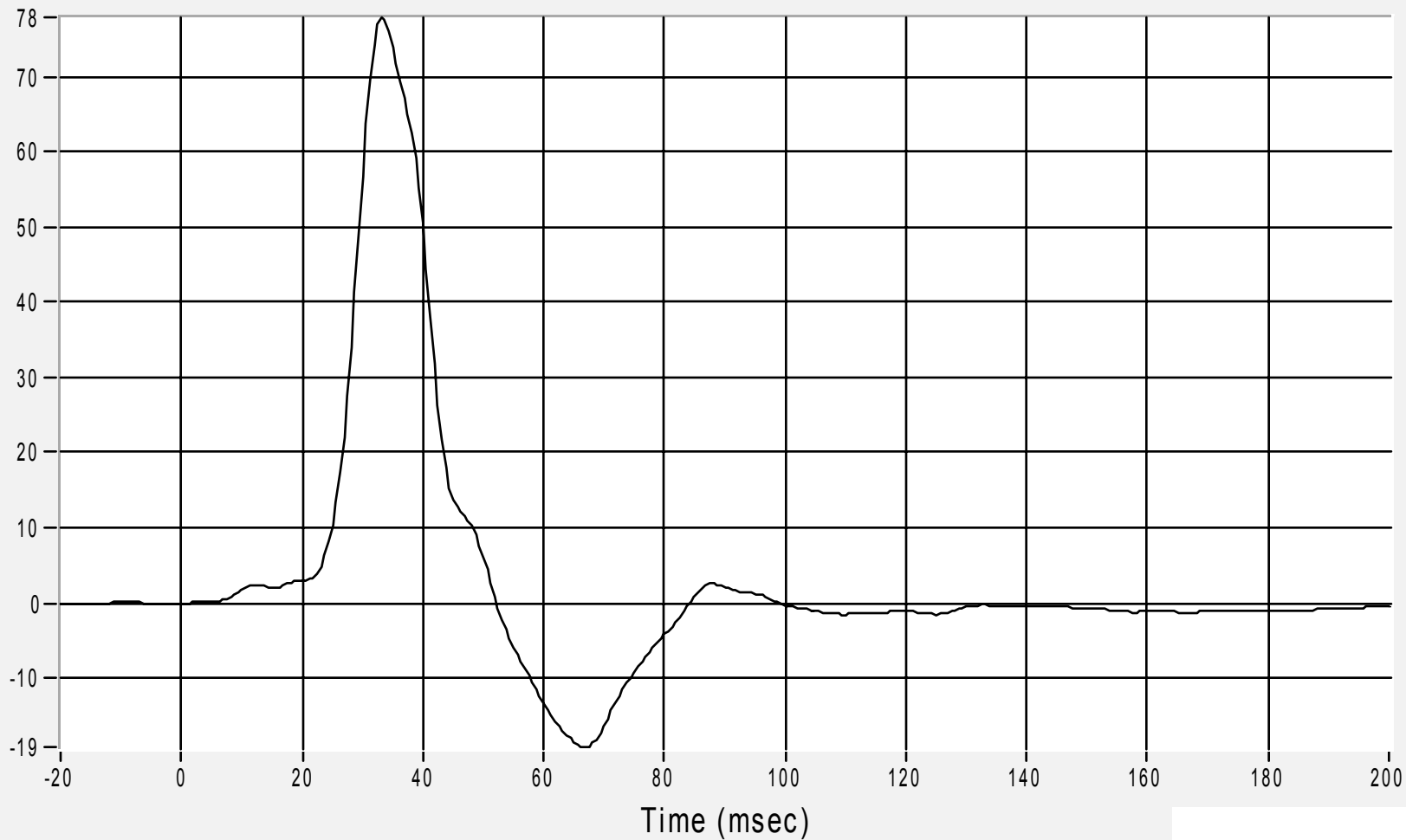
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Passenger Pelvic (Y) Acceleration

Acceleration (G's) FIR100

Max 77.9 G at 33.1 msec

Min -19.2 G at 66.9 msec



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13 January 2004

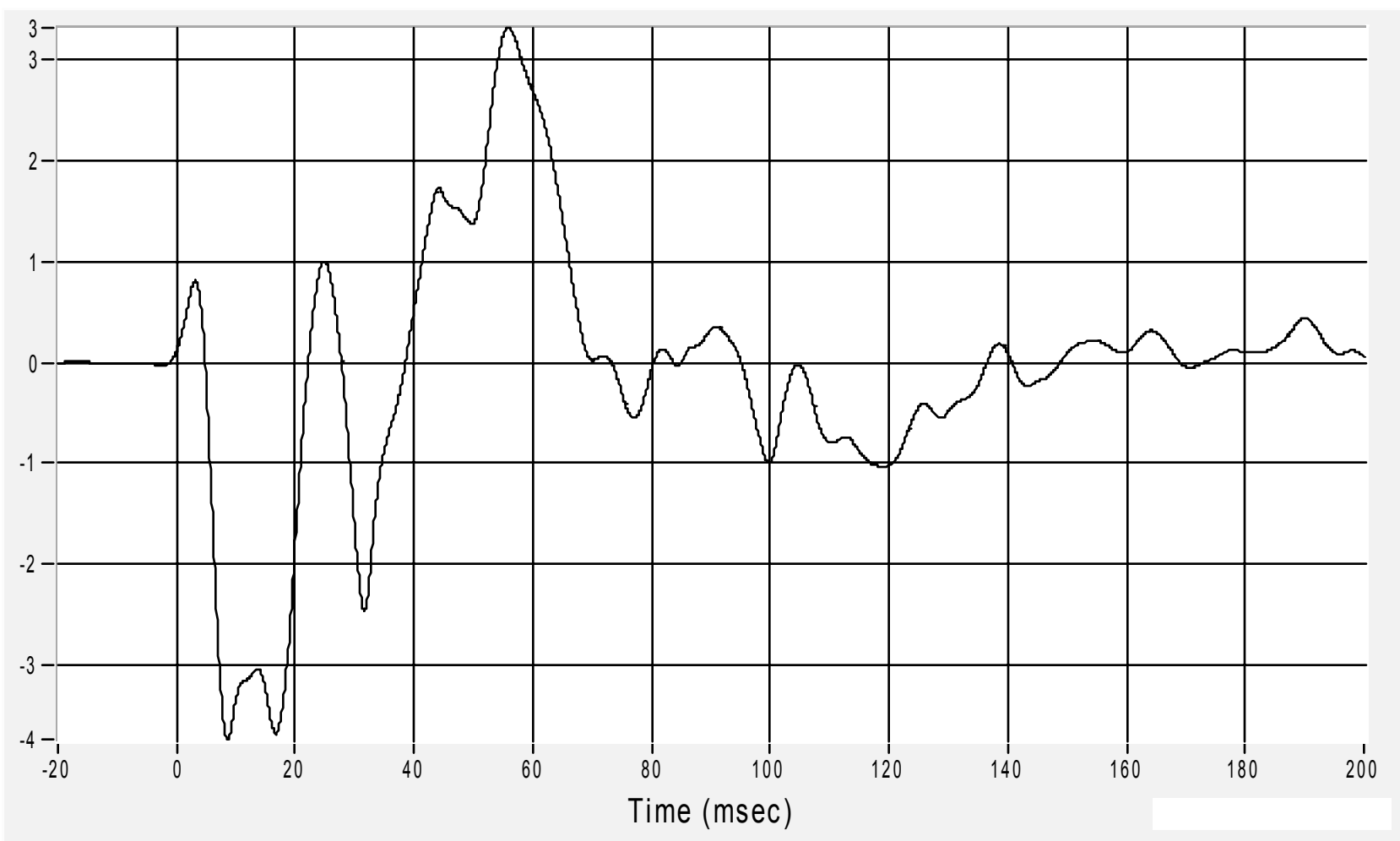
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Right Side Sill at Front Seat (X) Acceleration

Acceleration (G's) CFC60

Max 3.3 G at 55.9 msec

Min -3.7 G at 8.6 msec



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13 January 2004

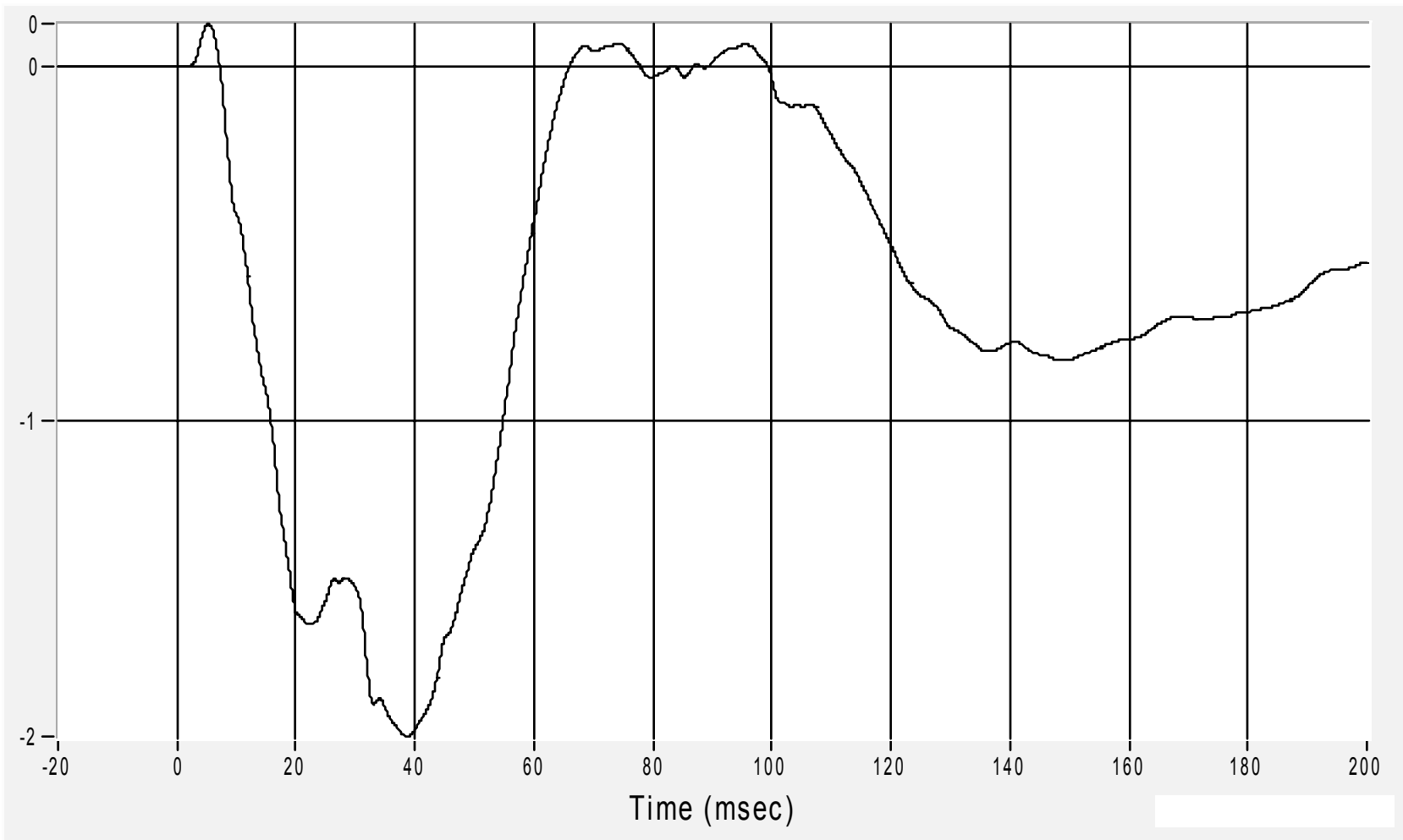
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Right Side Sill at Front Seat (X) Velocity

Velocity (km/h) CFC180

Max 0.1 km/h at 5.2 msec

Min -1.9 km/h at 38.7 msec



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13 January 2004

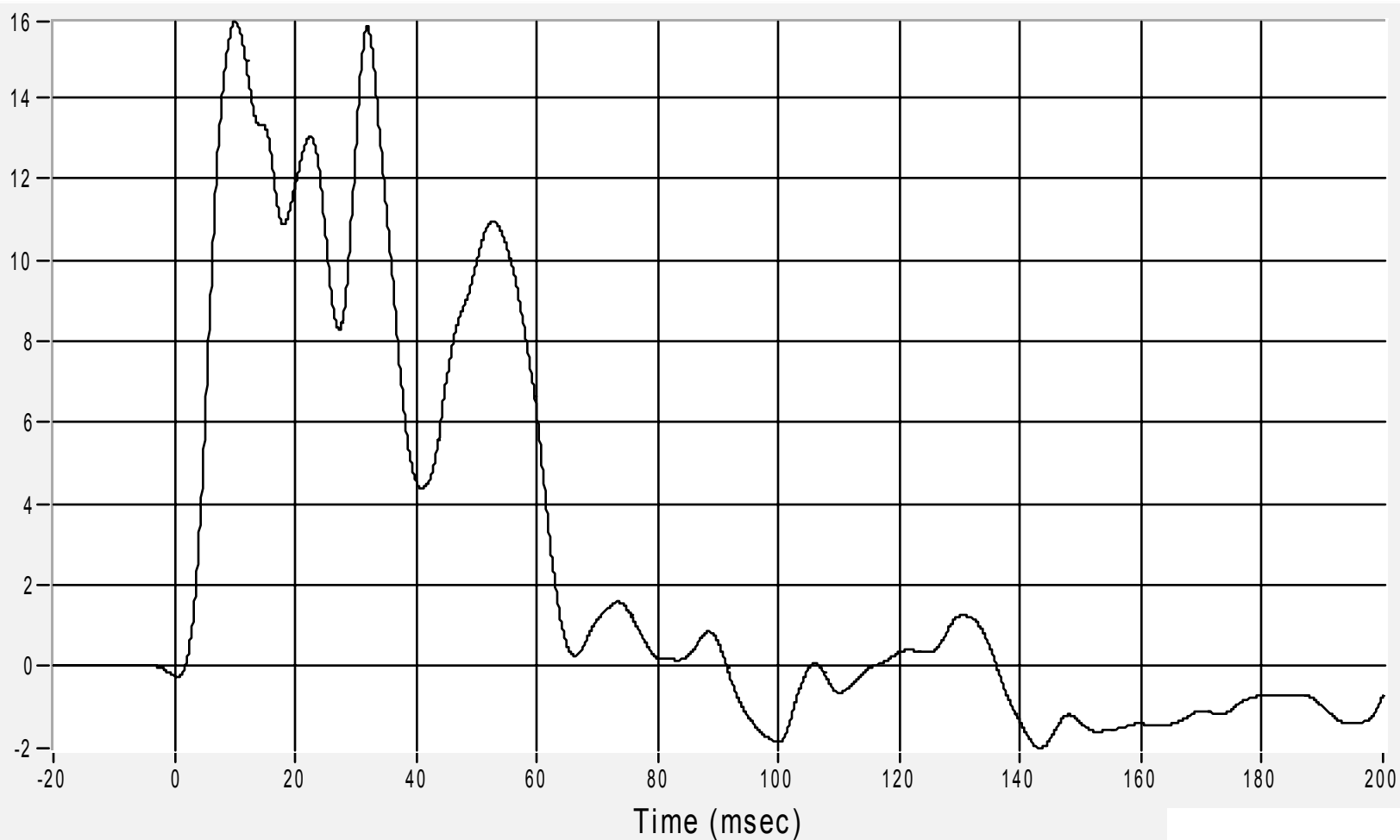
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Right Side Sill at Front Seat (Y) Acceleration

Acceleration (G's) CFC60

Max 15.9 G at 10.0 msec

Min -2.0 G at 143.2 msec



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13 January 2004

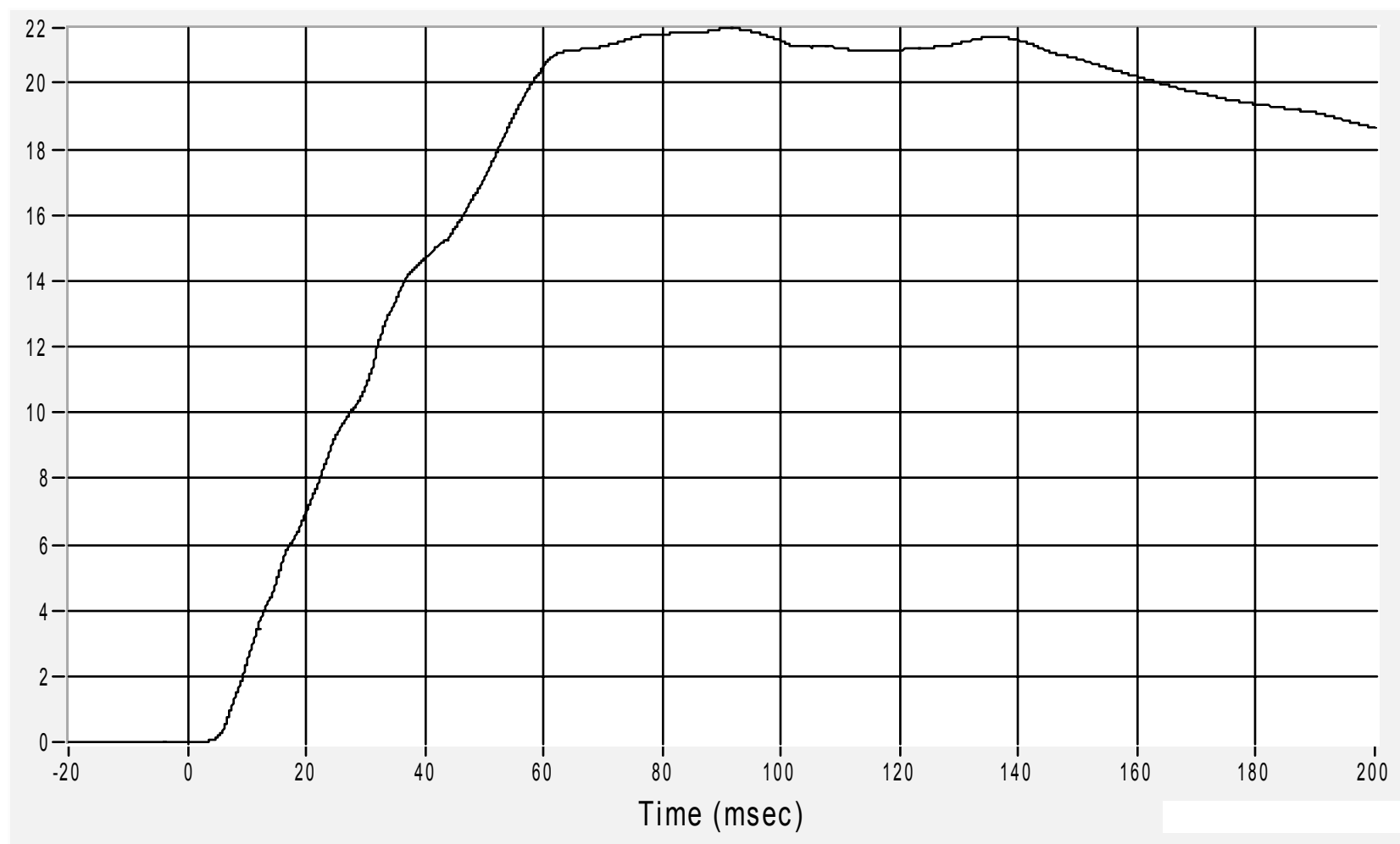
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Right Side Sill at Front Seat (Y) Velocity

Velocity (km/h) CFC180

Max 21.7 km/h at 91.4 msec

Min 0.0 km/h at 0.0 msec



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13 January 2004

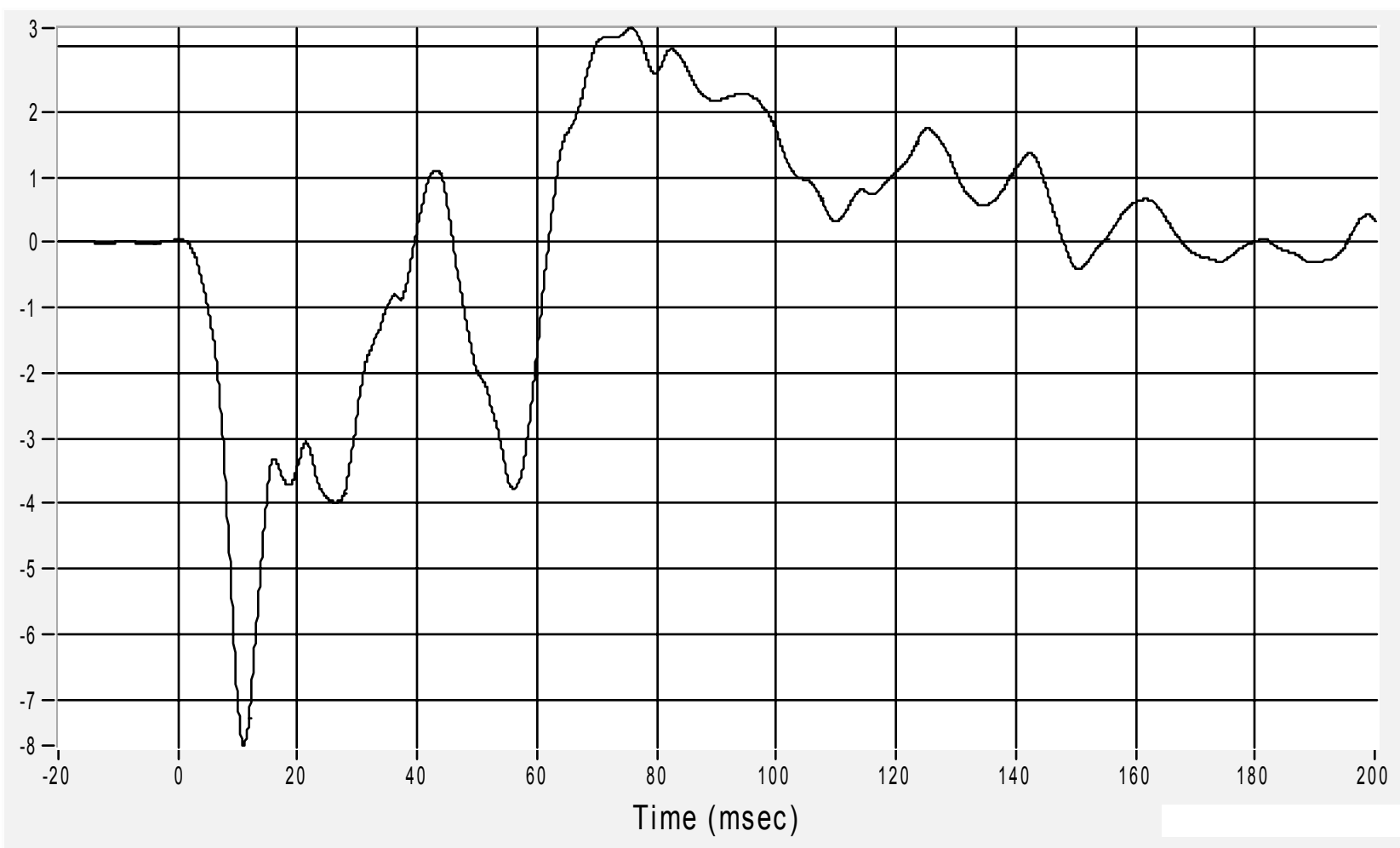
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Right Side Sill at Front Seat (Z) Acceleration

Acceleration (G's) CFC60

Max 3.3 G at 75.7 msec

Min -7.7 G at 11.0 msec



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Medical College of Wisconsin
Vehicle Crashworthiness Lab

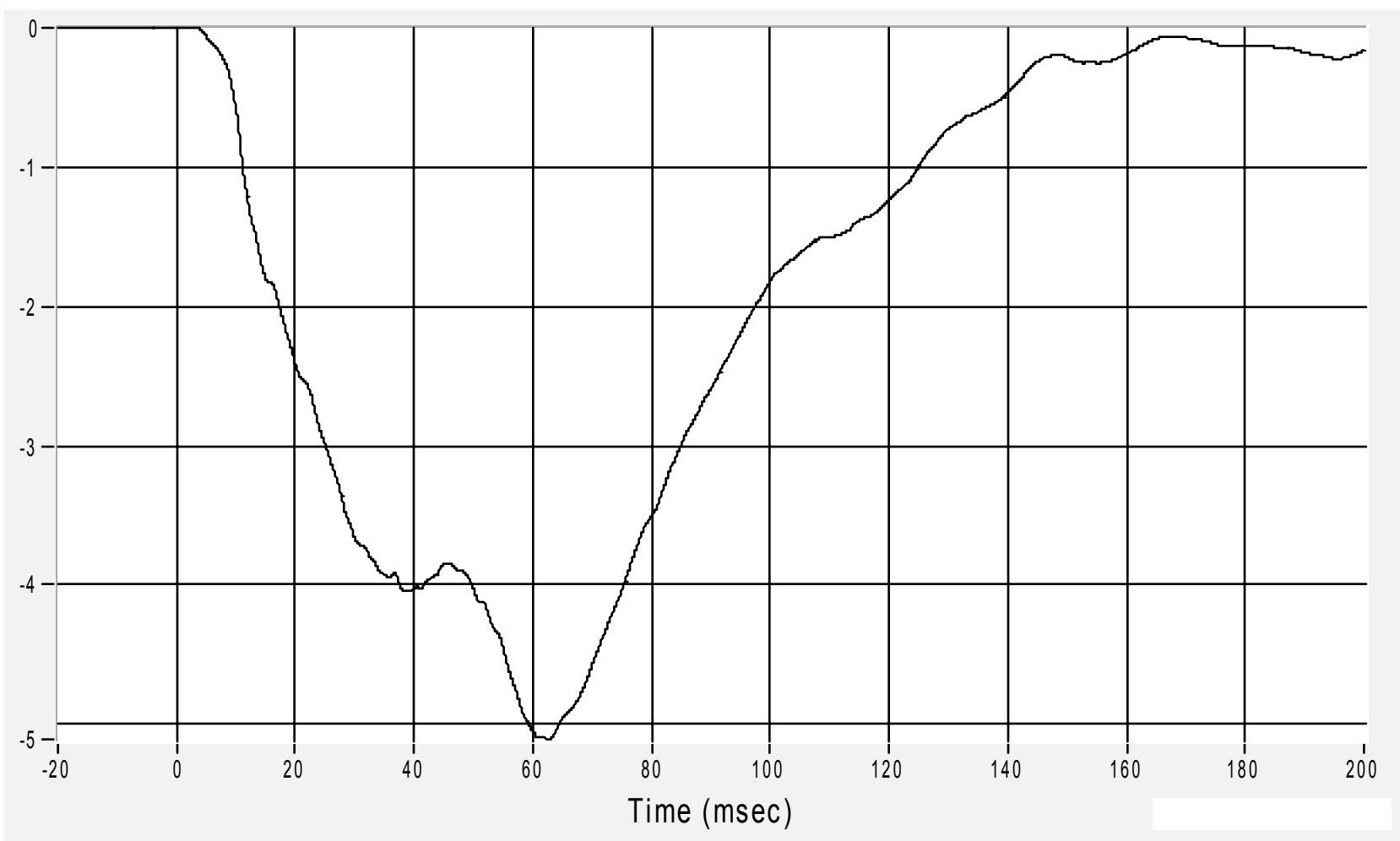
B-60

Right Side Sill at Front Seat (Z) Velocity

Velocity (km/h) CFC180

Max 0.0 km/h at 3.1 msec

Min -5.1 km/h at 62.6 msec



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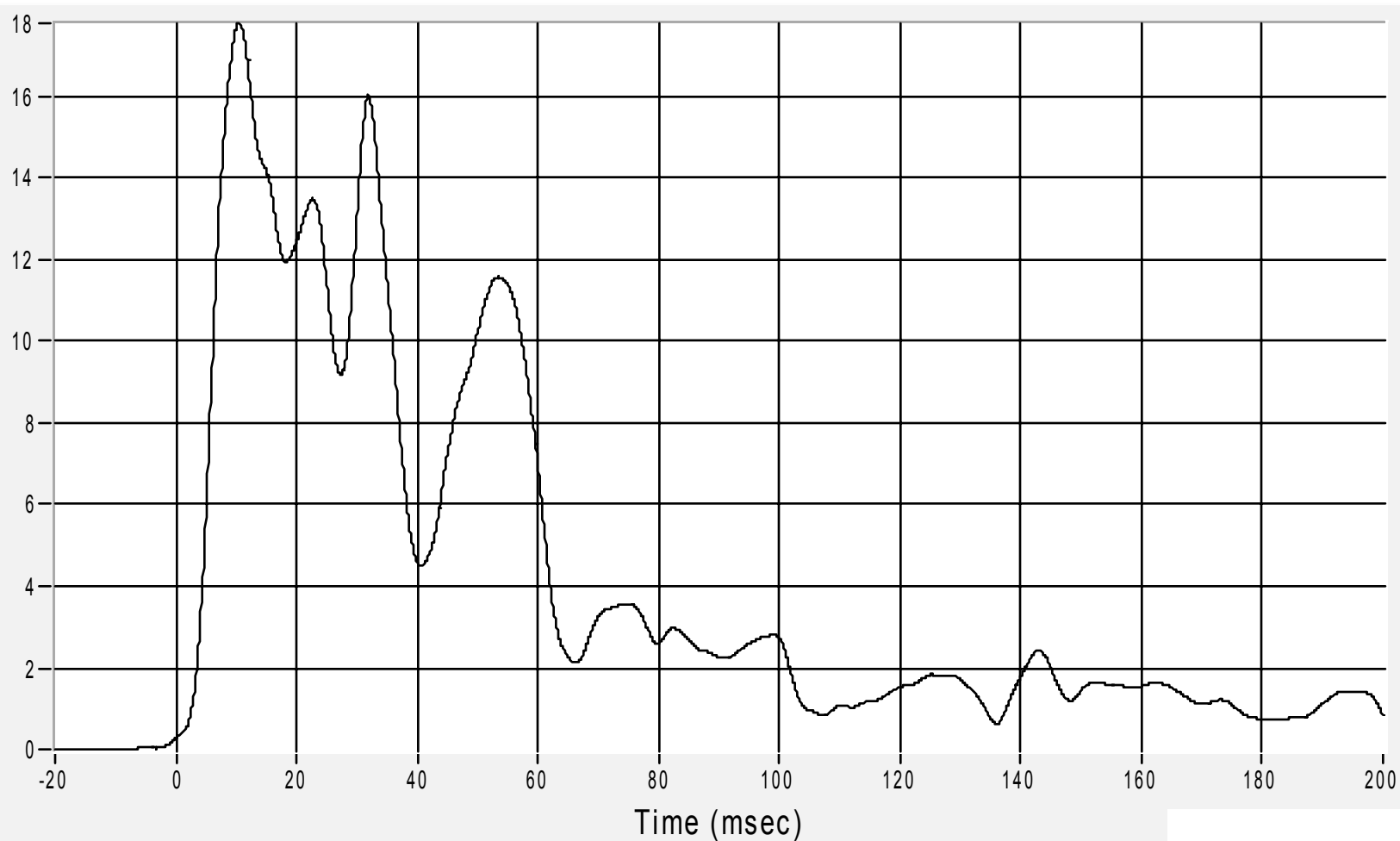
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Right Side Sill at Front Seat Resultant Acceleration

Acceleration (G's) CFC60

Max 17.8 G's at 10.5 msec

Min 0.3 G's at 0.0 msec



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13 January 2004

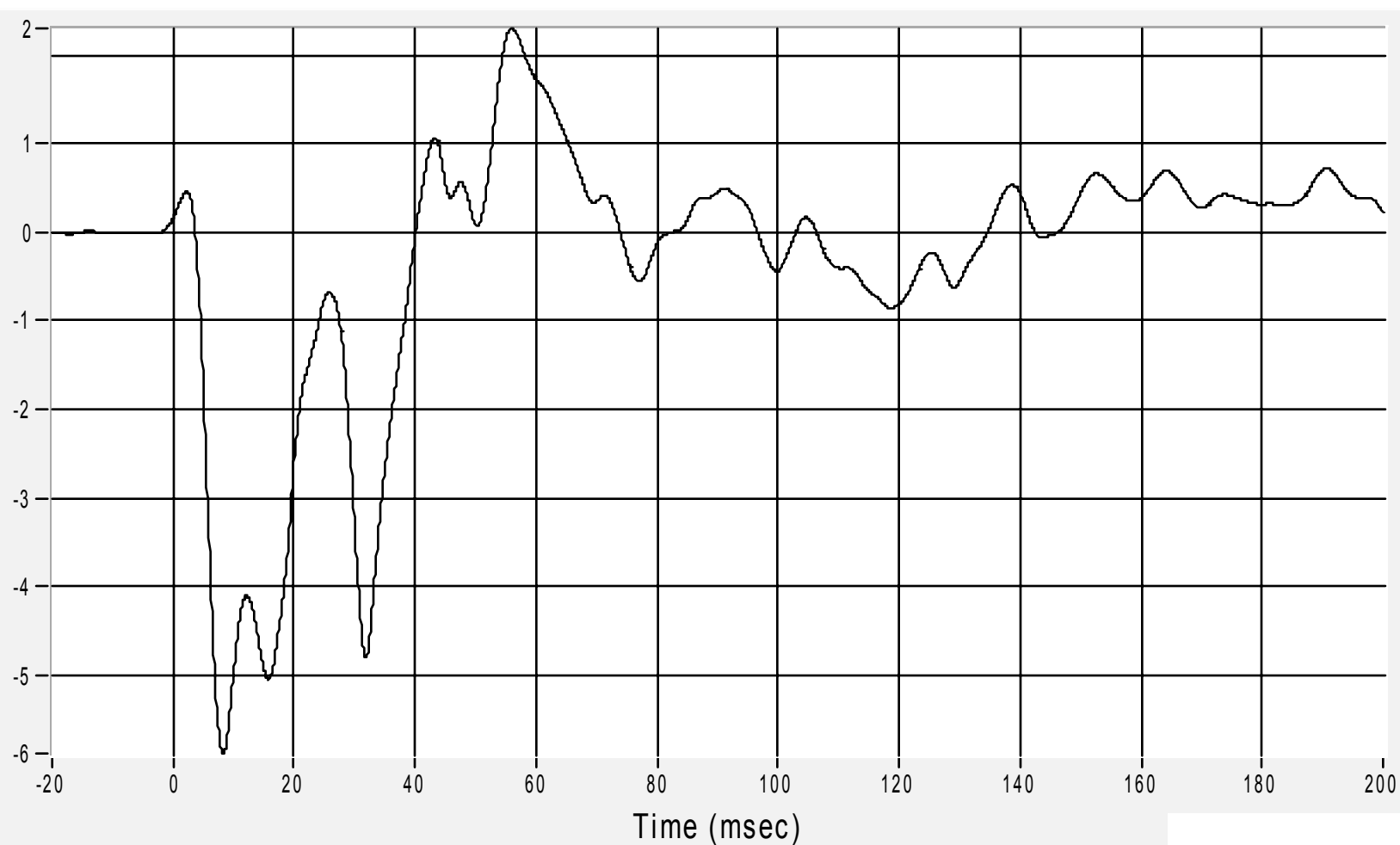
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Right Side Sill at Rear Seat (X) Acceleration

Acceleration (G's) CFC60

Max 2.3 G at 56.0 msec

Min -5.9 G at 8.2 msec



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13 January 2004

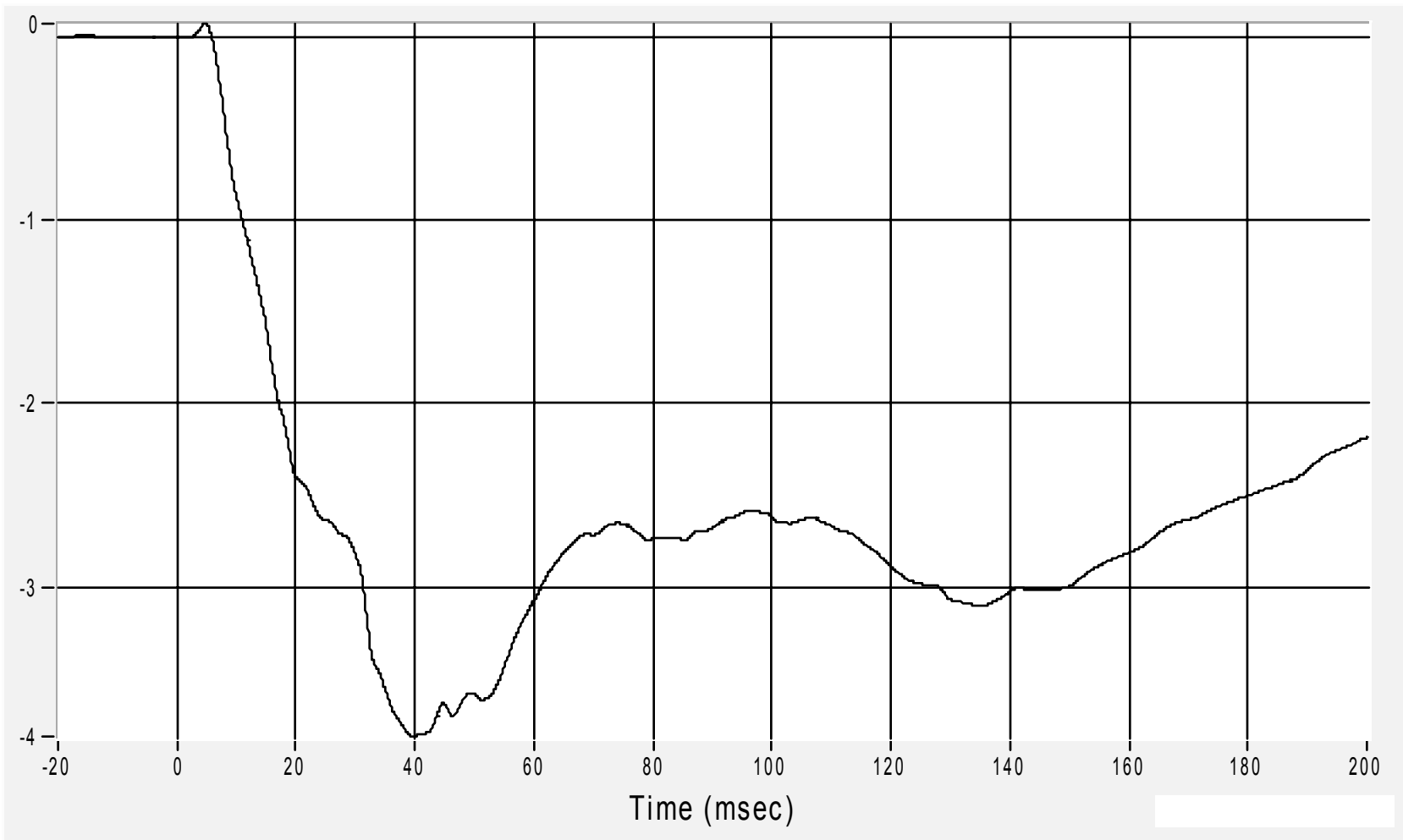
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Right Side Sill at Rear Seat (X) Velocity

Velocity (km/h) CFC180

Max 0.1 km/h at 4.7 msec

Min -3.8 km/h at 39.5 msec



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13 January 2004

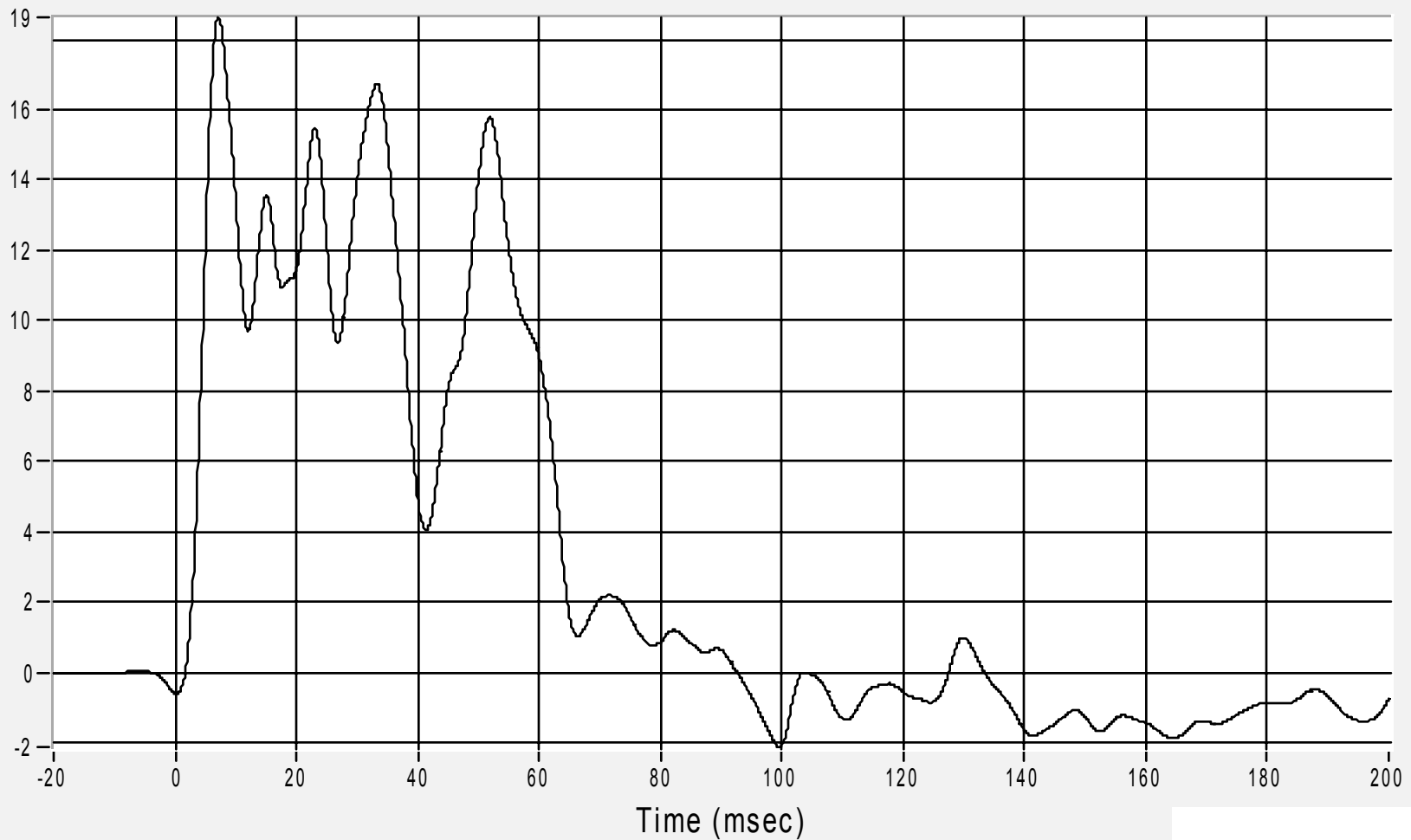
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Right Side Sill at Rear Seat (Y) Acceleration

Acceleration (G's) CFC60

Max 18.6 G at 7.1 msec

Min -2.1 G at 99.6 msec



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13 January 2004

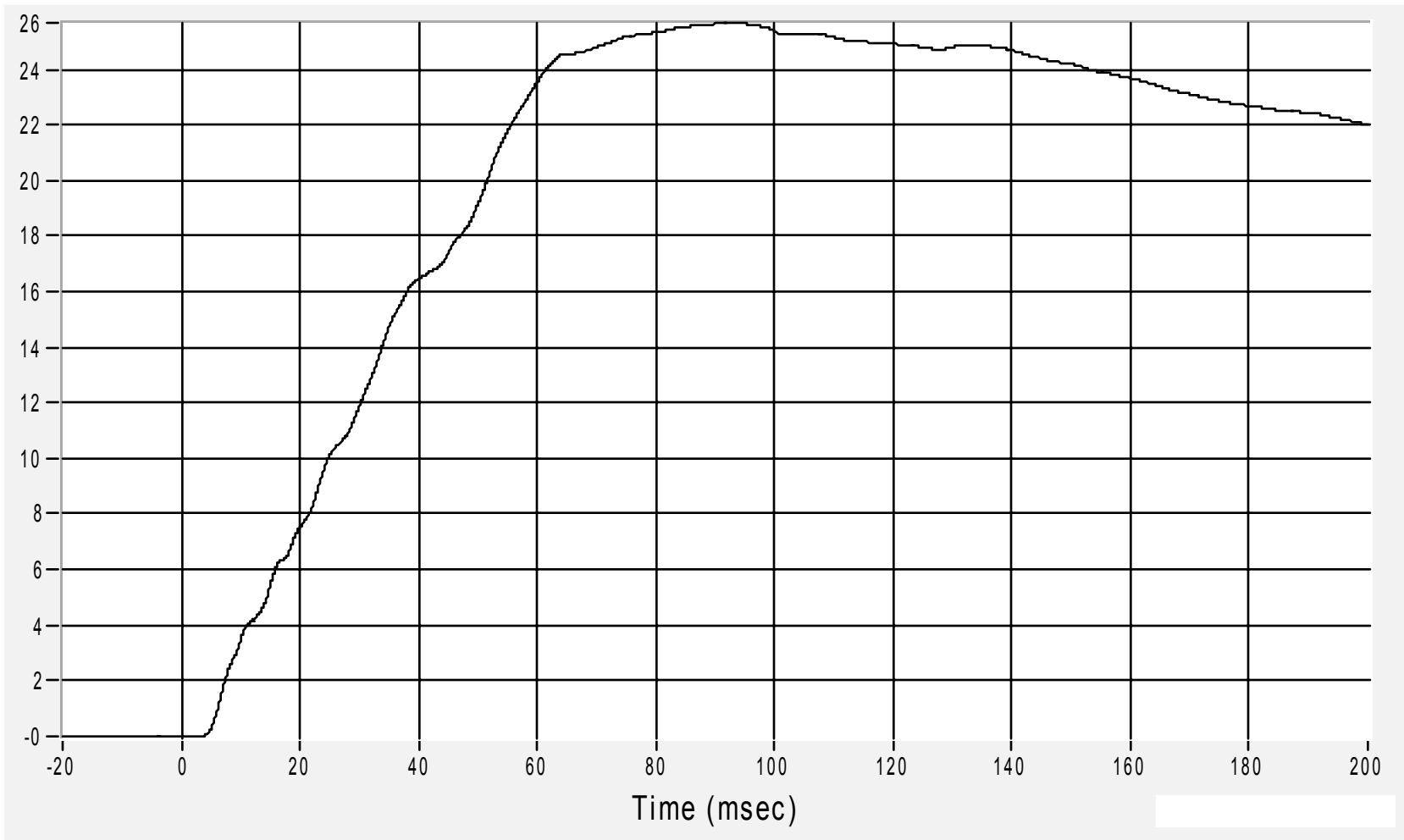
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Right Side Sill at Rear Seat (Y) Velocity

Velocity (km/h) CFC180

Max 25.7 km/h at 91.4 msec

Min 0.0 km/h at 3.0 msec



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13 January 2004

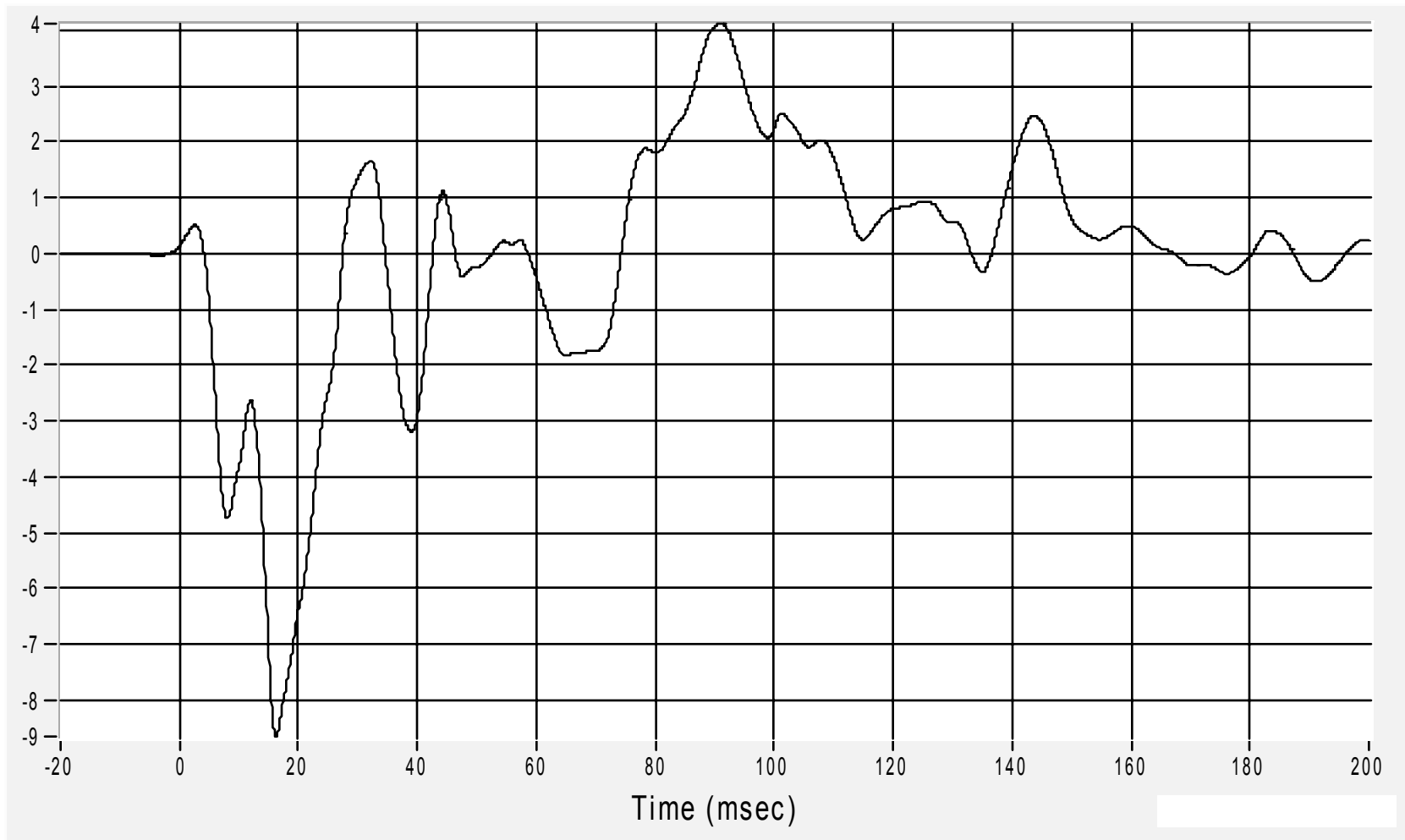
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Right Side Sill at Rear Seat (Z) Acceleration

Acceleration (G's) CFC60

Max 4.1 G at 91.0 msec

Min -8.6 G at 16.2 msec



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13 January 2004

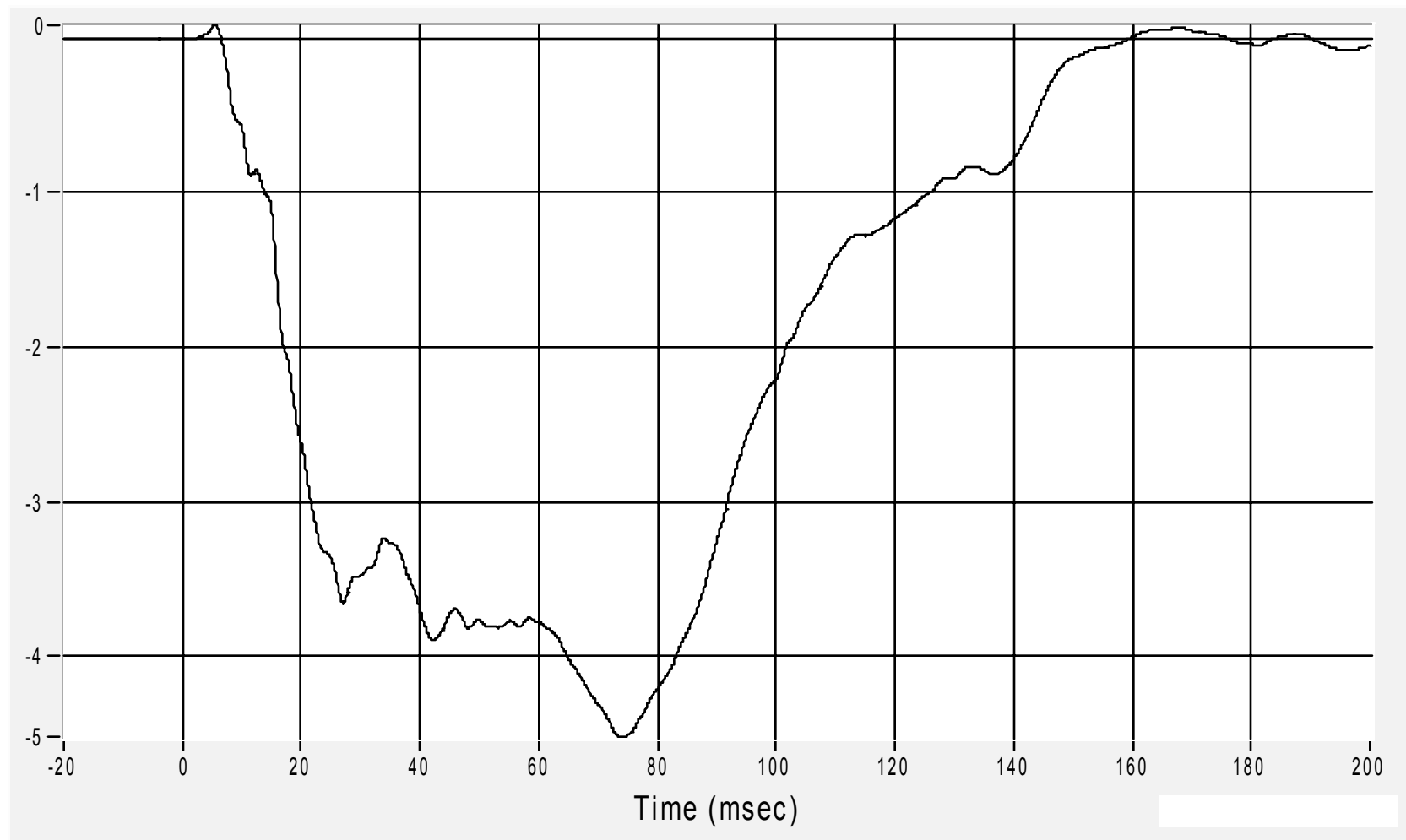
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Right Side Sill at Rear Seat (Z) Velocity

Velocity (km/h) CFC180

Max 0.1 km/h at 5.4 msec

Min -4.5 km/h at 73.8 msec



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13 January 2004

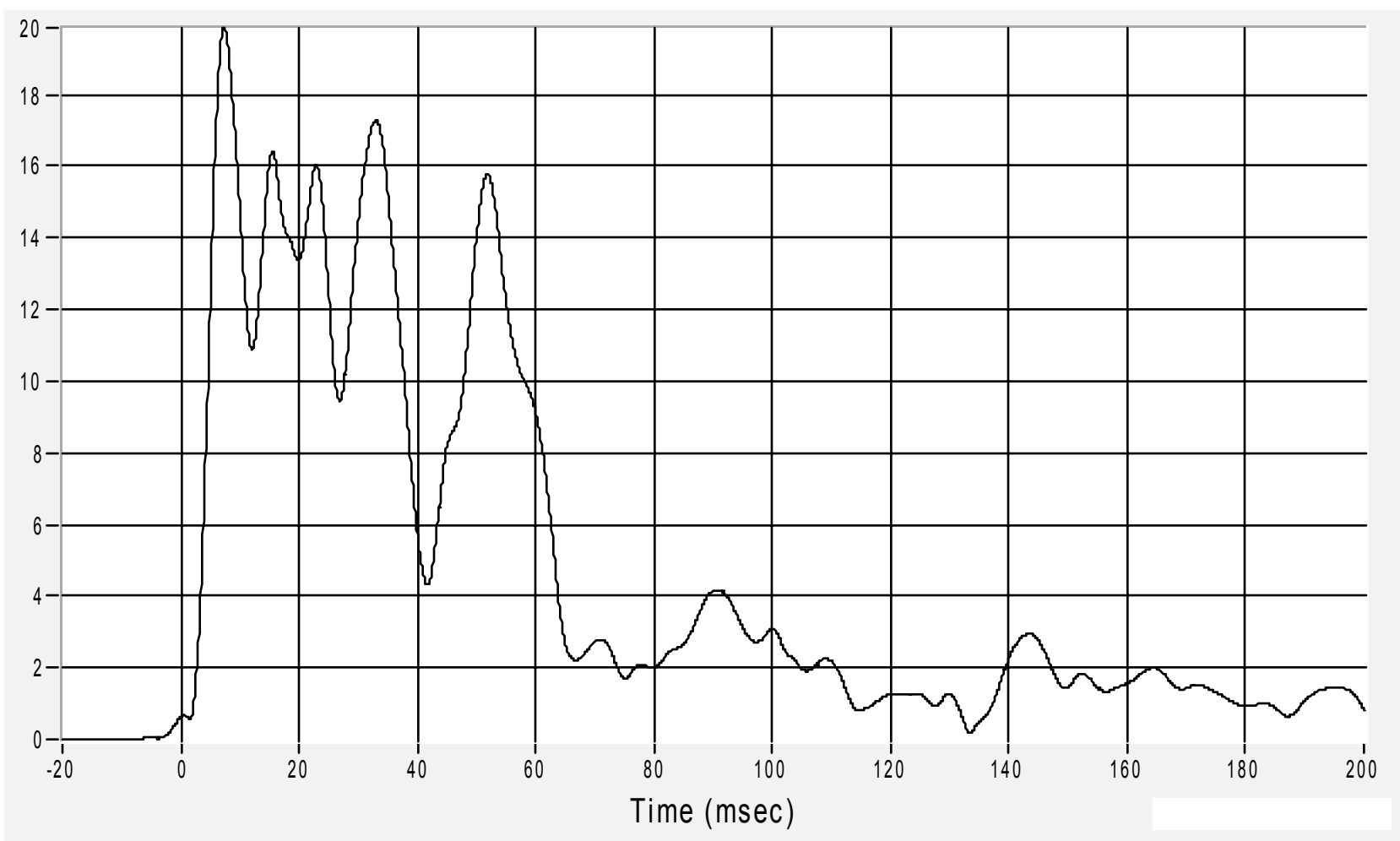
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Right Side Sill at Rear Seat Resultant Acceleration

Acceleration (G's) CFC60

Max 19.9 G's at 7.3 msec

Min 0.2 G's at 133.4 msec



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13 January 2004

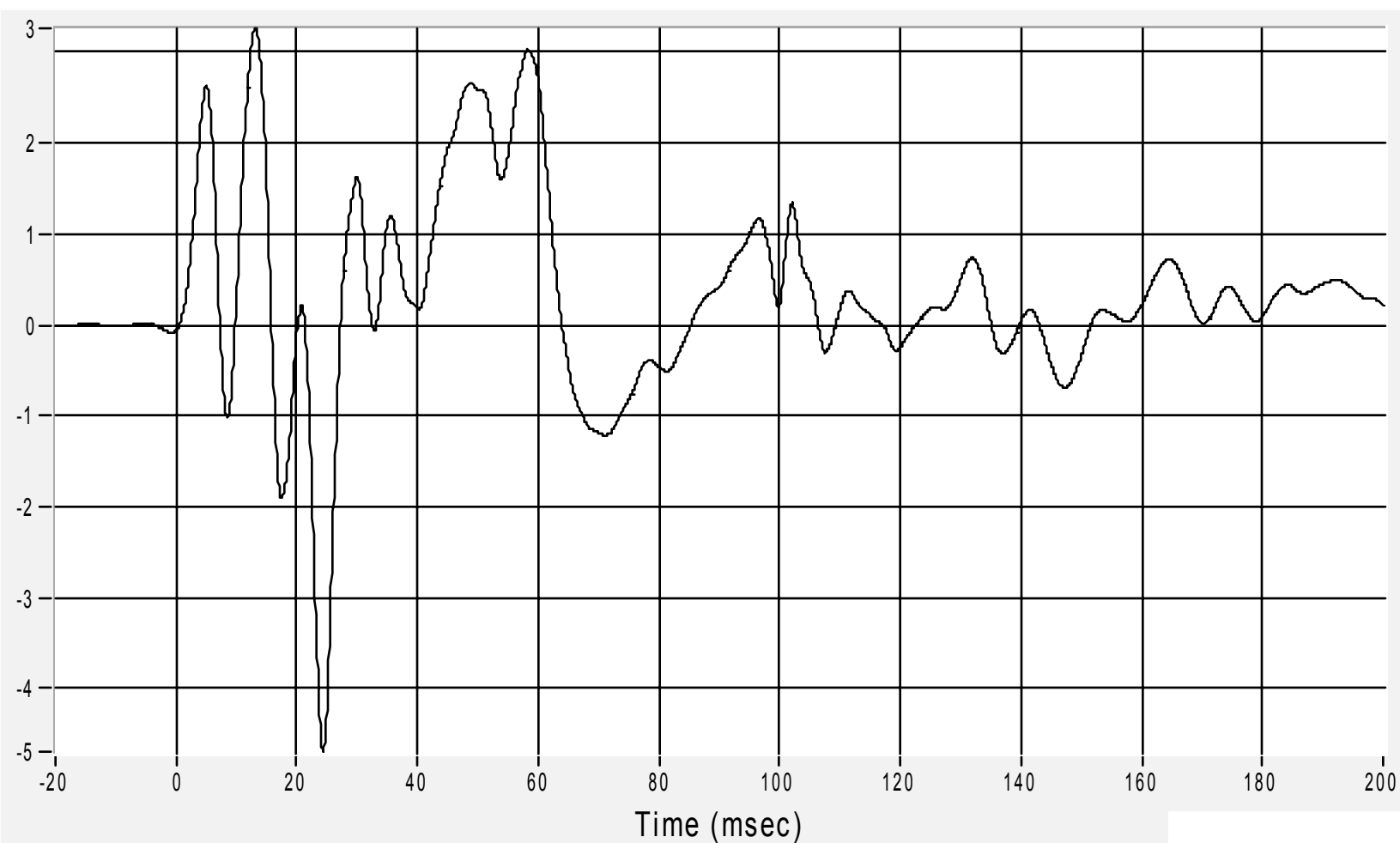
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Rear Floorpan Above Axle (X) Acceleration

Acceleration (G's) CFC60

Max 3.3 G at 13.1 msec

Min -4.7 G at 24.3 msec



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13 January 2004

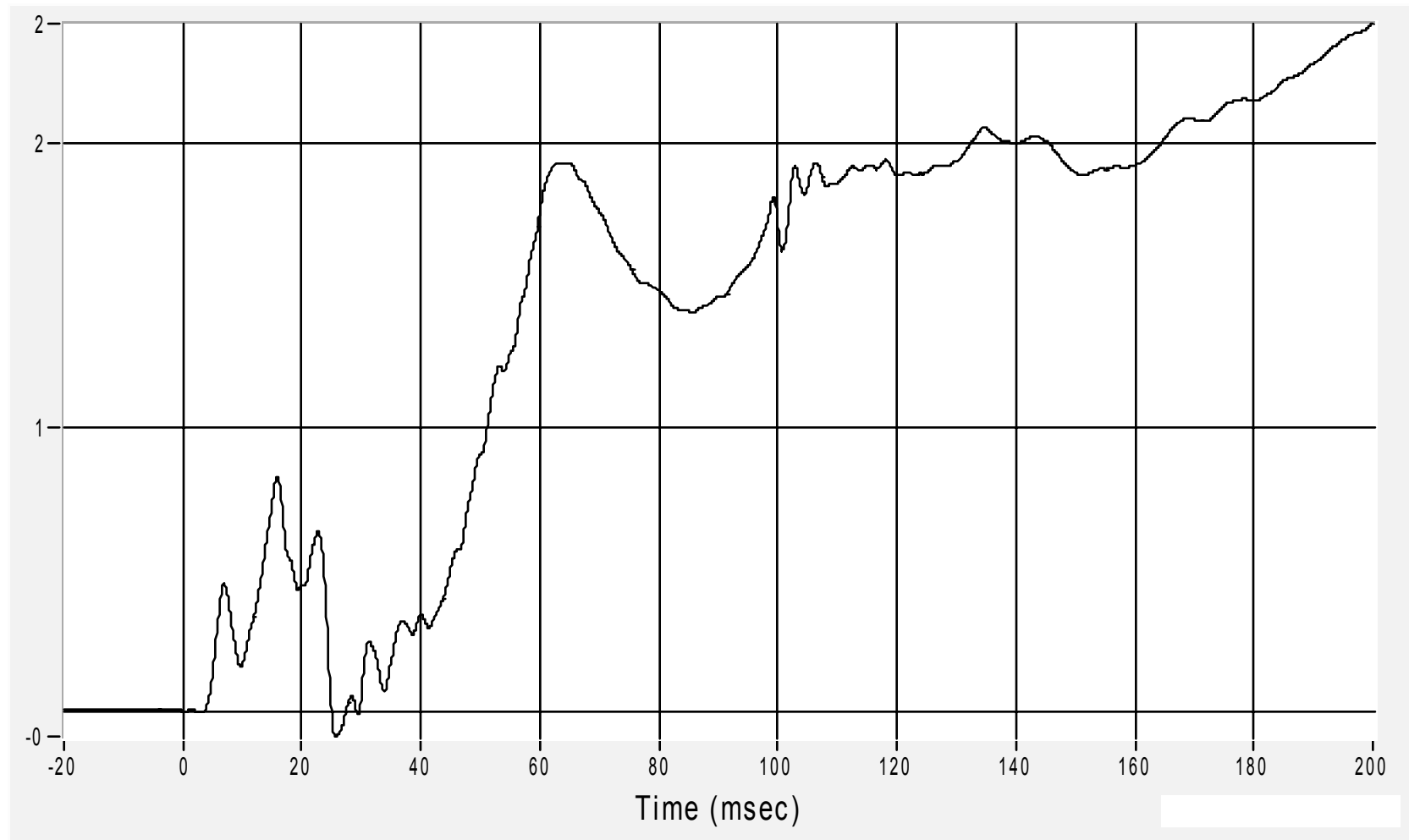
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Rear Floorpan Above Axle (X) Velocity

Velocity (km/h) CFC180

Max 2.4 km/h at 199.9 msec

Min -0.1 km/h at 25.7 msec



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13 January 2004

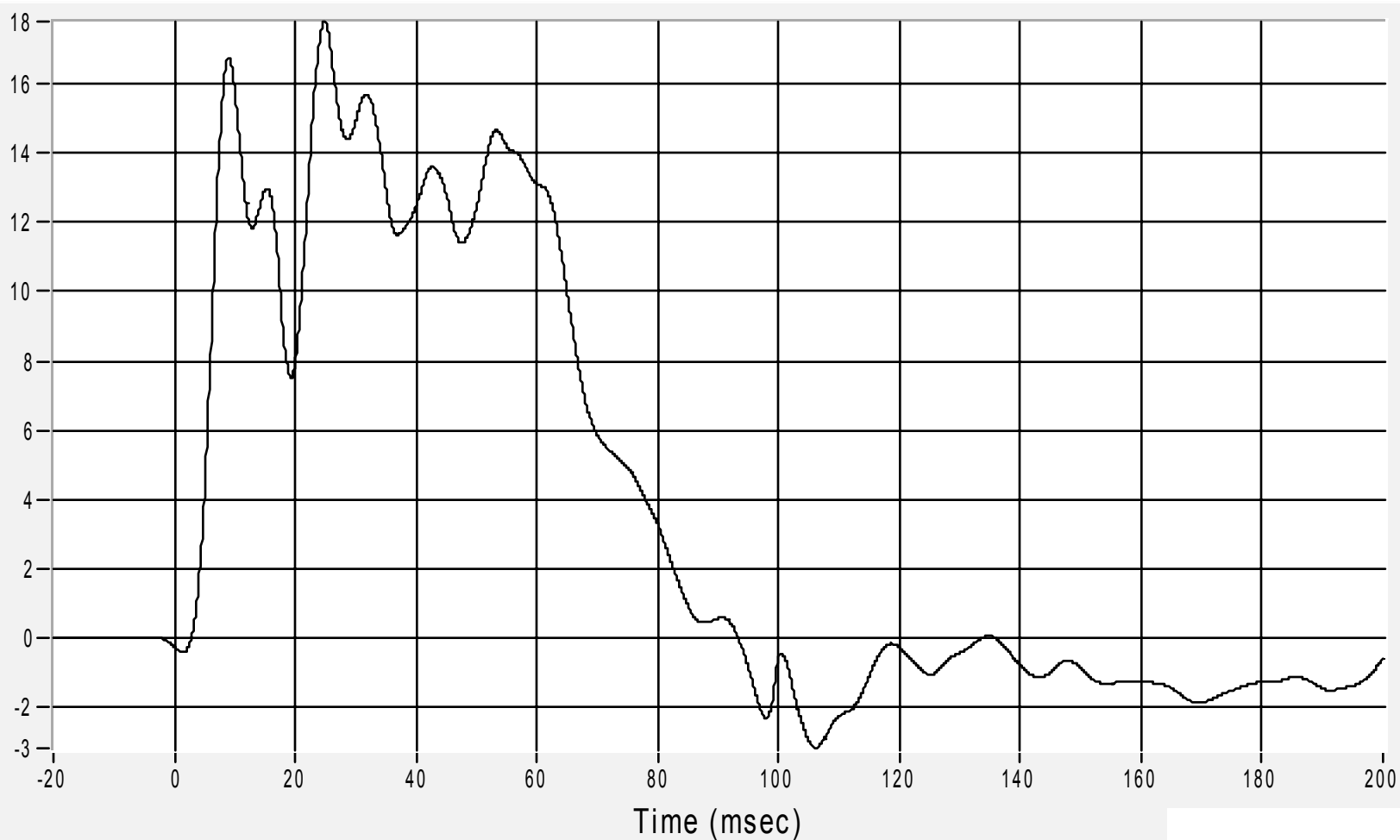
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Rear Floorpan Above Axle (Y) Acceleration

Acceleration (G's) CFC60

Max 17.8 G at 24.9 msec

Min -3.2 G at 106.2 msec



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13 January 2004

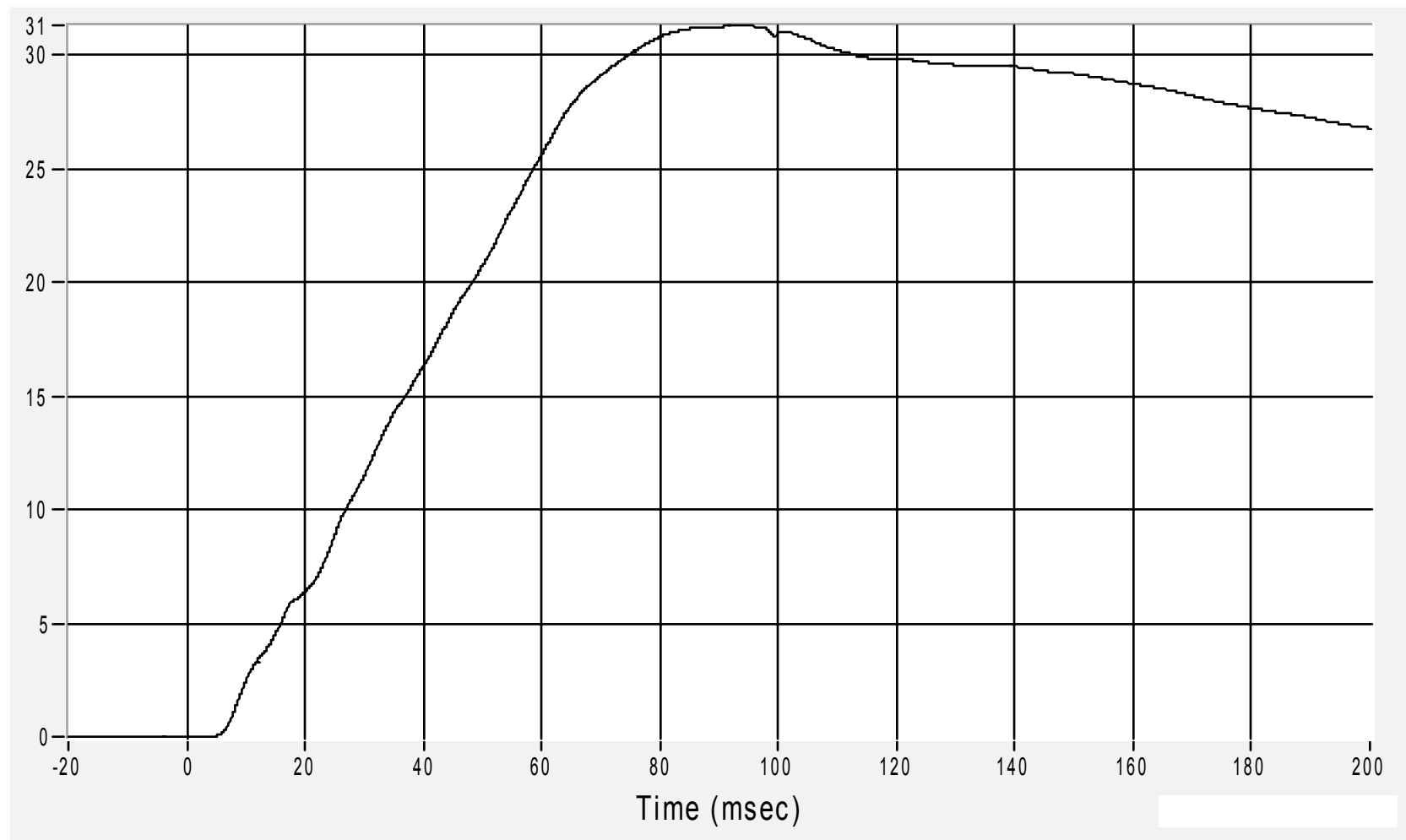
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Rear Floorpan Above Axle (Y) Velocity

Velocity (km/h) CFC180

Max 31.3 km/h at 93.2 msec

Min 0.0 km/h at 0.0 msec



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13 January 2004

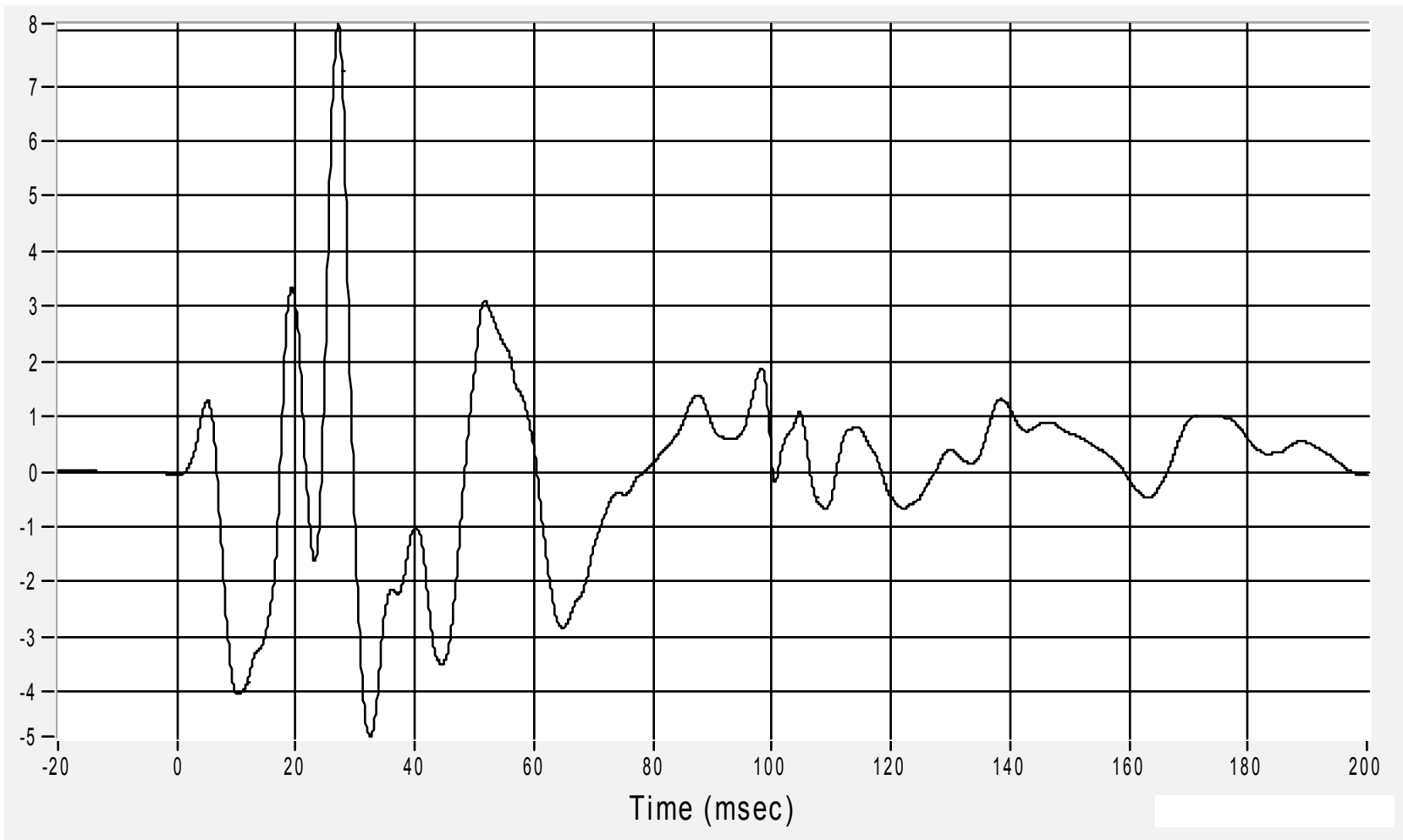
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Rear Floorpan Above Axle (Z) Acceleration

Acceleration (G's) CFC60

Max 8.1 G at 27.1 msec

Min -4.8 G at 32.5 msec



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13 January 2004

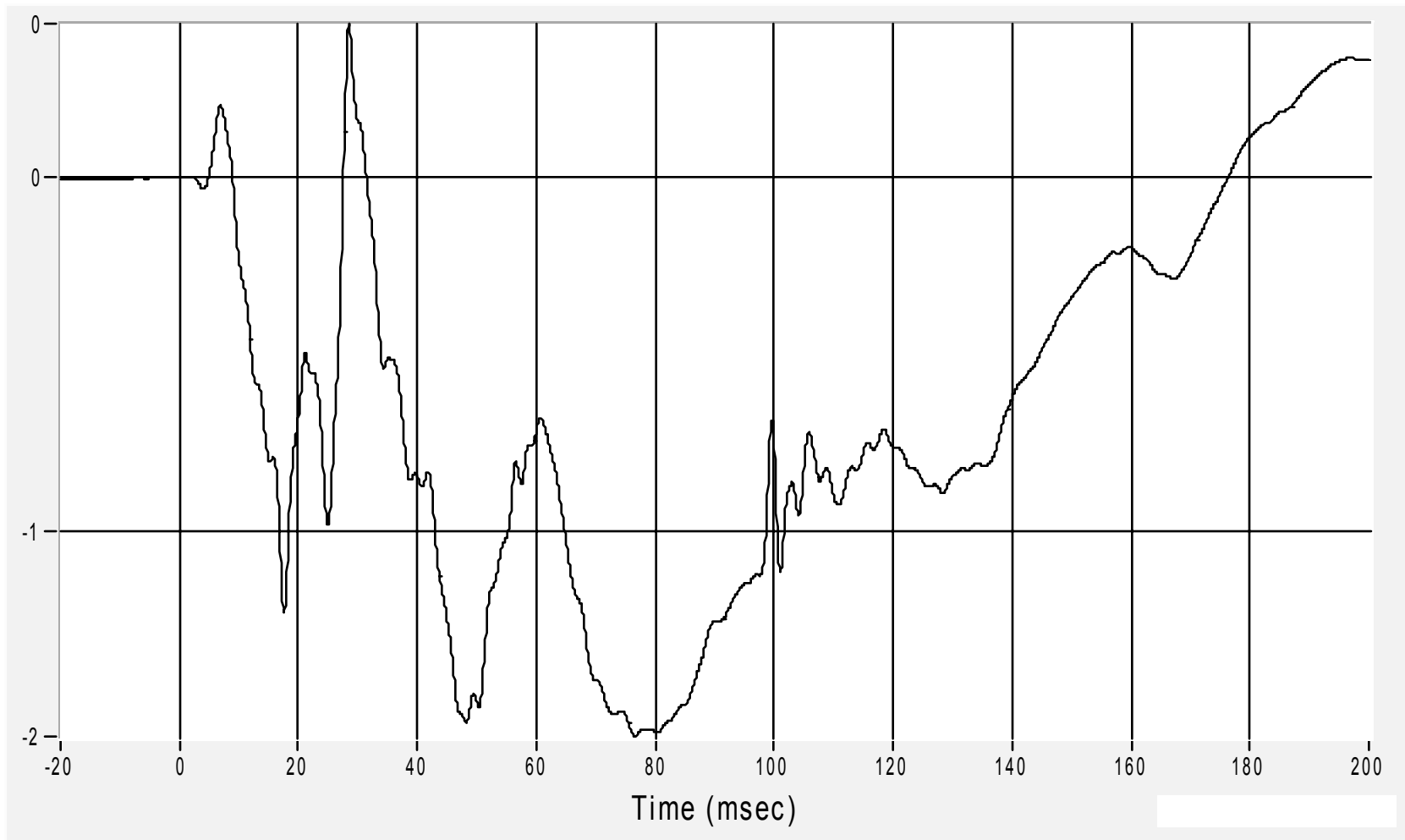
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Rear Floorpan Above Axle (Z) Velocity

Velocity (km/h) CFC180

Max 0.4 km/h at 28.5 msec

Min -1.6 km/h at 76.6 msec



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13 January 2004

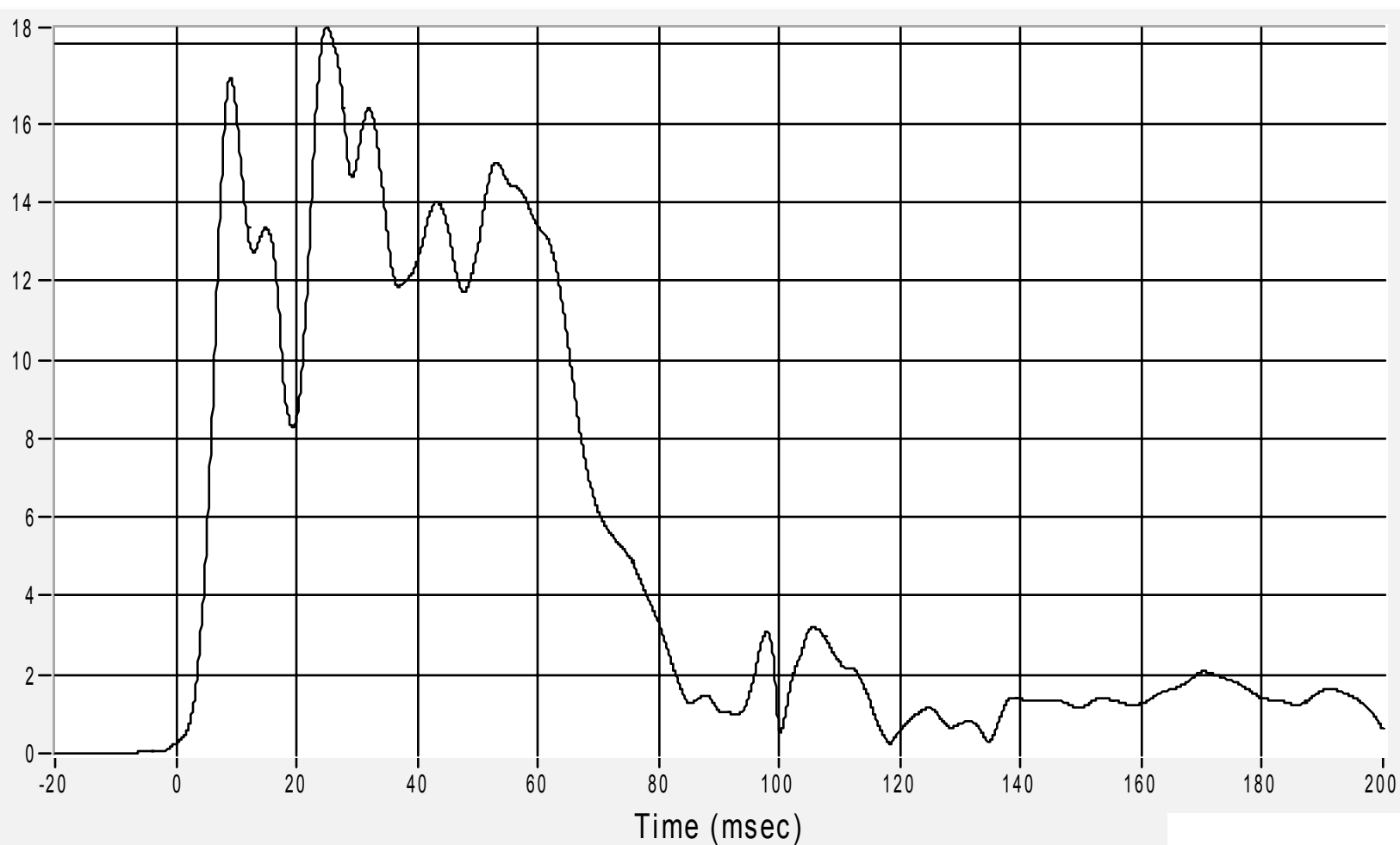
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Rear Floorpan Above Axle Resultant Acceleration

Acceleration (G's) CFC60

Max 18.4 G's at 25.0 msec

Min 0.2 G's at 118.2 msec



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13 January 2004

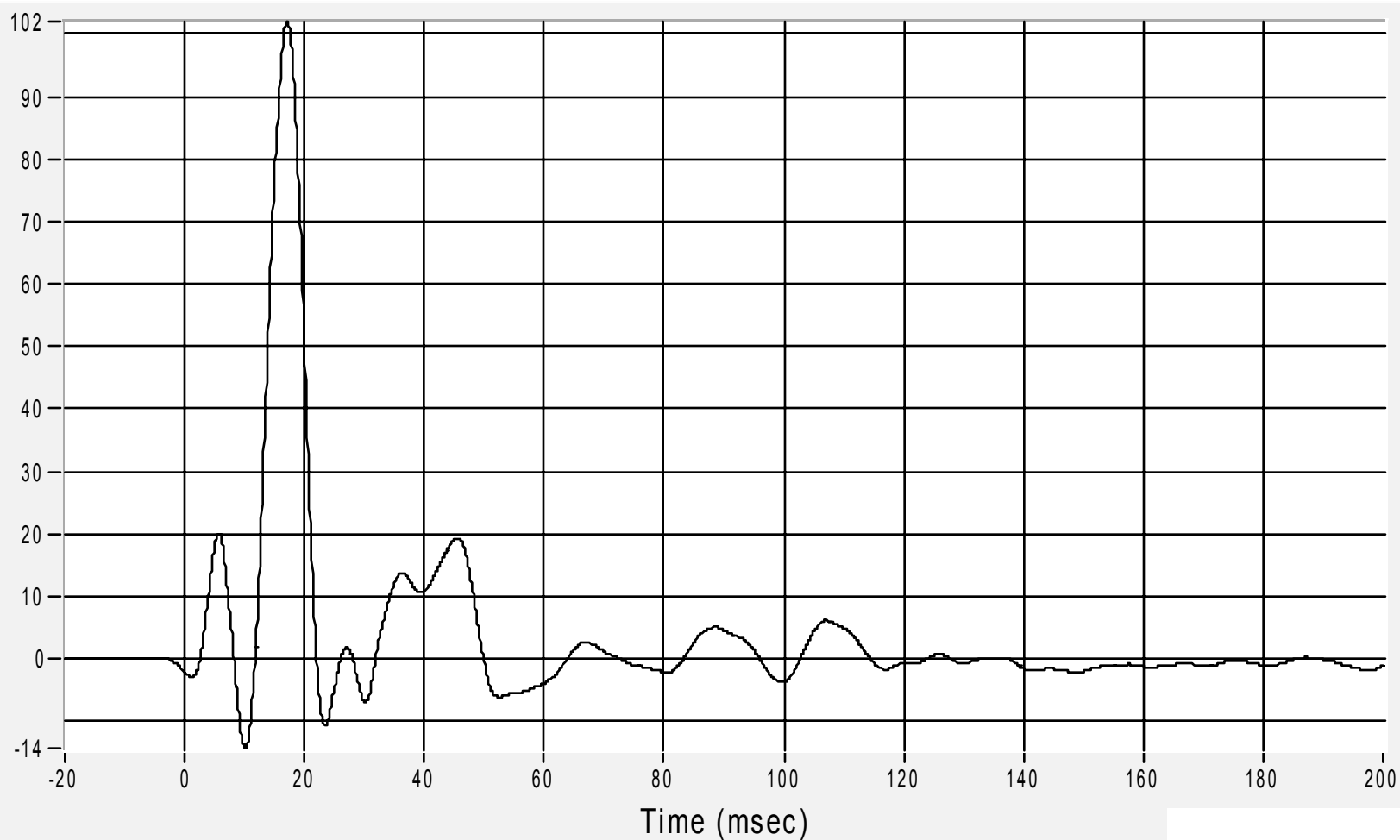
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Left Side Sill at Rear Seat (Y) Acceleration

Acceleration (G's) CFC60

Max 102.0 G at 17.0 msec

Min -14.3 G at 10.1 msec



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13 January 2004

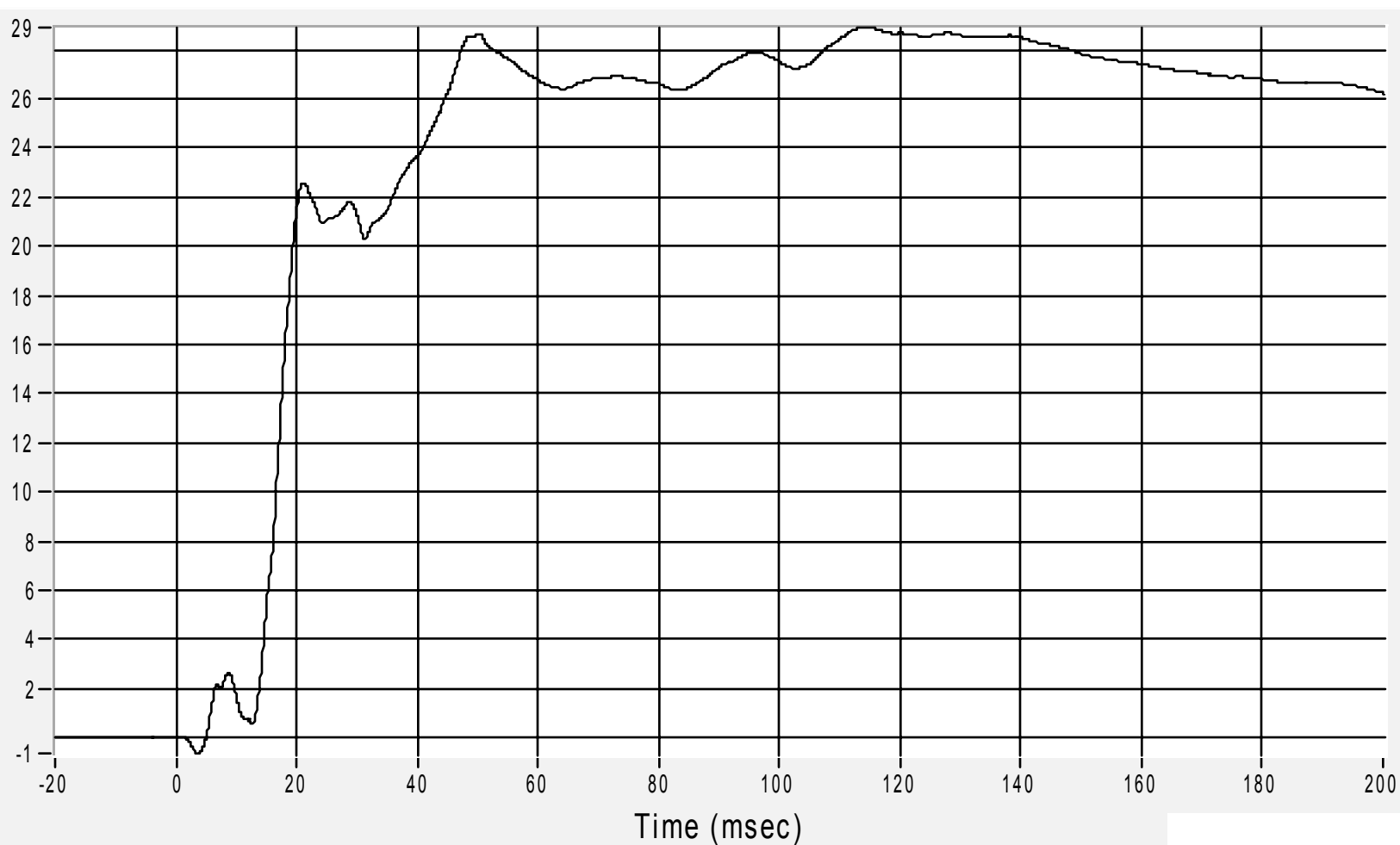
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Left Side Sill at Rear Seat (Y) Velocity

Velocity (km/h) CFC180

Max 28.9 km/h at 114.6 msec

Min -0.6 km/h at 3.6 msec



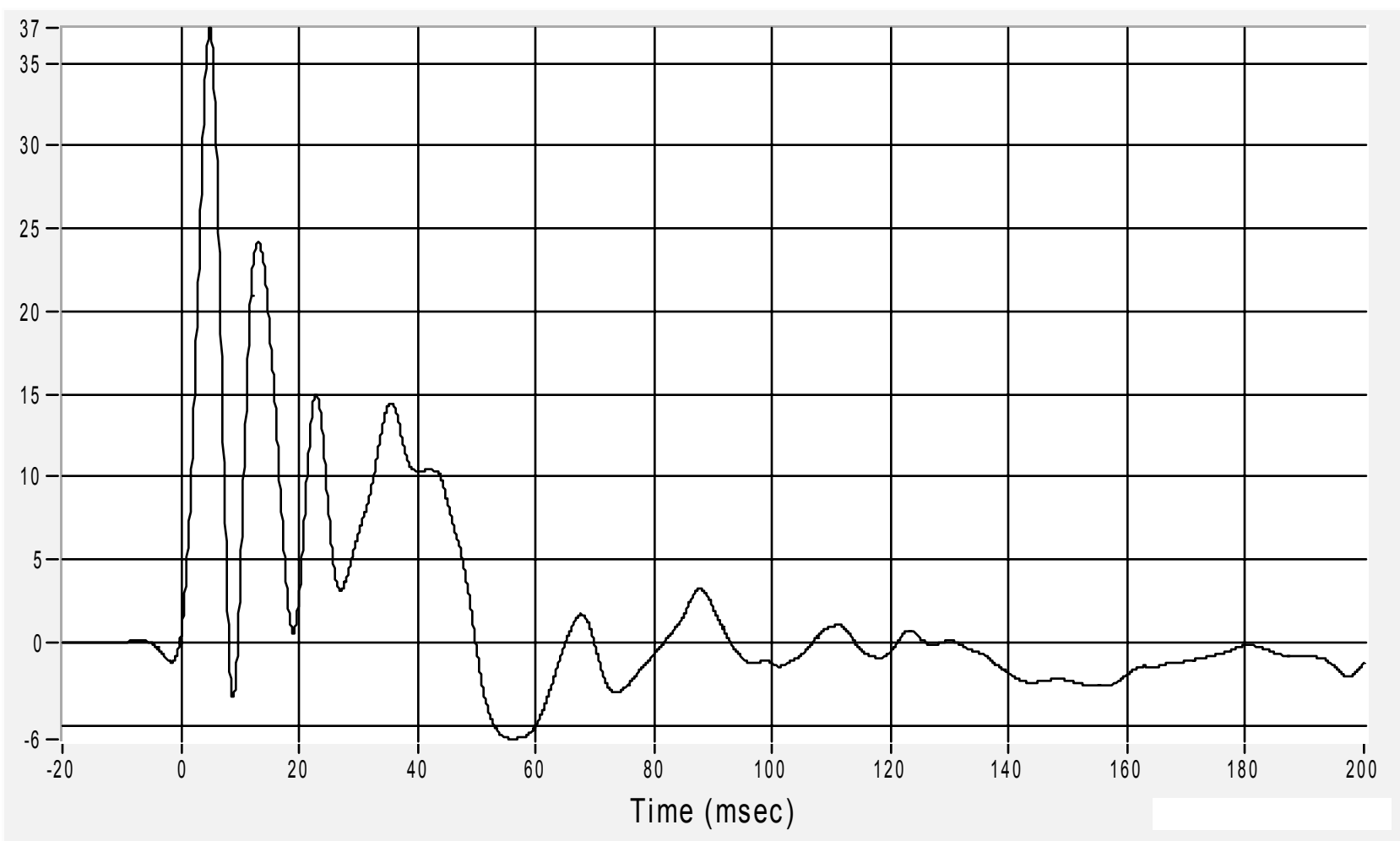
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13 January 2004

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Left Side Sill at Front Seat (Y) Acceleration

Acceleration (G's) CFC60

Max 37.1 G at 4.9 msec**Min -5.8 G at 56.2 msec**

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13 January 2004

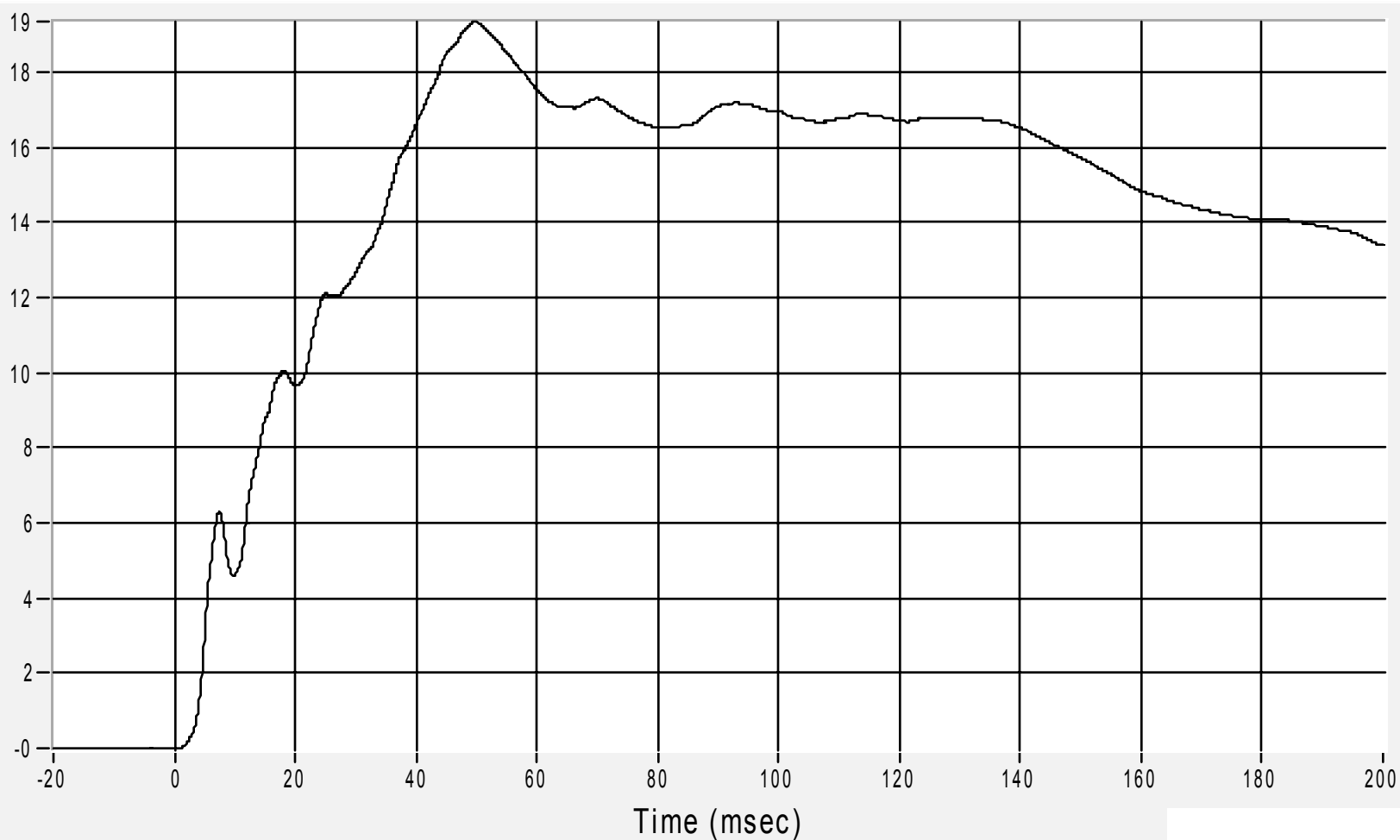
*Medical College of Wisconsin
Vehicle Crashworthiness Lab*

Left Side Sill at Front Seat (Y) Velocity

Velocity (km/h) CFC180

Max 19.3 km/h at 49.8 msec

Min 0.0 km/h at 0.6 msec



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13 January 2004

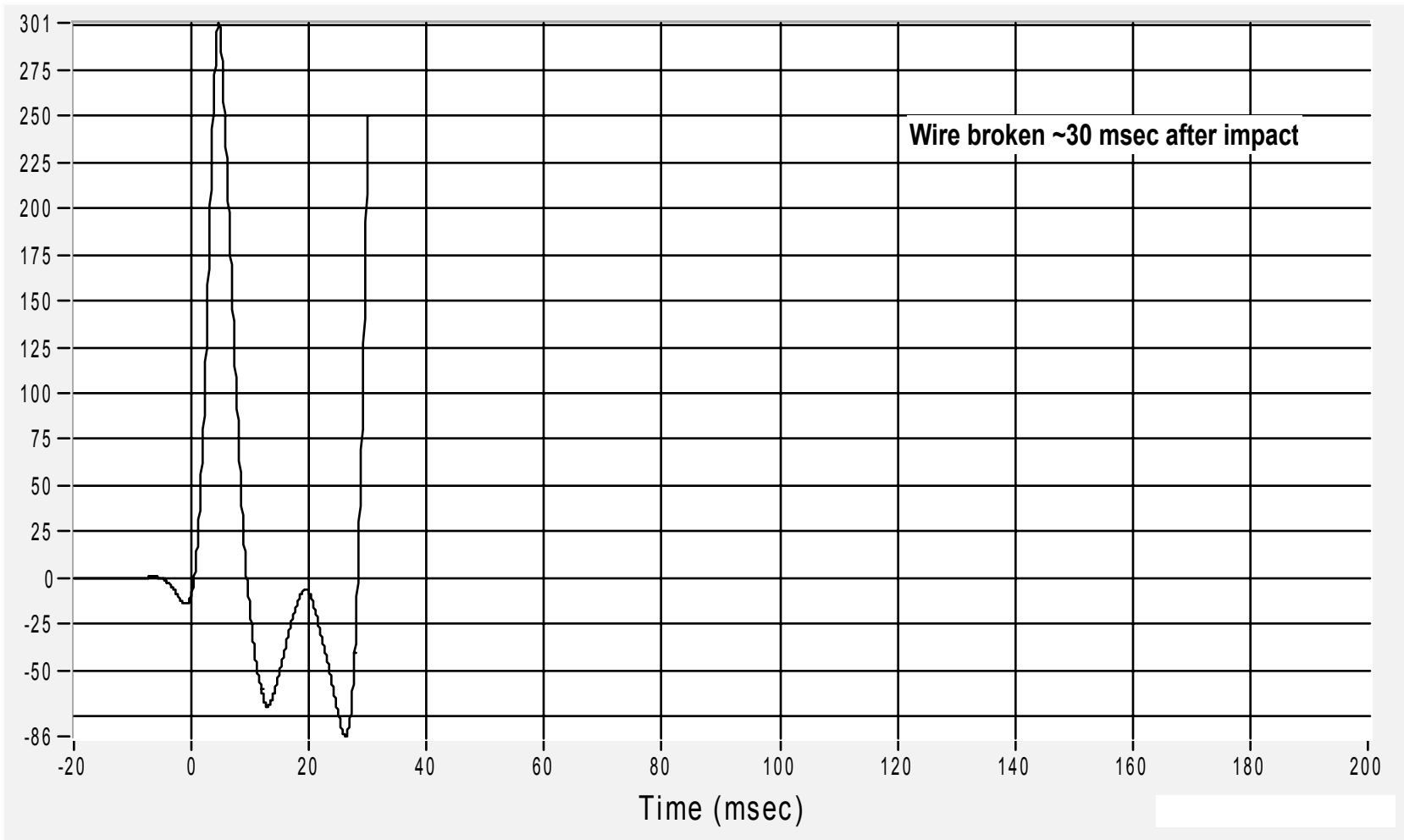
Medical College of Wisconsin
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Left Front Door on Centerline (Y) Acceleration

Acceleration (G's) CFC60

Max 300.6 G at 4.6 msec

Min -85.8 G at 26.2 msec



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13 January 2004

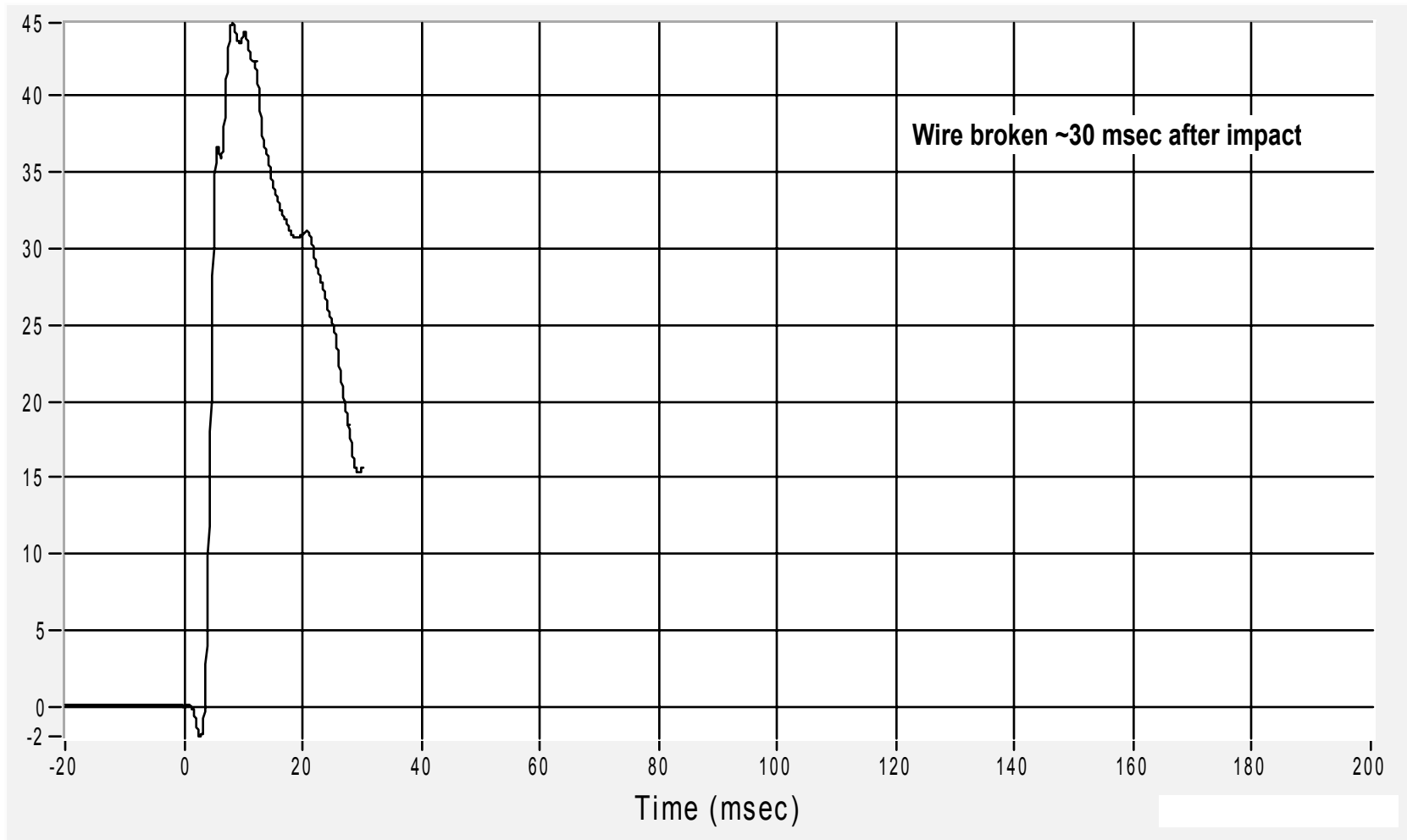
Medical College of Wisconsin
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Left Front Door on Centerline (Y) Velocity

Velocity (km/h) CFC180

Max 44.8 km/h at 8.2 msec

Min -2.0 km/h at 2.8 msec



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13 January 2004

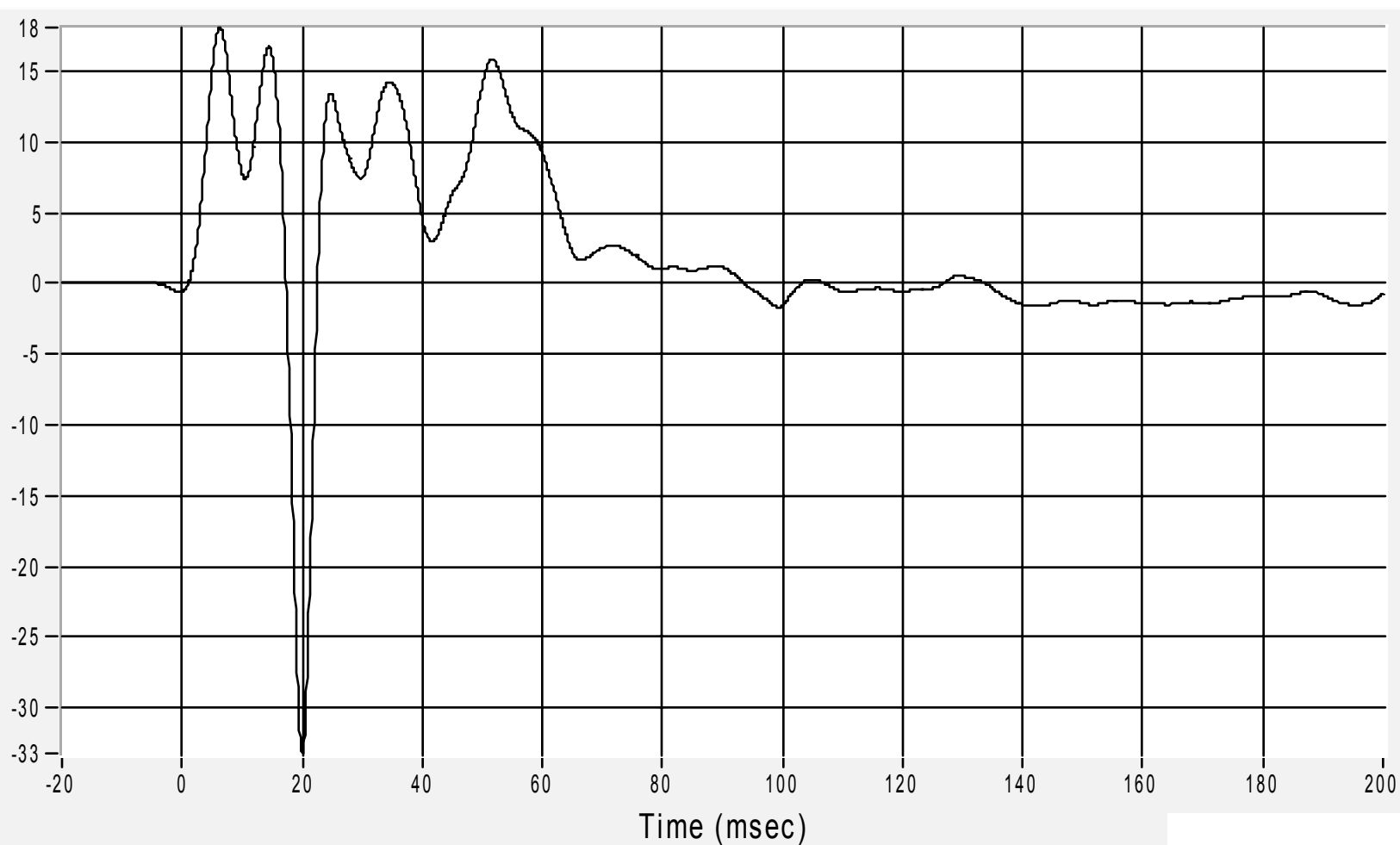
Medical College of Wisconsin
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Right Rear Occupant Compartment (Y) Acceleration

Acceleration (G's) CFC60

Max 18.1 G at 6.3 msec

Min -33.2 G at 20.0 msec



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13 January 2004

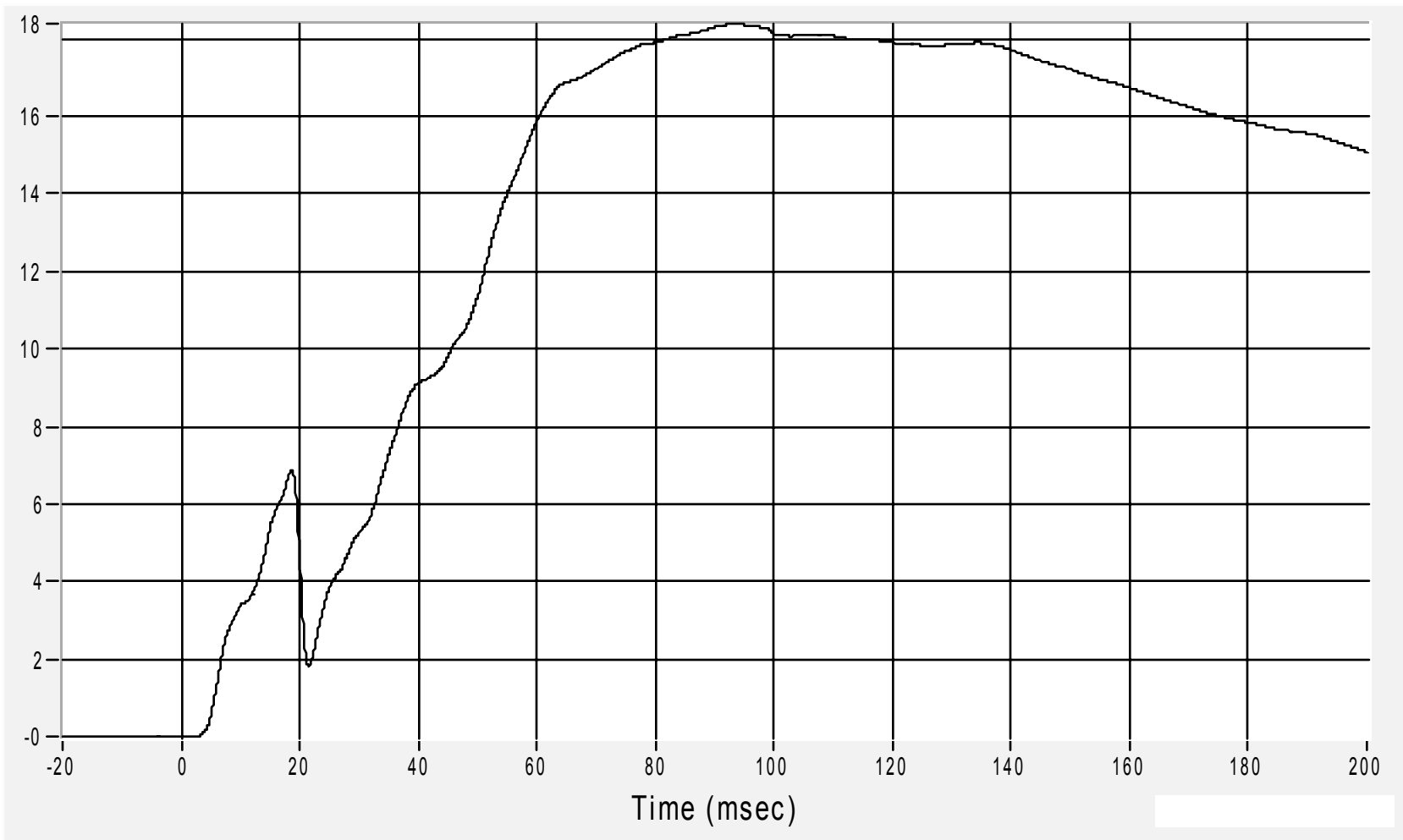
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Right Rear Occupant Compartment (Y) Velocity

Velocity (km/h) CFC180

Max 18.4 km/h at 93.2 msec

Min 0.0 km/h at 1.9 msec



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13 January 2004

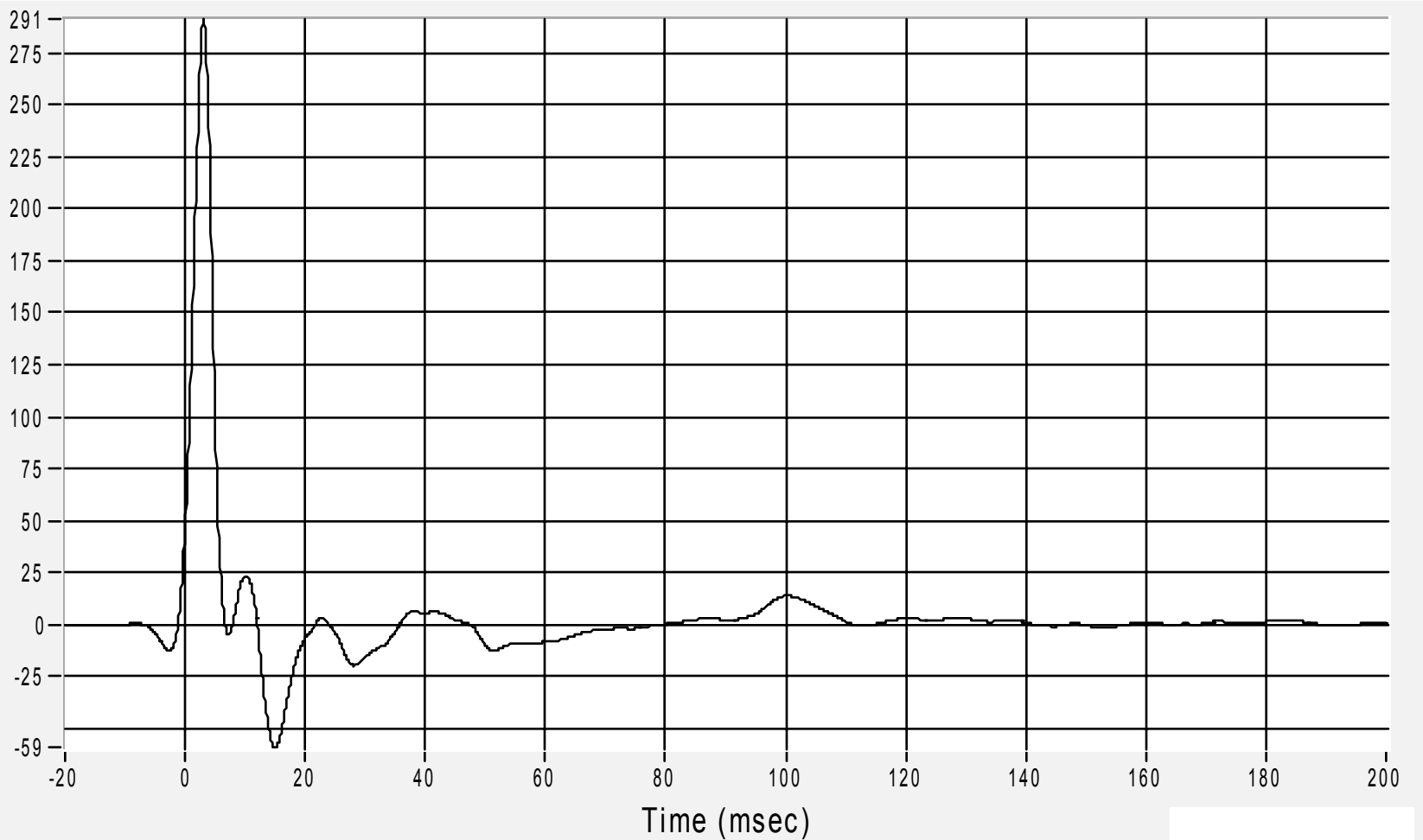
Medical College of Wisconsin
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Mid-Rear of Left Front Door (Y) Acceleration

Acceleration (G's) CFC60

Max 291.1 G at 3.0 msec

Min -58.9 G at 15.0 msec



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13 January 2004

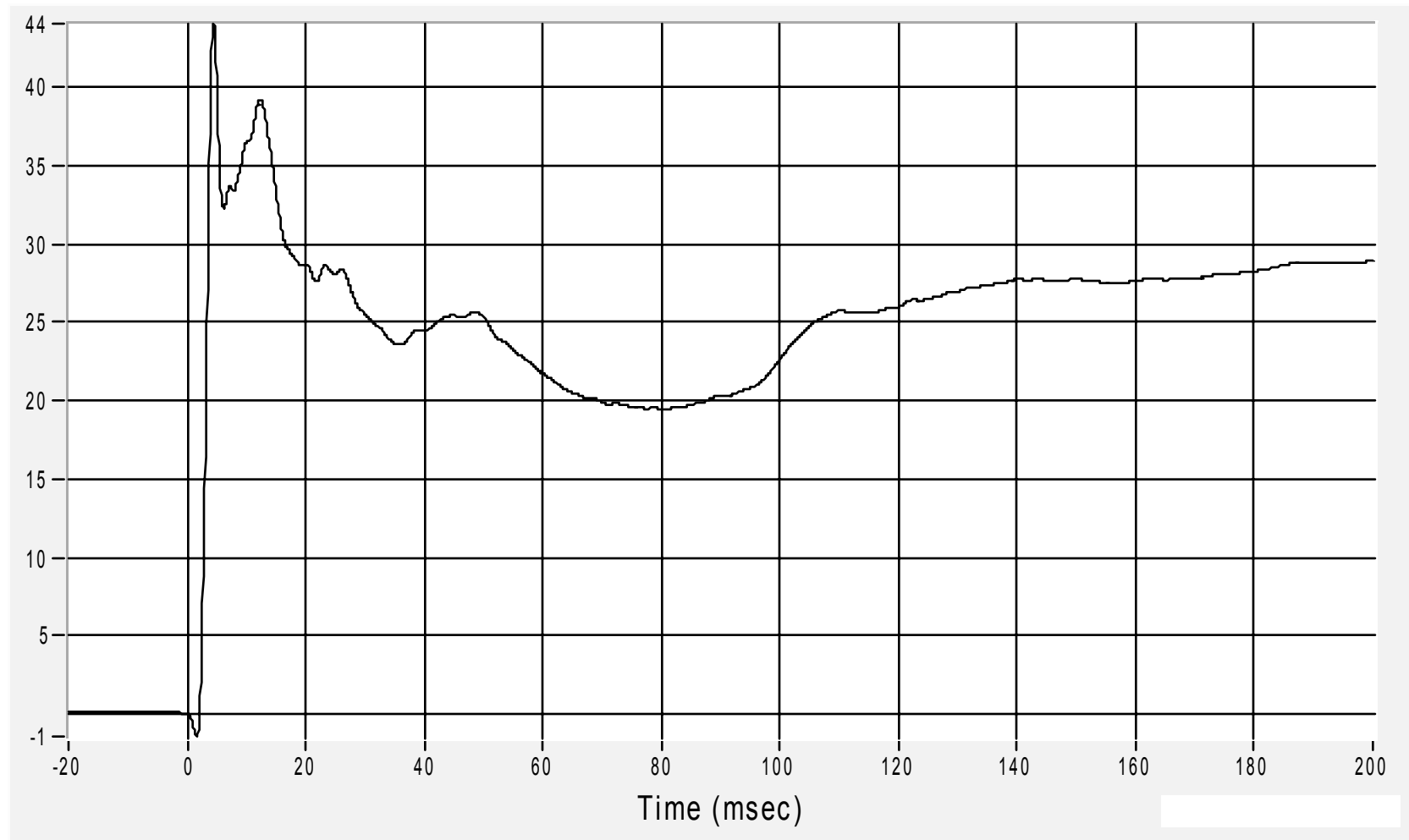
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Mid-Rear of Left Front Door (Y) Velocity

Velocity (km/h) CFC180

Max 44.1 km/h at 4.5 msec

Min -1.4 km/h at 1.6 msec



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13 January 2004

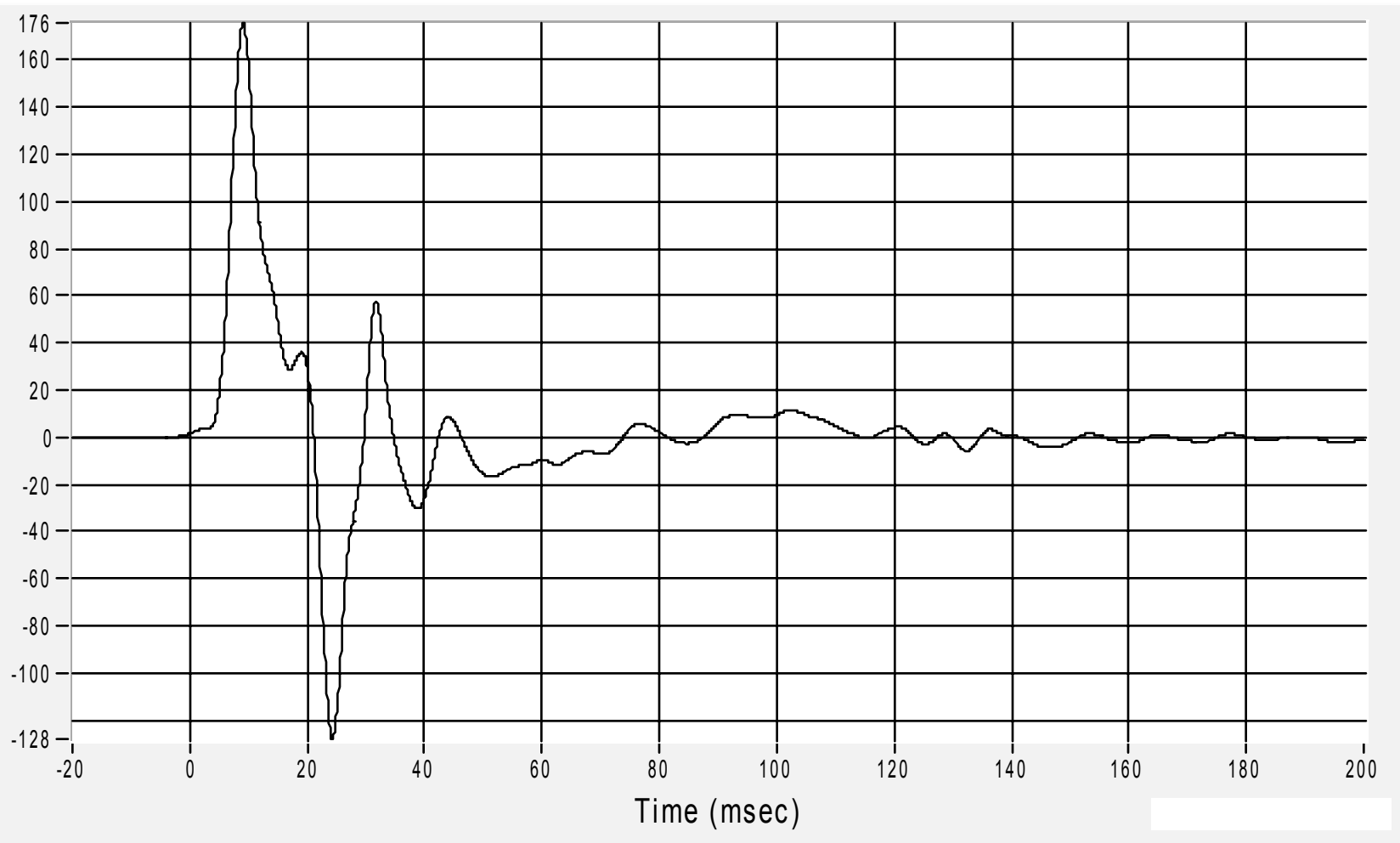
Medical College of Wisconsin
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Left Front Door Upper Centerline (Y) Acceleration

Acceleration (G's) CFC60

Max 175.7 G at 9.0 msec

Min -128.2 G at 24.3 msec



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13 January 2004

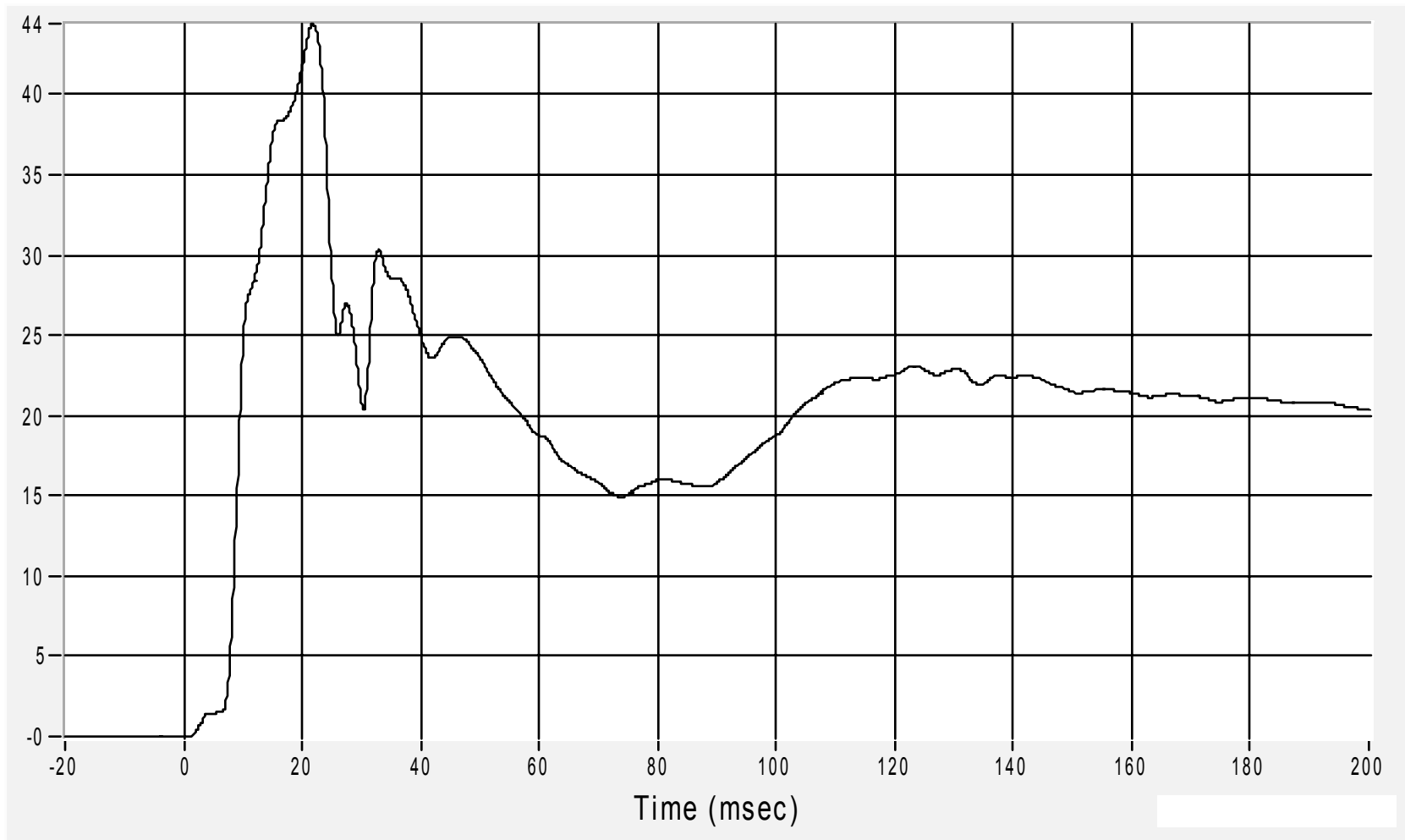
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Left Front Door Upper Centerline (Y) Velocity

Velocity (km/h) CFC180

Max 44.4 km/h at 21.8 msec

Min 0.0 km/h at 0.9 msec



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13 January 2004

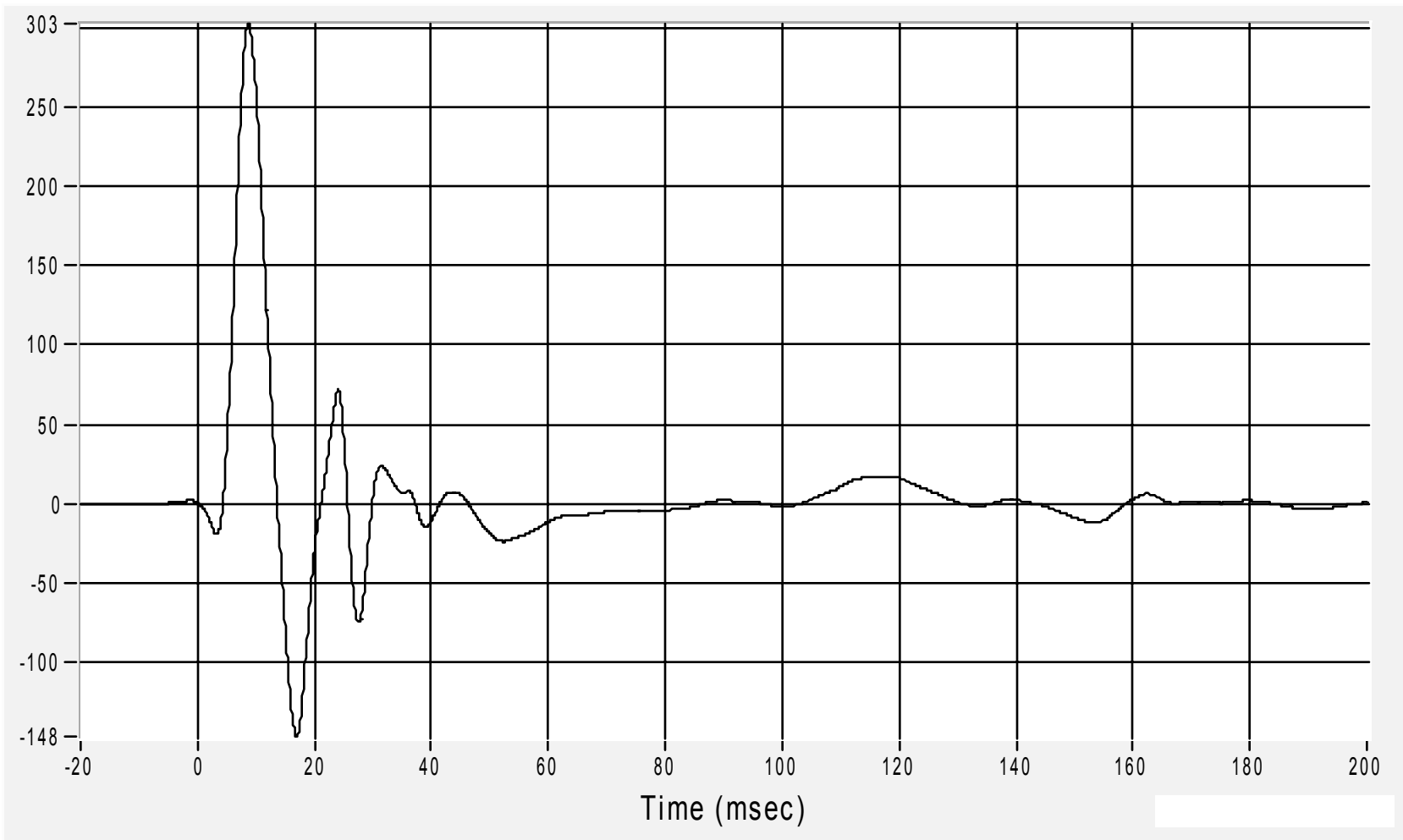
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Left Rear Door Upper Centerline (Y) Acceleration

Acceleration (G's) CFC60

Max 303.3 G at 8.6 msec

Min -147.6 G at 17.0 msec



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13 January 2004

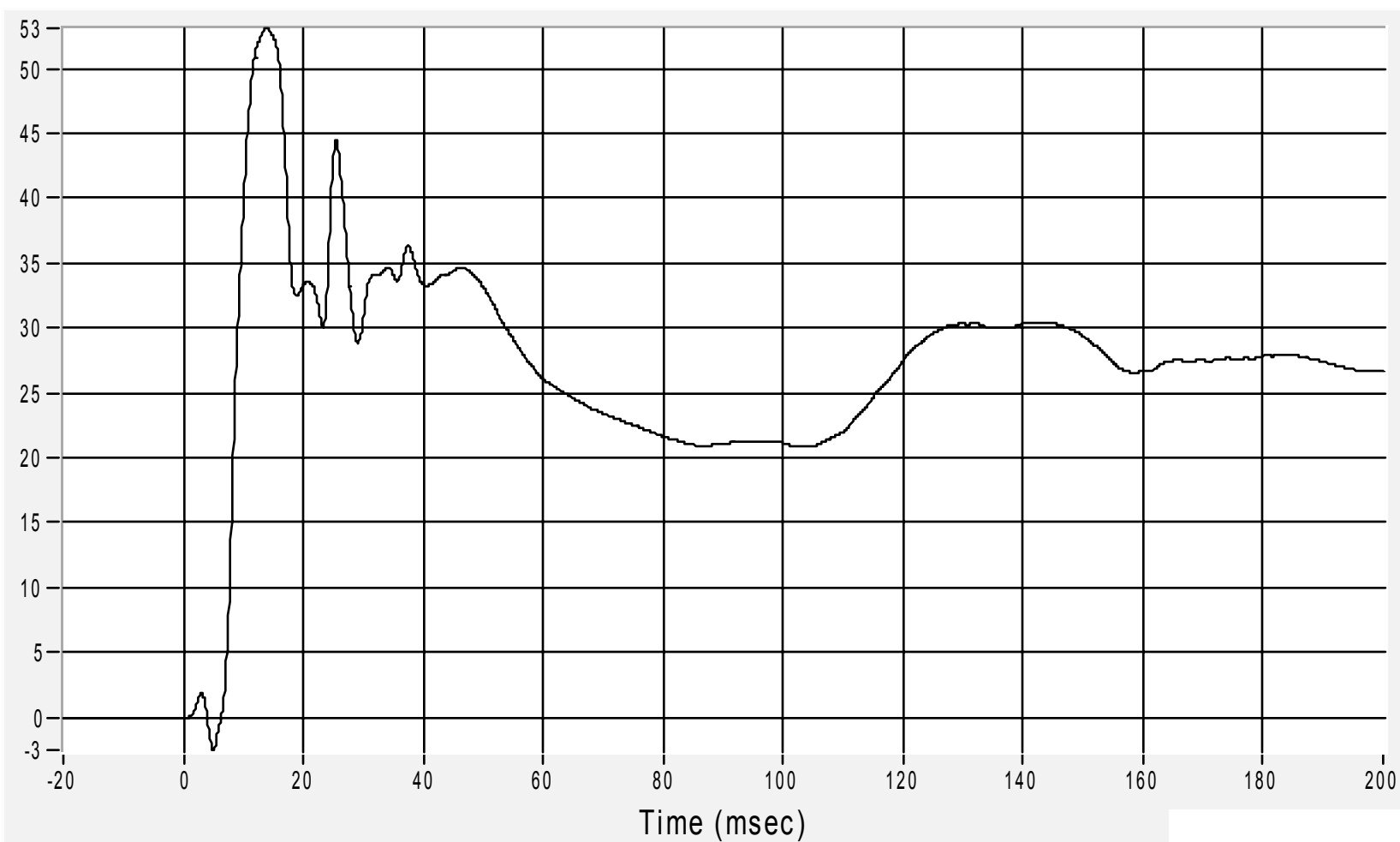
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Left Rear Door Upper Centerline (Y) Velocity

Velocity (km/h) CFC180

Max 53.1 km/h at 13.8 msec

Min -2.5 km/h at 5.0 msec



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13 January 2004

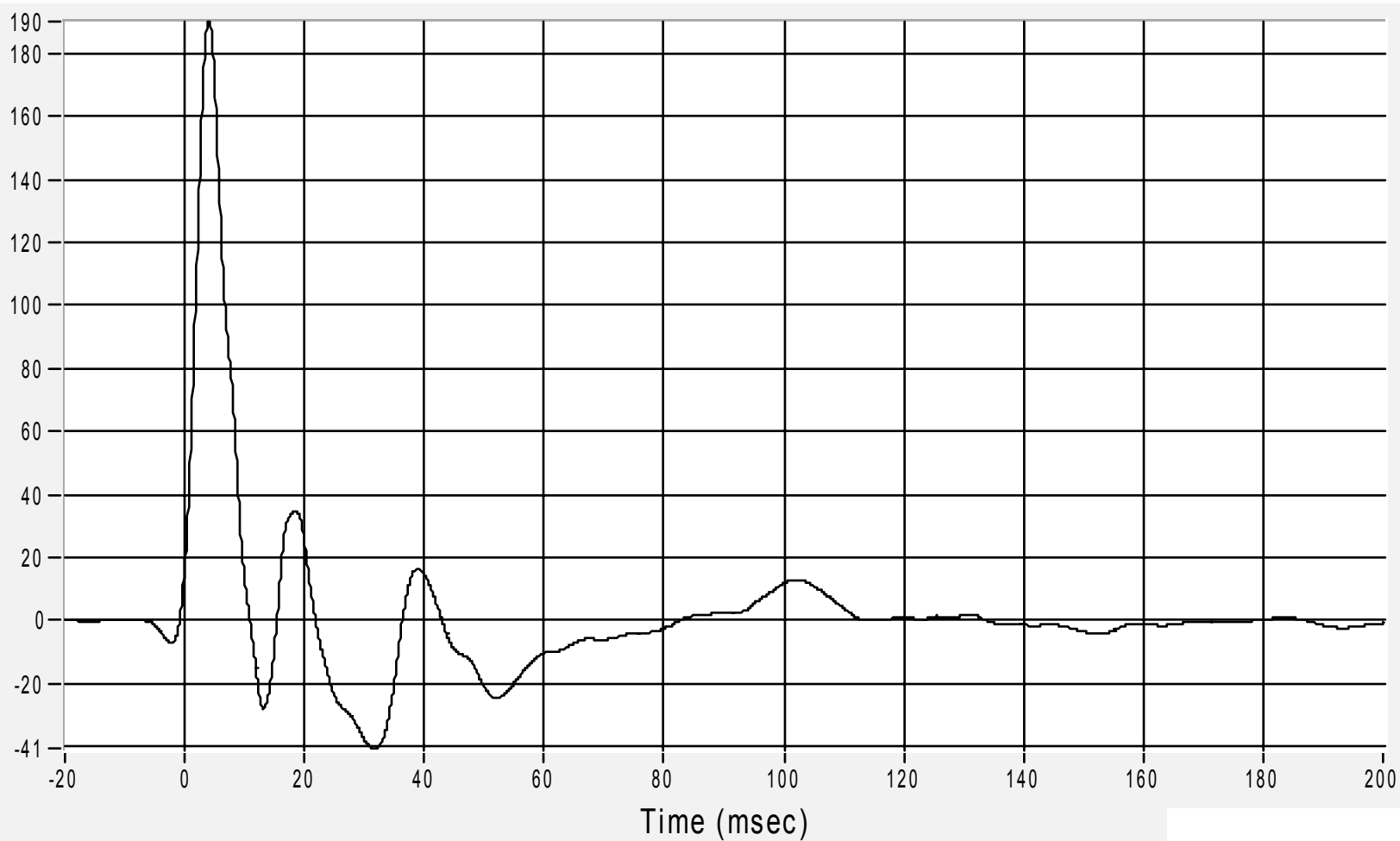
Medical College of Wisconsin
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Left Lower B-Pillar (Y) Acceleration

Acceleration (G's) CFC60

Max 190.0 G at 4.0 msec

Min -40.5 G at 31.7 msec



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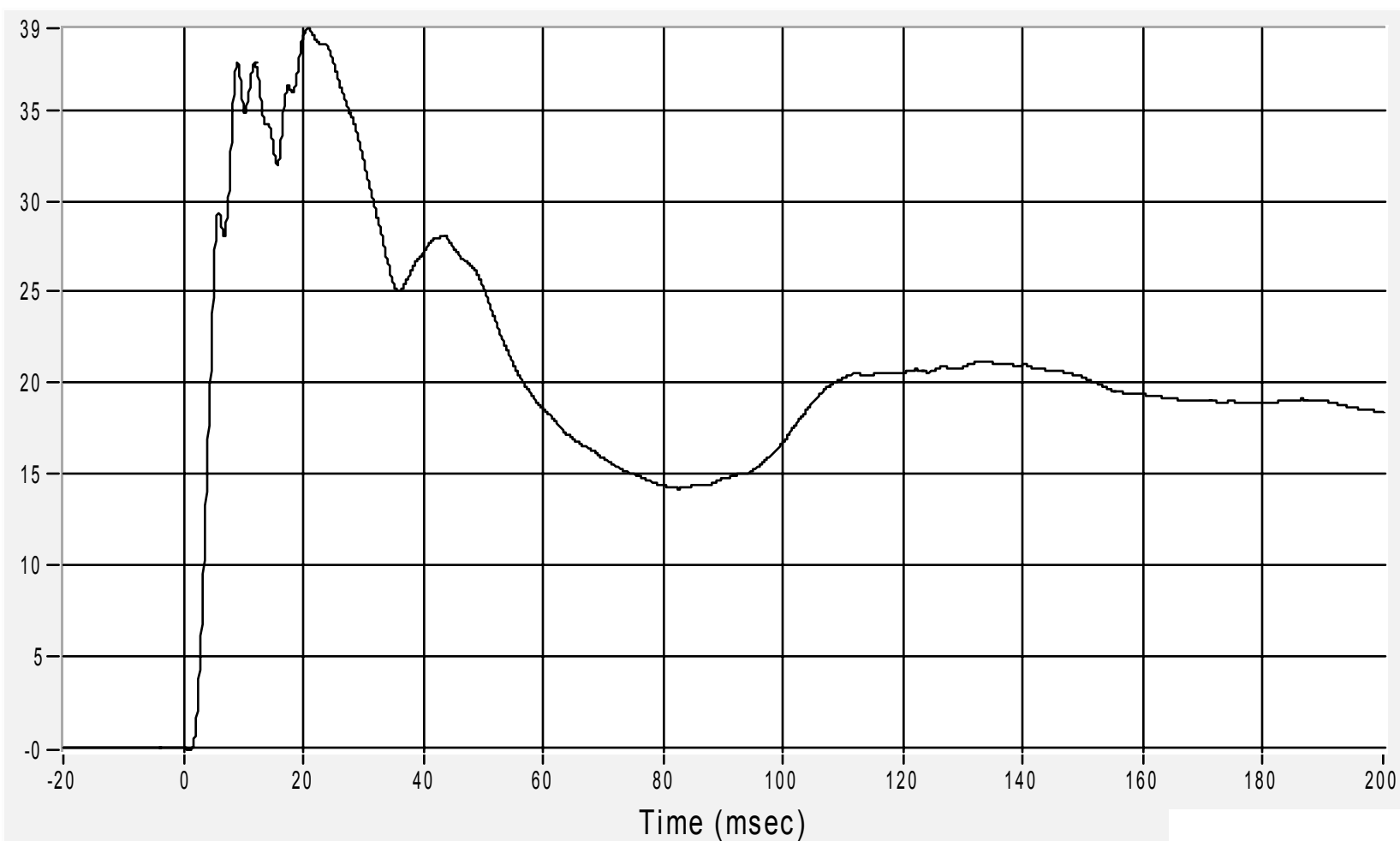
B-91

Left Lower B-Pillar (Y) Velocity

Velocity (km/h) CFC180

Max 39.5 km/h at 20.8 msec

Min -0.2 km/h at 1.1 msec



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13 January 2004

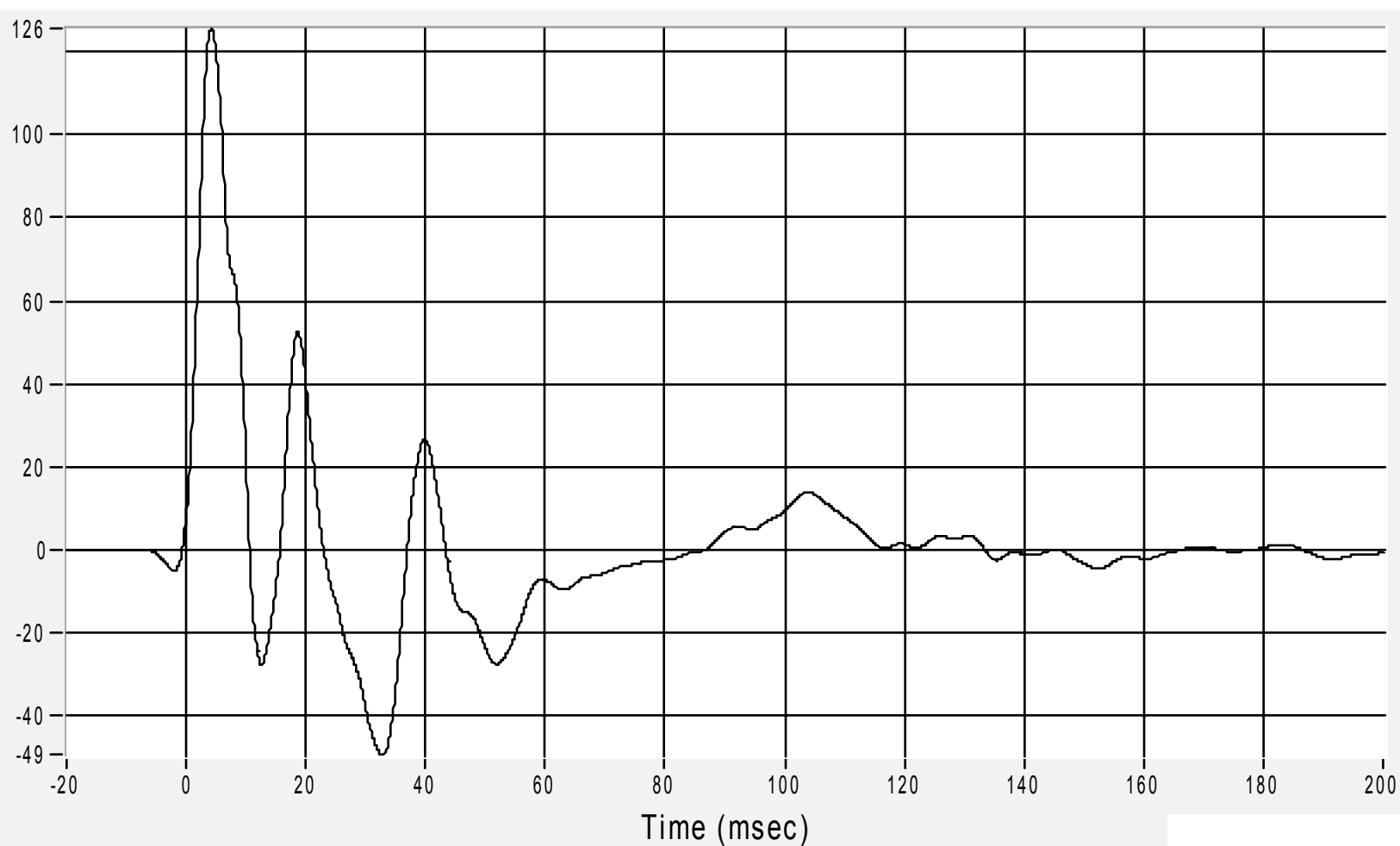
Medical College of Wisconsin
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Left Middle B-Pillar (Y) Acceleration

Acceleration (G's) CFC60

Max 125.6 G at 4.2 msec

Min -49.3 G at 32.8 msec



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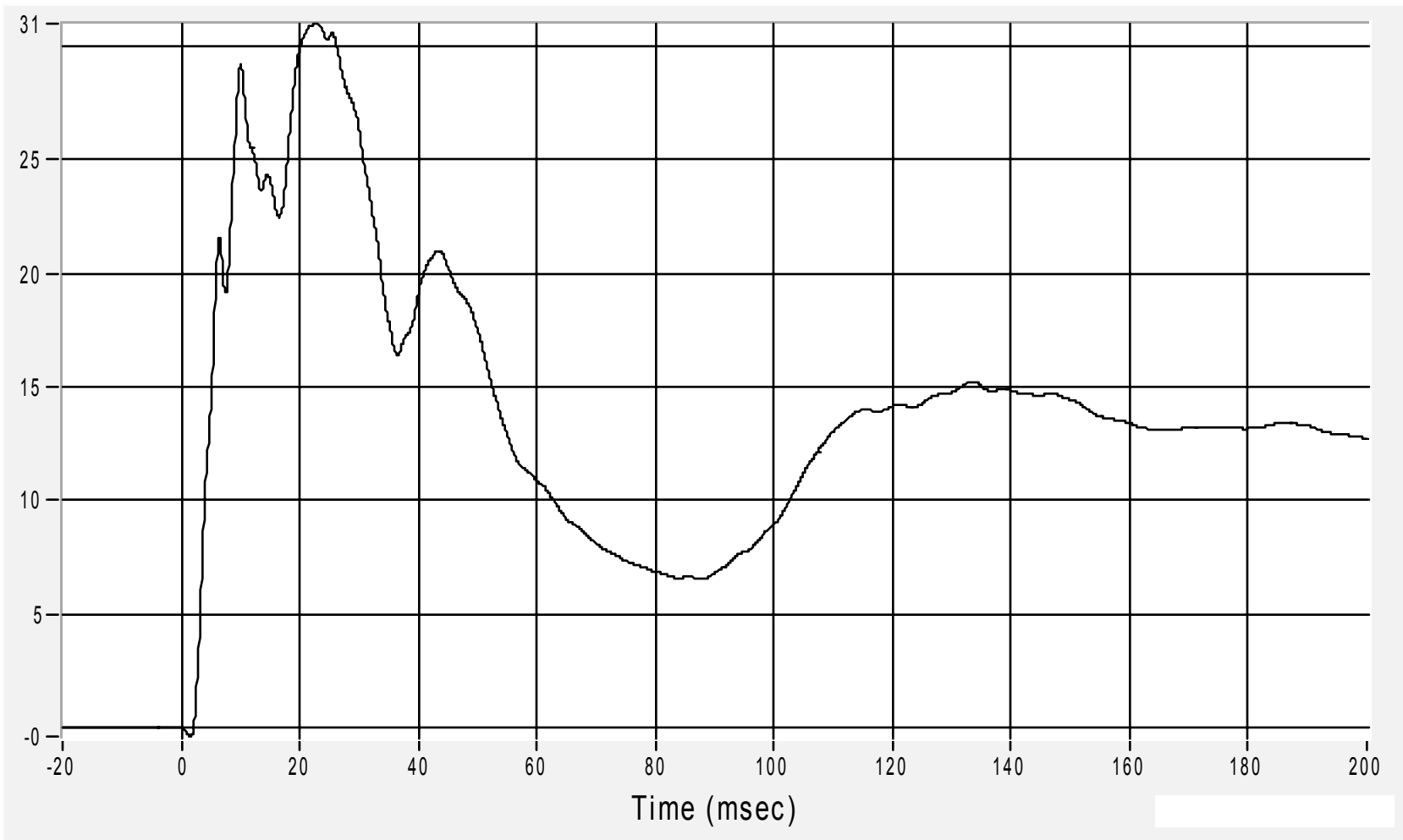
B-93

Left Middle B-Pillar (Y) Velocity

Velocity (km/h) CFC180

Max 30.9 km/h at 22.8 msec

Min -0.4 km/h at 1.6 msec



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13 January 2004

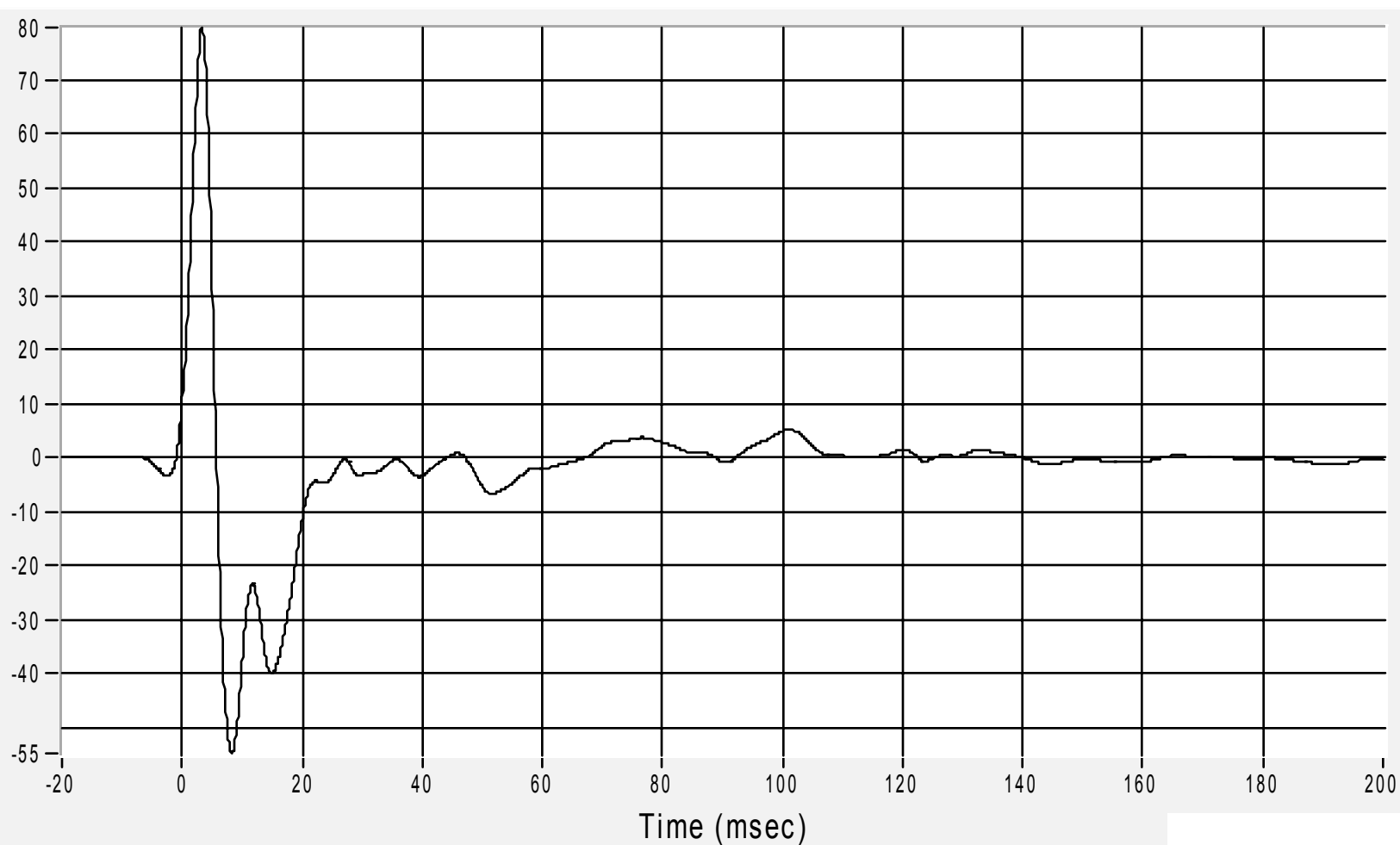
Medical College of Wisconsin
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Left Lower A-Pillar (Y) Acceleration

Acceleration (G's) CFC60

Max 79.7 G at 3.3 msec

Min -54.8 G at 8.2 msec



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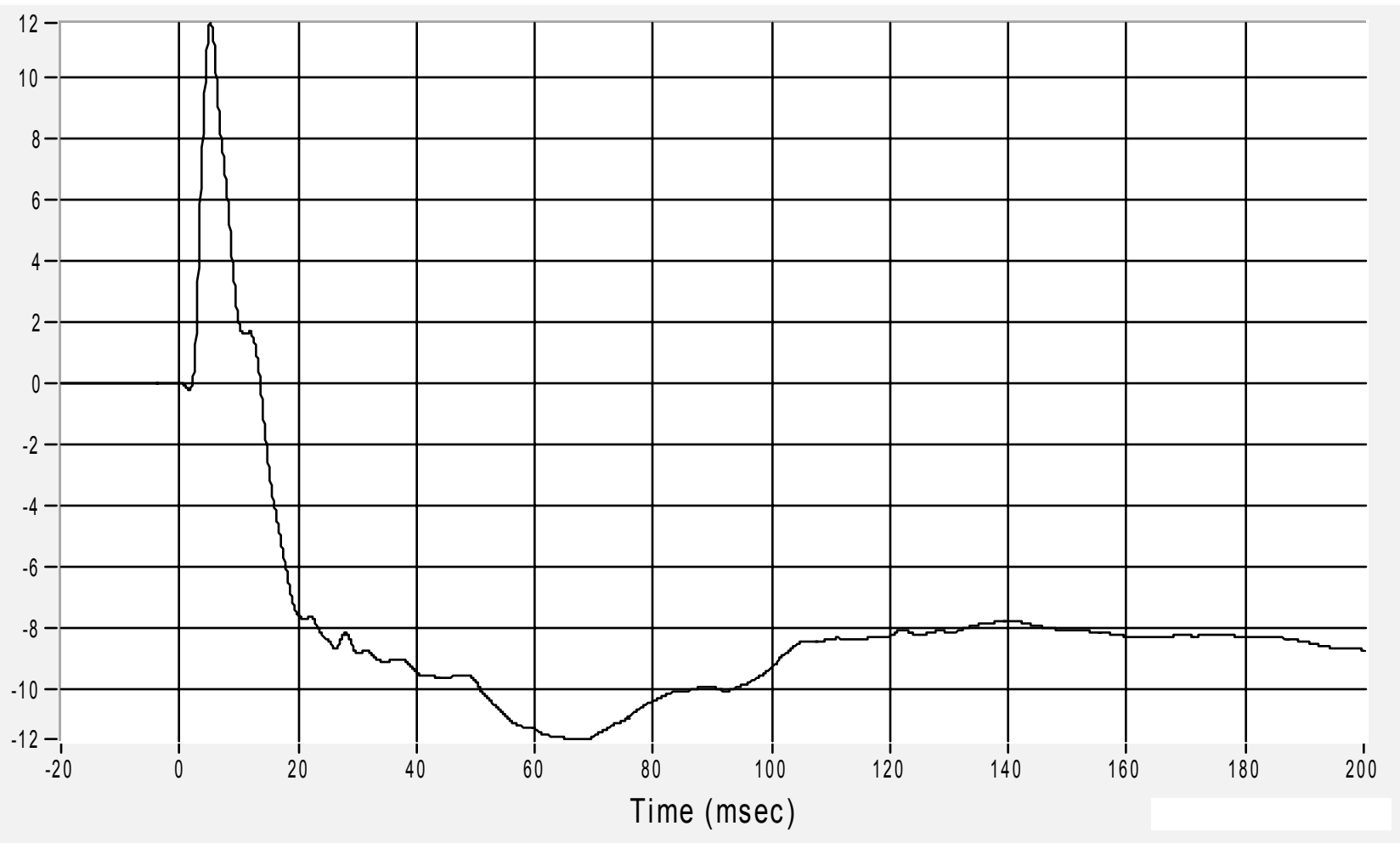
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Left Lower A-Pillar (Y) Velocity

Velocity (km/h) CFC180

Max 11.8 km/h at 5.3 msec

Min -11.6 km/h at 68.6 msec



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13 January 2004

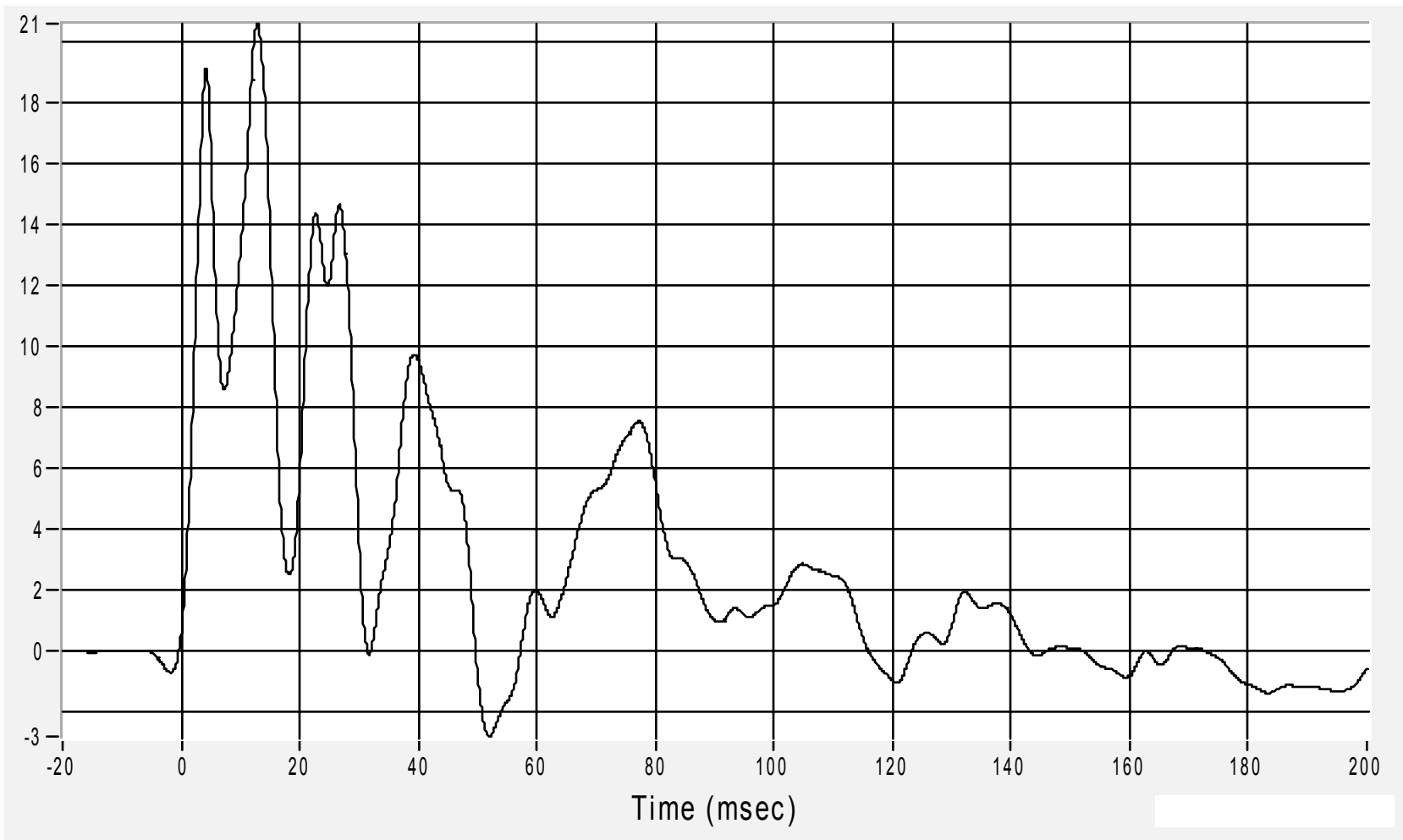
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Left Middle A-Pillar (Y) Acceleration

Acceleration (G's) CFC60

Max 20.6 G at 12.8 msec

Min -2.8 G at 52.0 msec



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13 January 2004

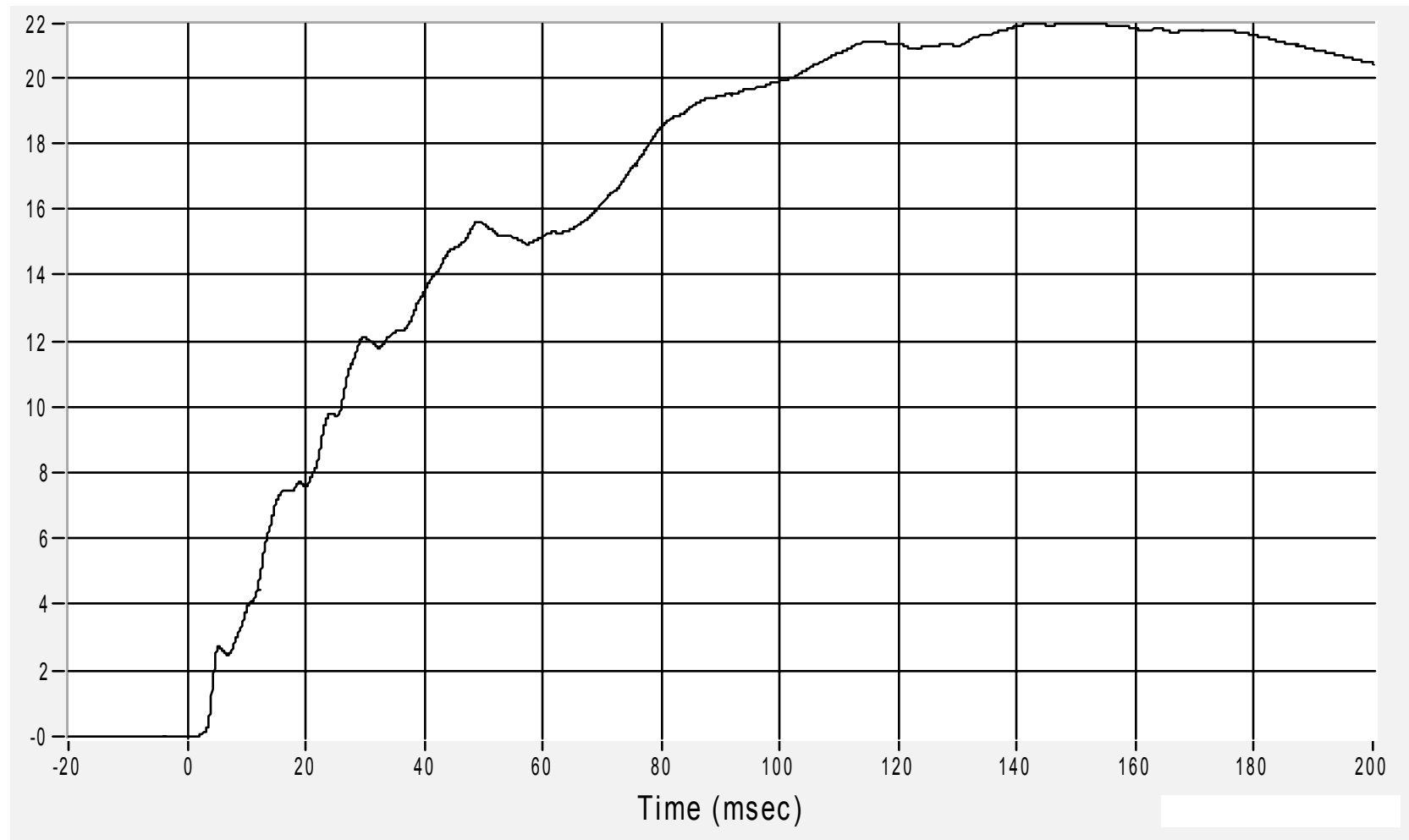
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Left Middle A-Pillar (Y) Velocity

Velocity (km/h) CFC180

Max 21.6 km/h at 153.0 msec

Min 0.0 km/h at 1.4 msec



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13 January 2004

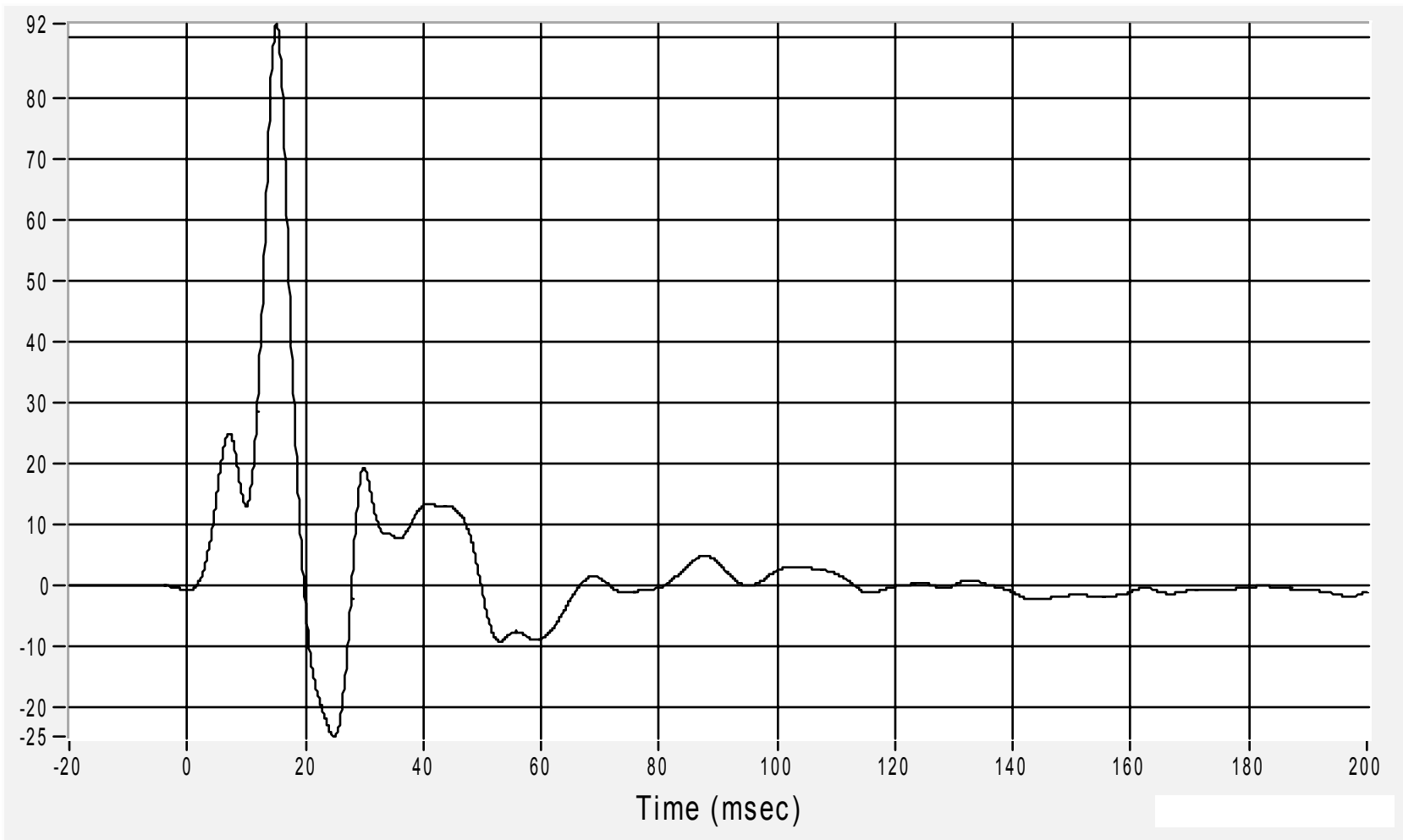
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Front Seat Track (Y) Acceleration

Acceleration (G's) CFC60

Max 92.1 G at 15.1 msec

Min -24.6 G at 24.9 msec



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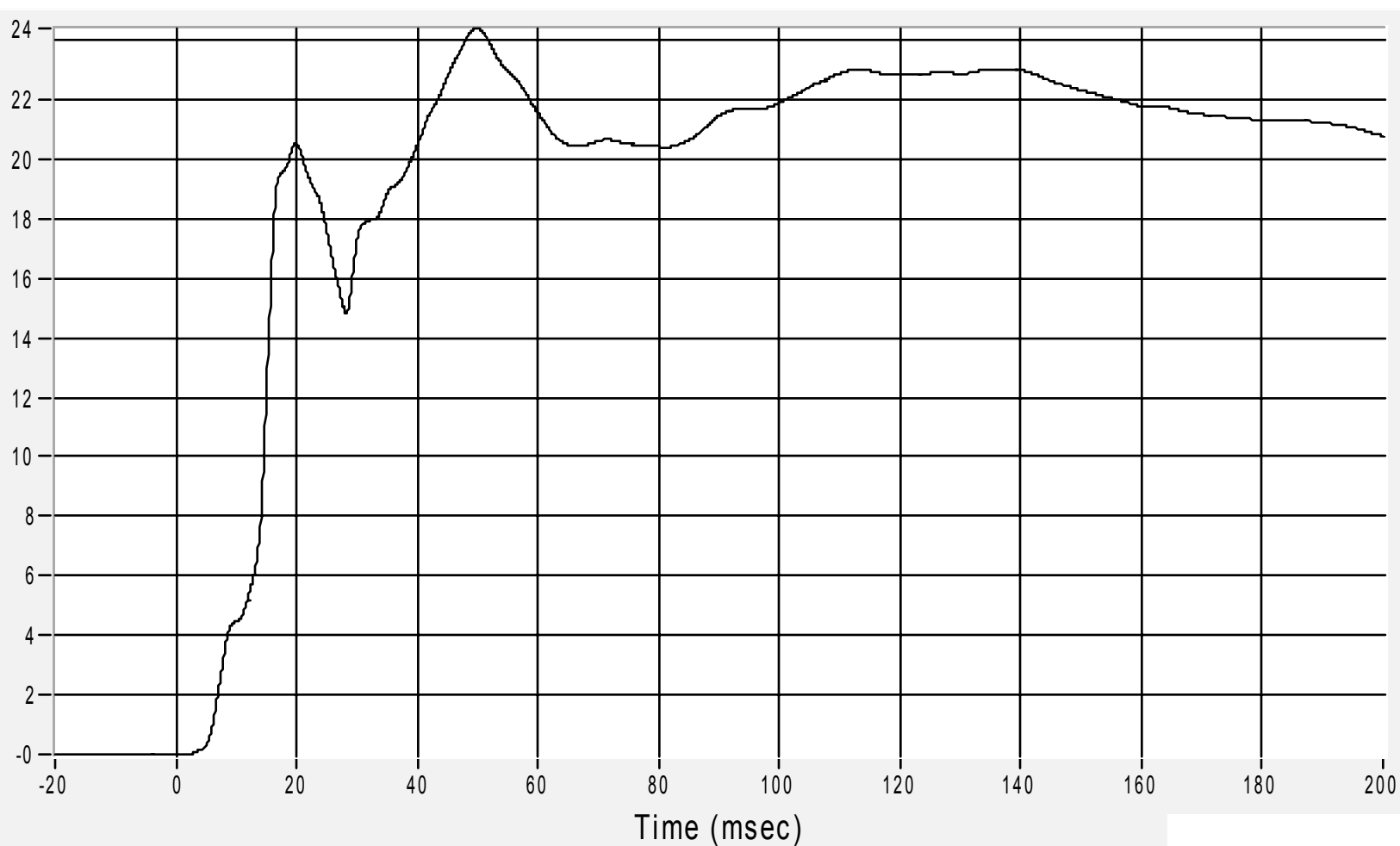
B-99

Front Seat Track (Y) Velocity

Velocity (km/h) CFC180

Max 24.4 km/h at 49.9 msec

Min 0.0 km/h at 1.3 msec



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13 January 2004

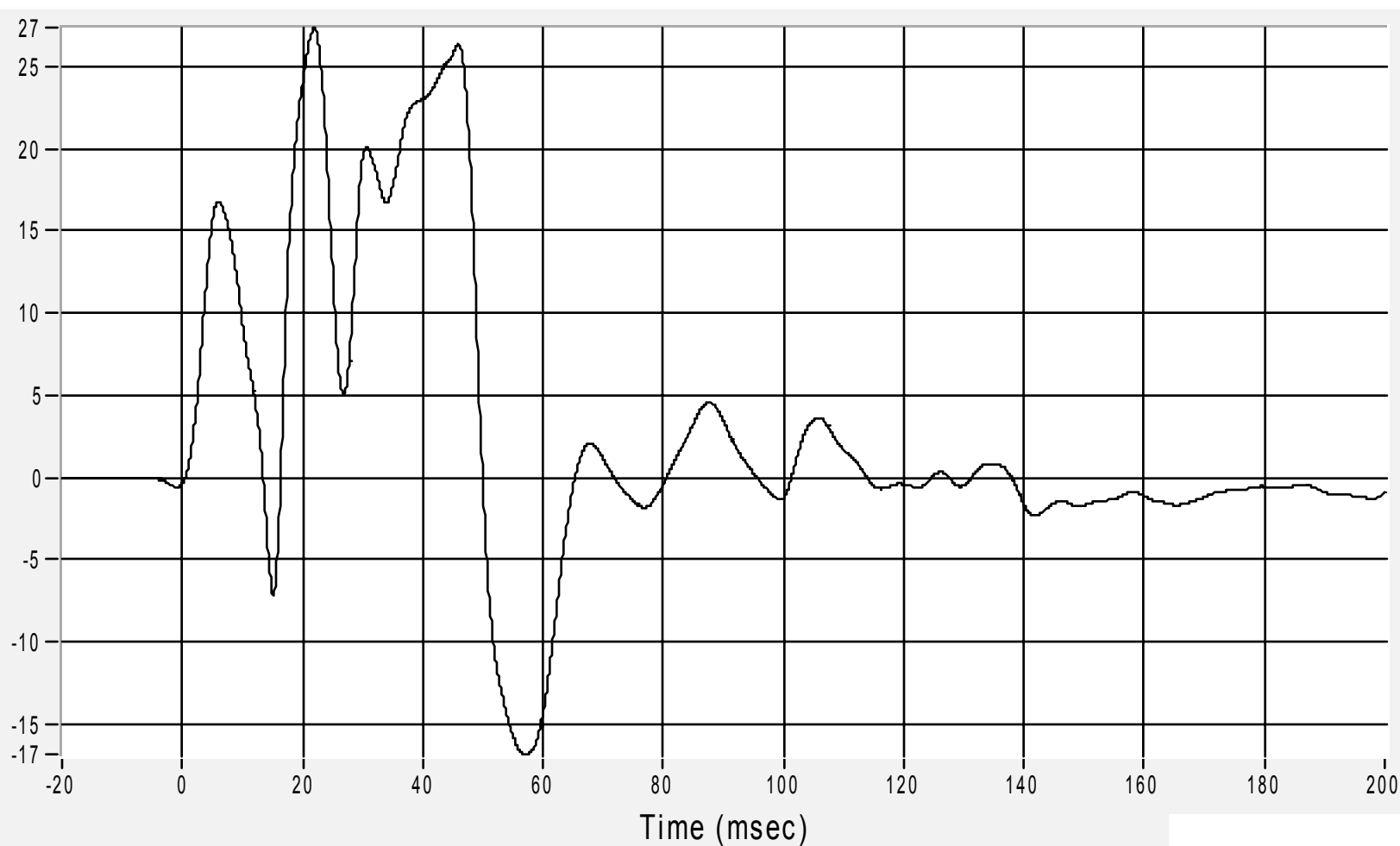
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Rear Seat Track (Y) Acceleration

Acceleration (G's) CFC60

Max 27.4 G at 21.9 msec

Min -16.8 G at 57.1 msec



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13 January 2004

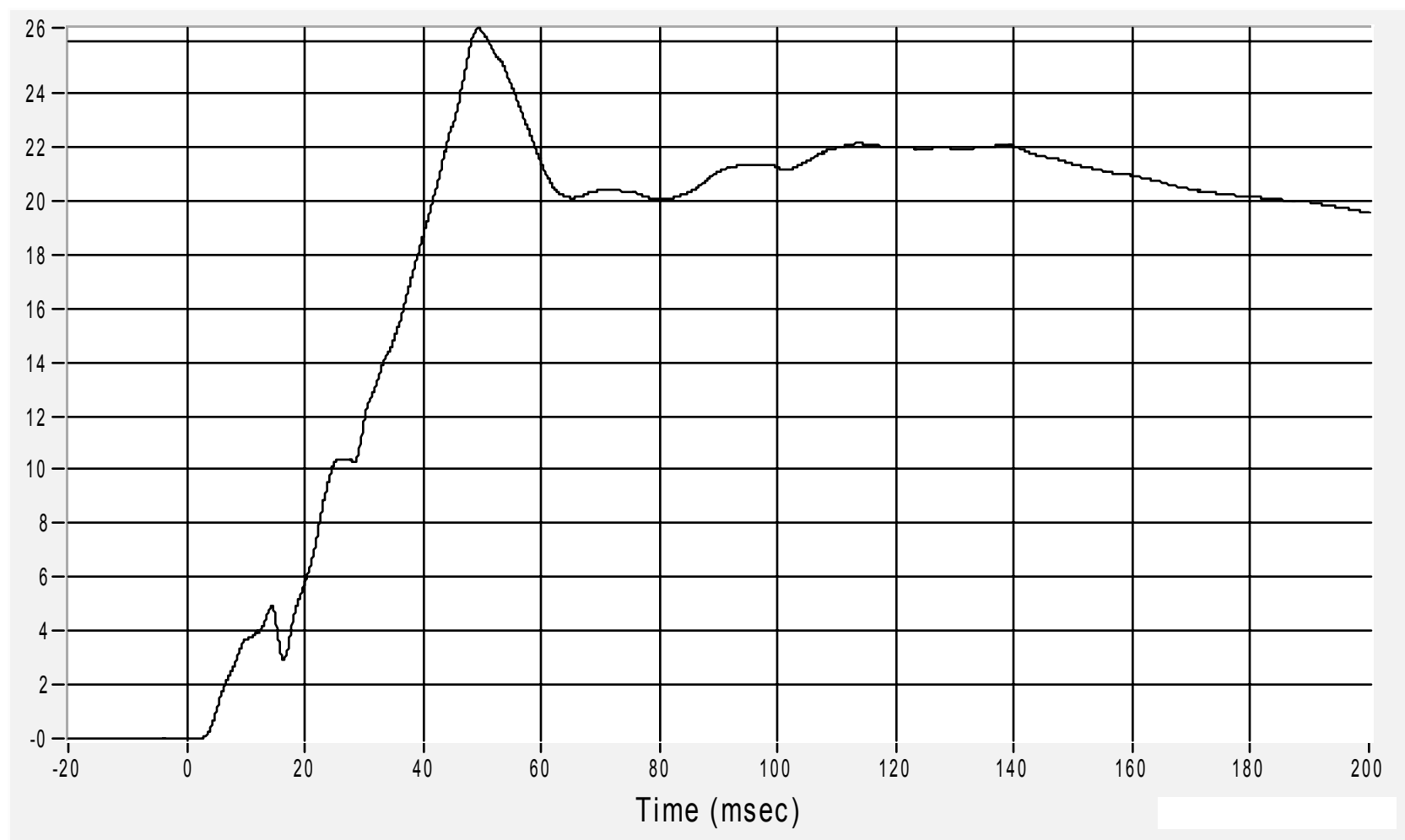
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Rear Seat Track (Y) Velocity

Velocity (km/h) CFC180

Max 26.5 km/h at 49.4 msec

Min 0.0 km/h at 2.2 msec



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13 January 2004

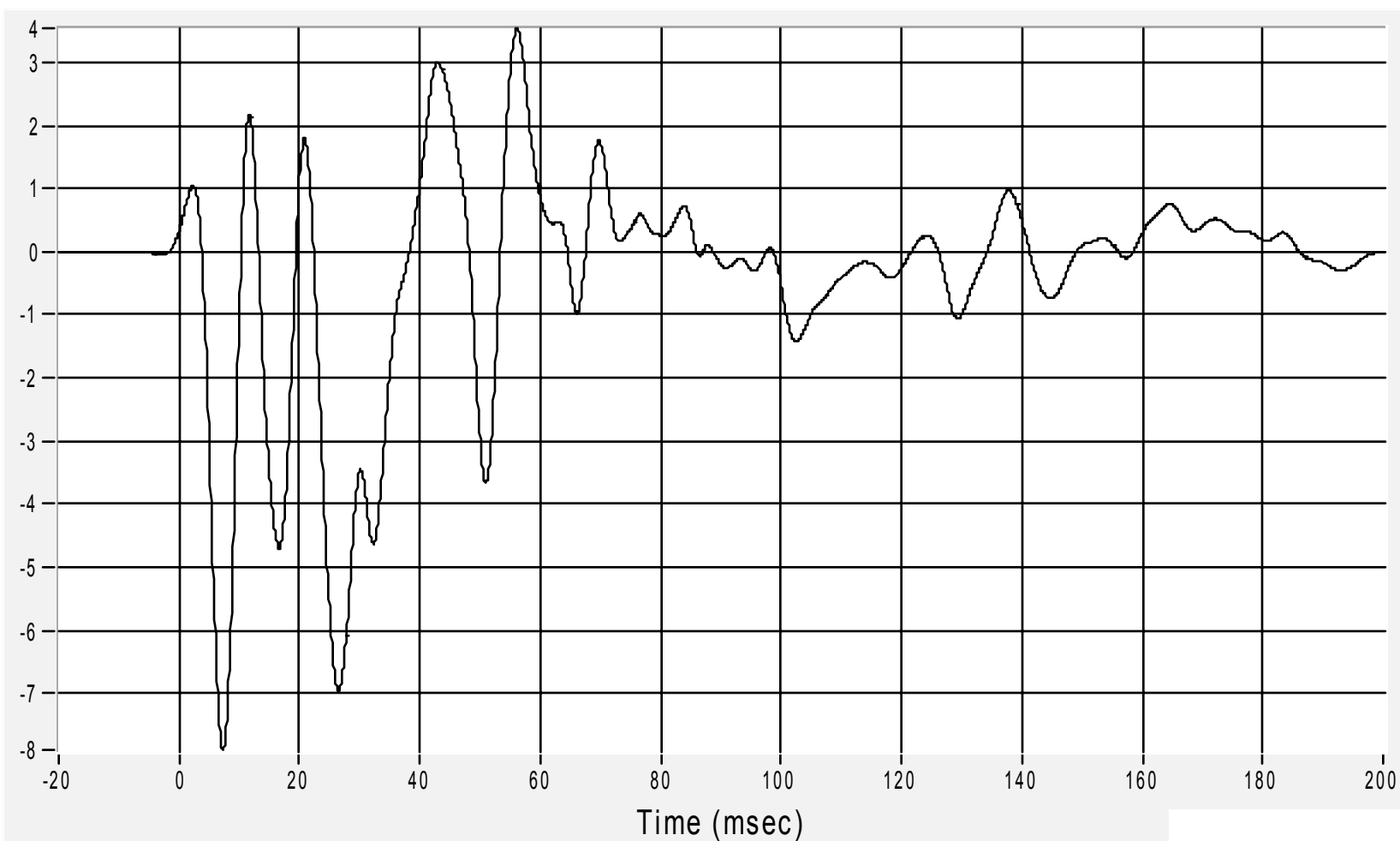
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Vehicle Center of Gravity (X) Acceleration

Acceleration (G's) CFC60

Max 3.5 G at 56.2 msec

Min -7.9 G at 7.3 msec



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13 January 2004

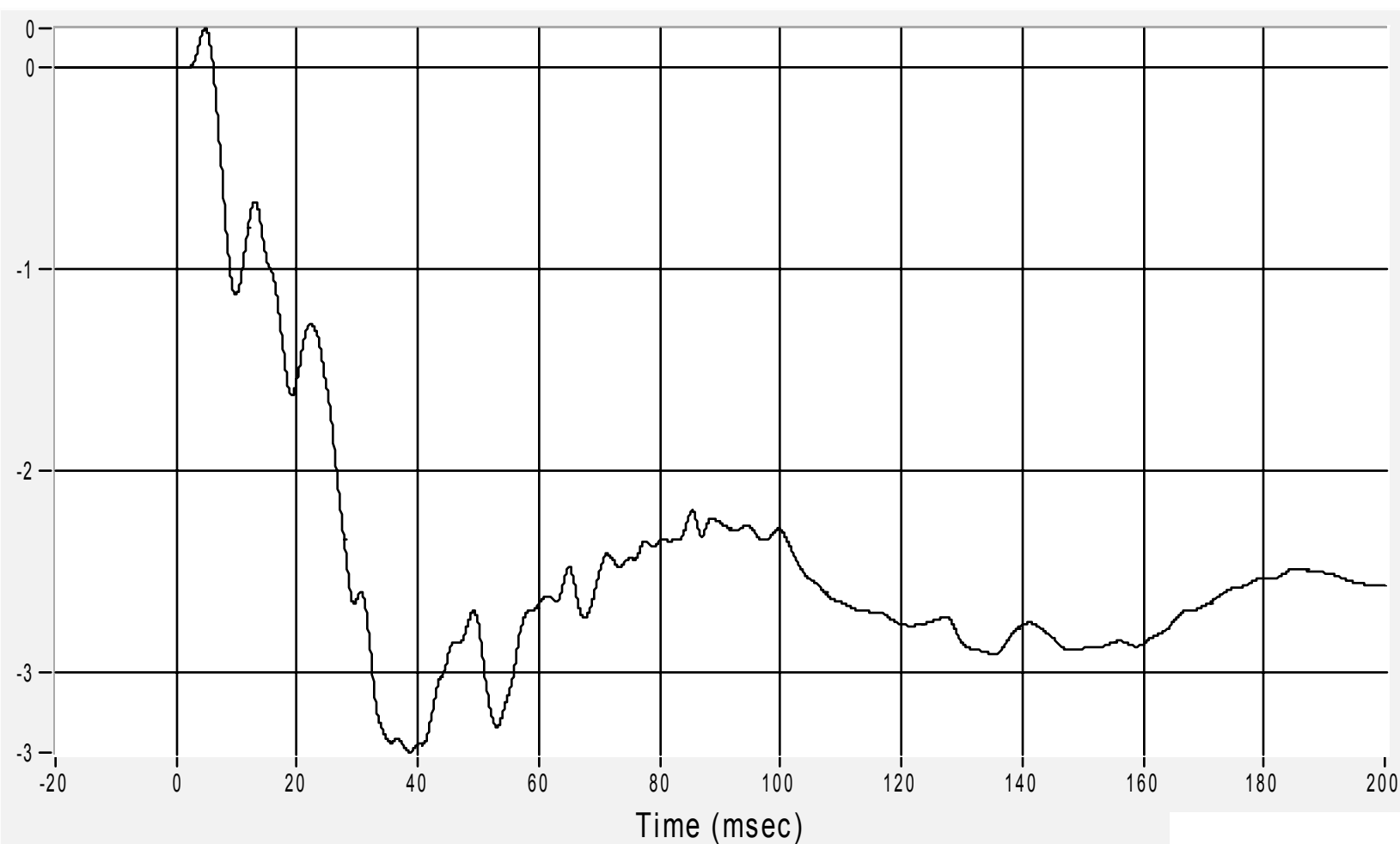
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Vehicle Center of Gravity (X) Velocity

Velocity (km/h) CFC180

Max 0.2 km/h at 4.8 msec

Min -3.4 km/h at 38.6 msec



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13 January 2004

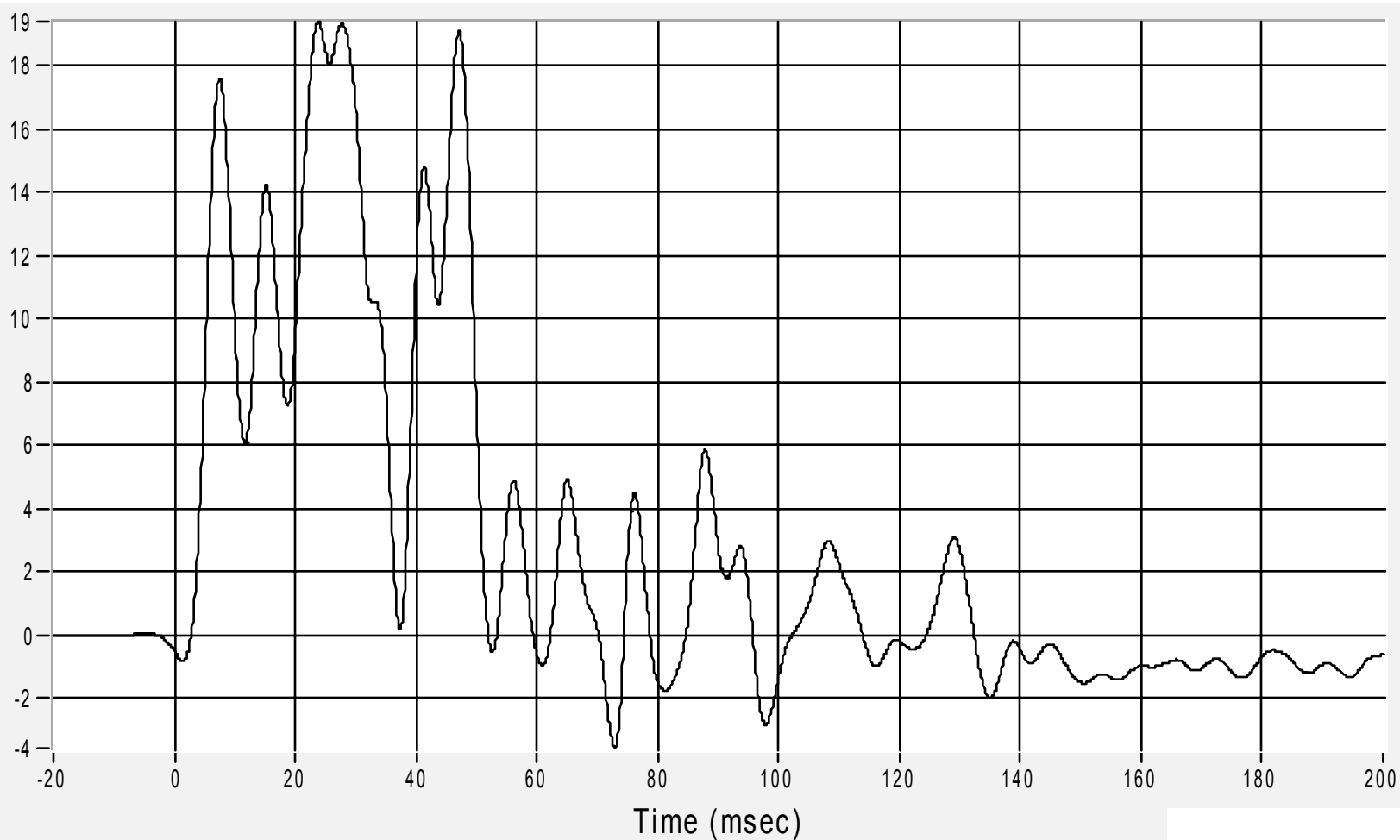
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Vehicle Center of Gravity (Y) Acceleration

Acceleration (G's) CFC60

Max 19.4 G at 23.8 msec

Min -3.6 G at 72.9 msec



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13 January 2004

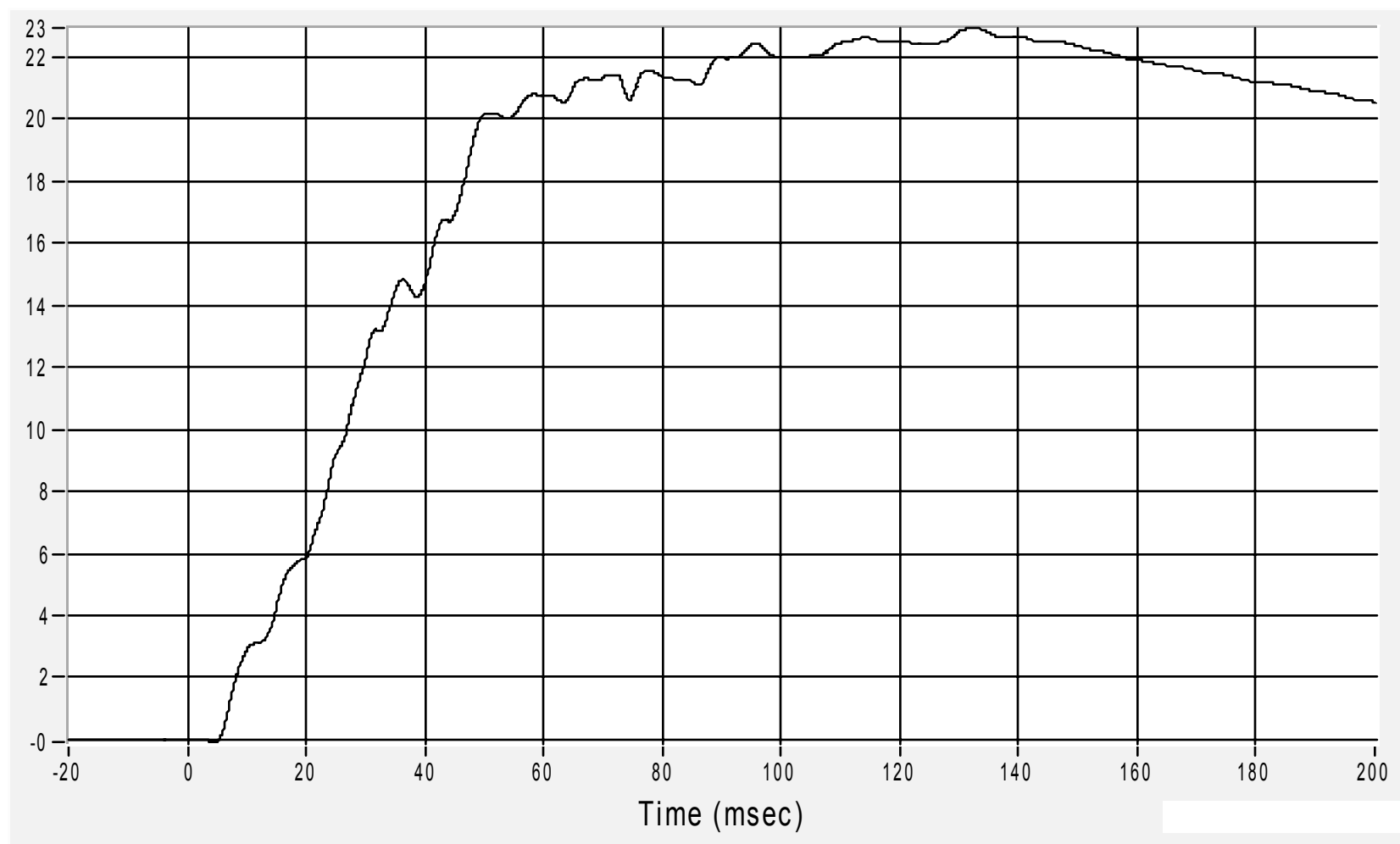
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Vehicle Center of Gravity (Y) Velocity

Velocity (km/h) CFC180

Max 22.9 km/h at 132.4 msec

Min 0.0 km/h at 4.5 msec



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13 January 2004

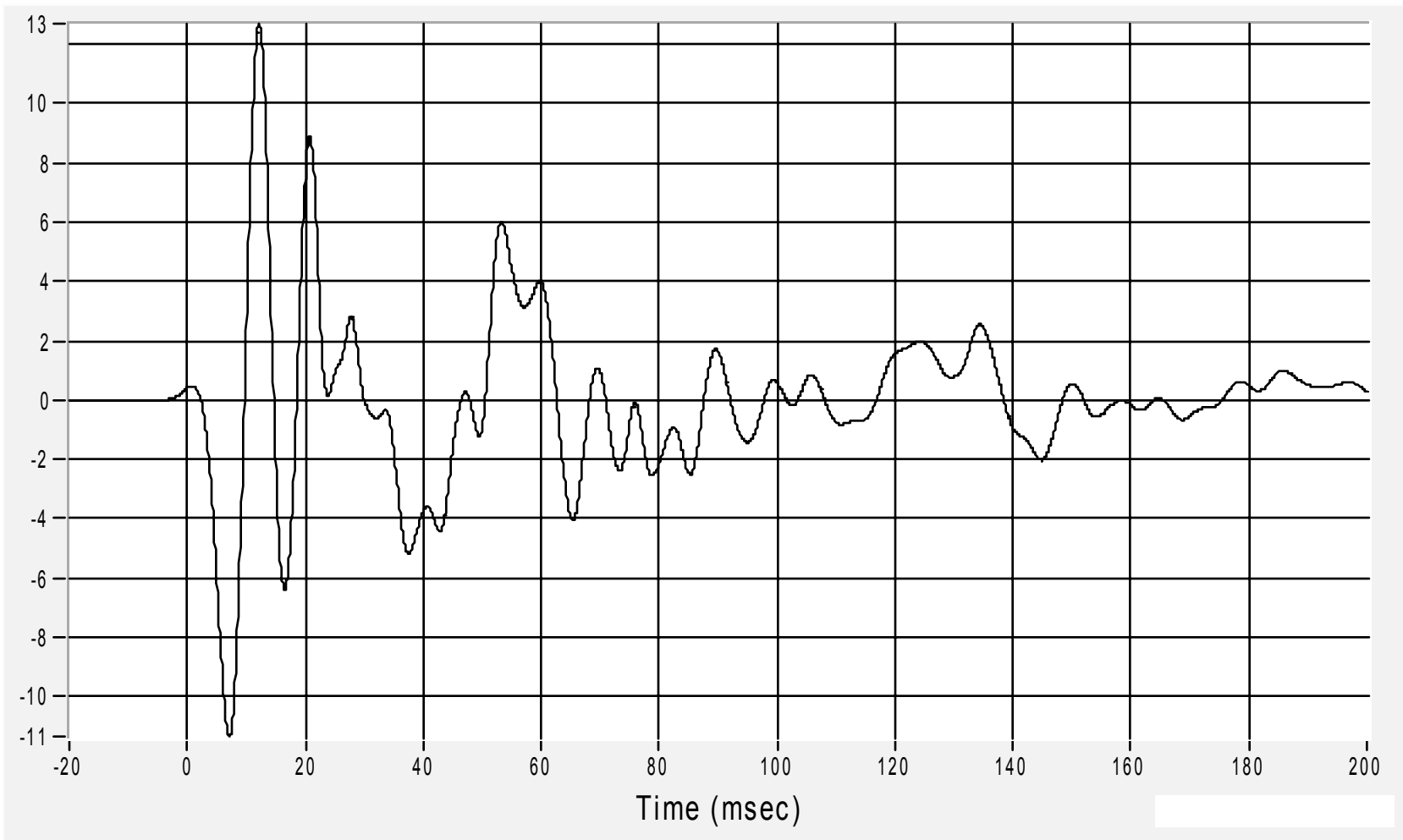
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Vehicle Center of Gravity (Z) Acceleration

Acceleration (G's) CFC60

Max 12.7 G at 12.2 msec

Min -11.3 G at 7.1 msec



04SN04 - 2004 ACURA 3.5RL 4-DOOR SEDAN

13 January 2004

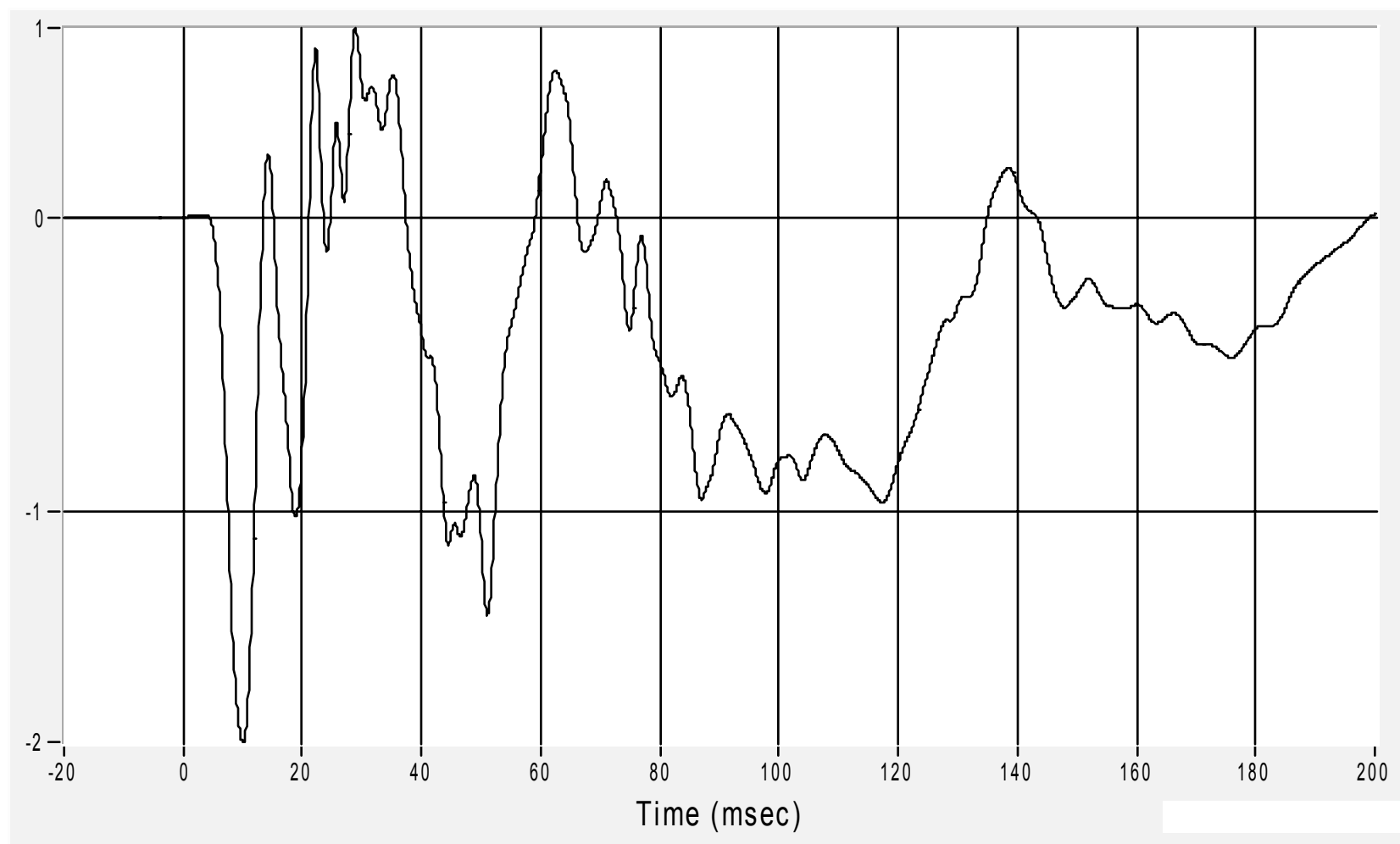
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Vehicle Center of Gravity (Z) Velocity

Velocity (km/h) CFC180

Max 0.6 km/h at 28.9 msec

Min -1.8 km/h at 10.0 msec



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13 January 2004

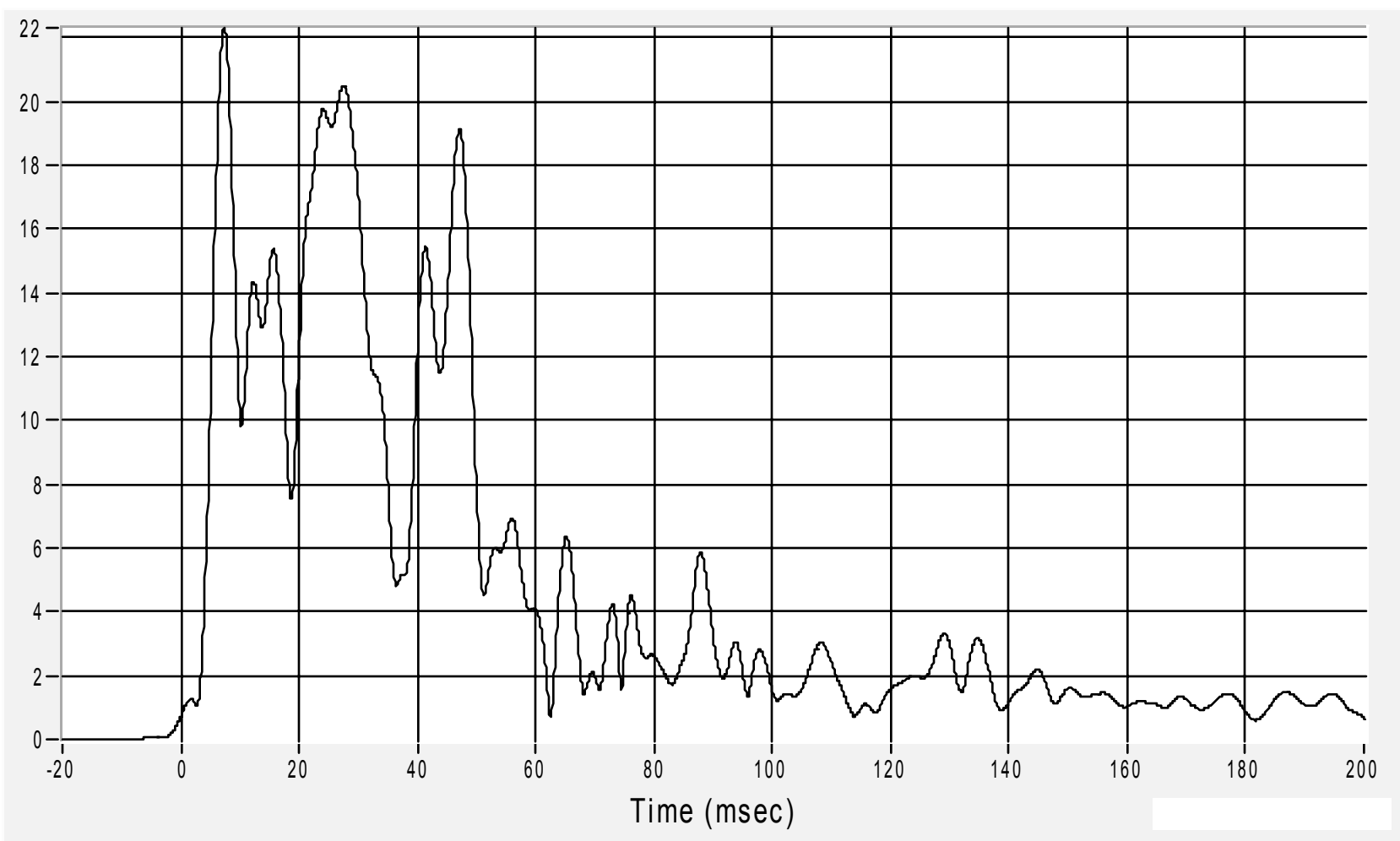
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Vehicle Center of Gravity Resultant Acceleration

Acceleration (G's) CFC60

Max 22.3 G's at 7.4 msec

Min 0.6 G's at 181.6 msec



04SN04 - 2004 ACURA 3.5RL 4-DOOR SEDAN

13 January 2004

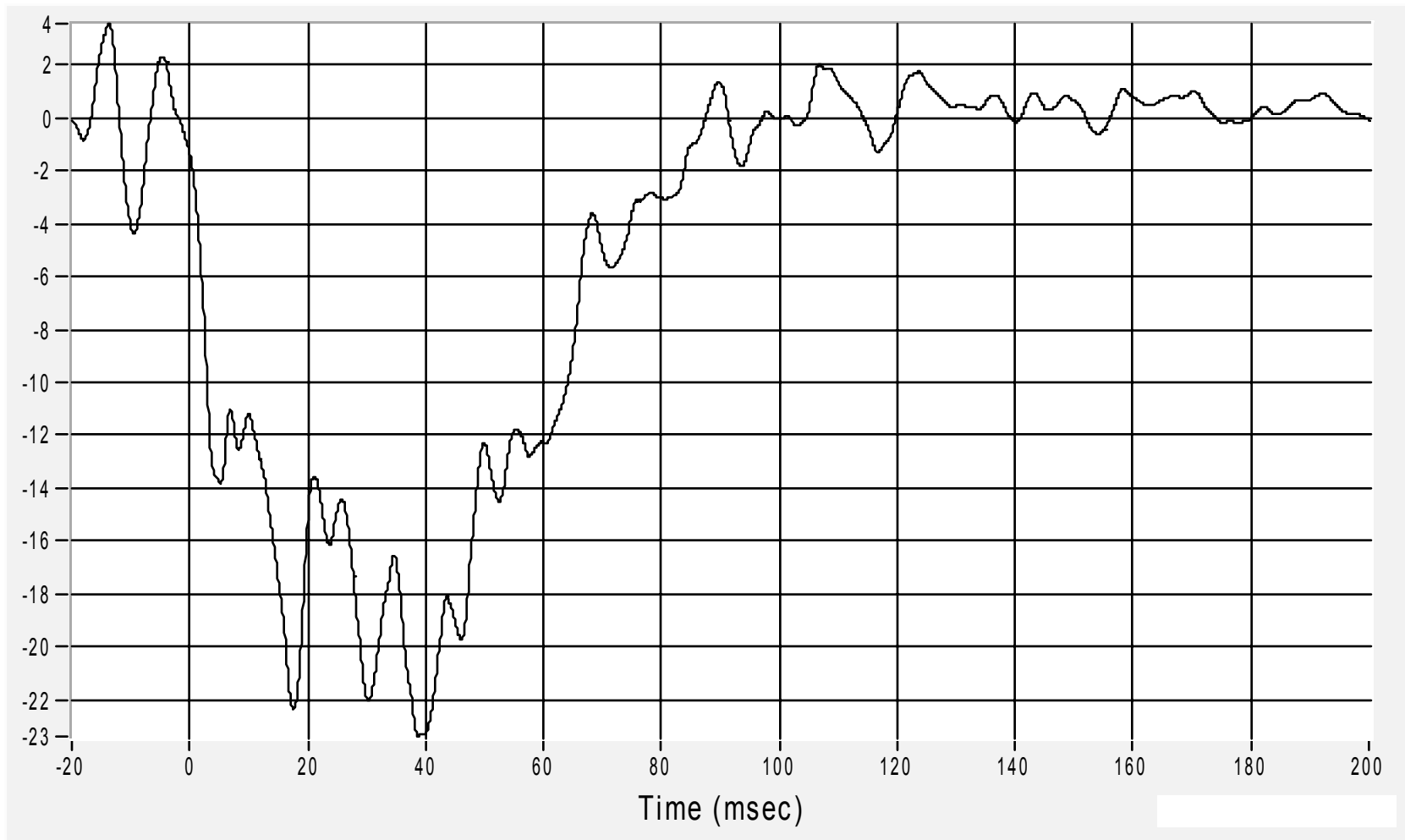
Medical College of Wisconsin
Vehicle Crashworthiness Lab

MDB Center of Gravity (X) Acceleration

Acceleration (G's) CFC60

Max 2.0 G at 106.8 msec

Min -23.4 G at 38.7 msec



04SN04 - 2004 ACURA 3.5RL 4-DOOR SEDAN

13 January 2004

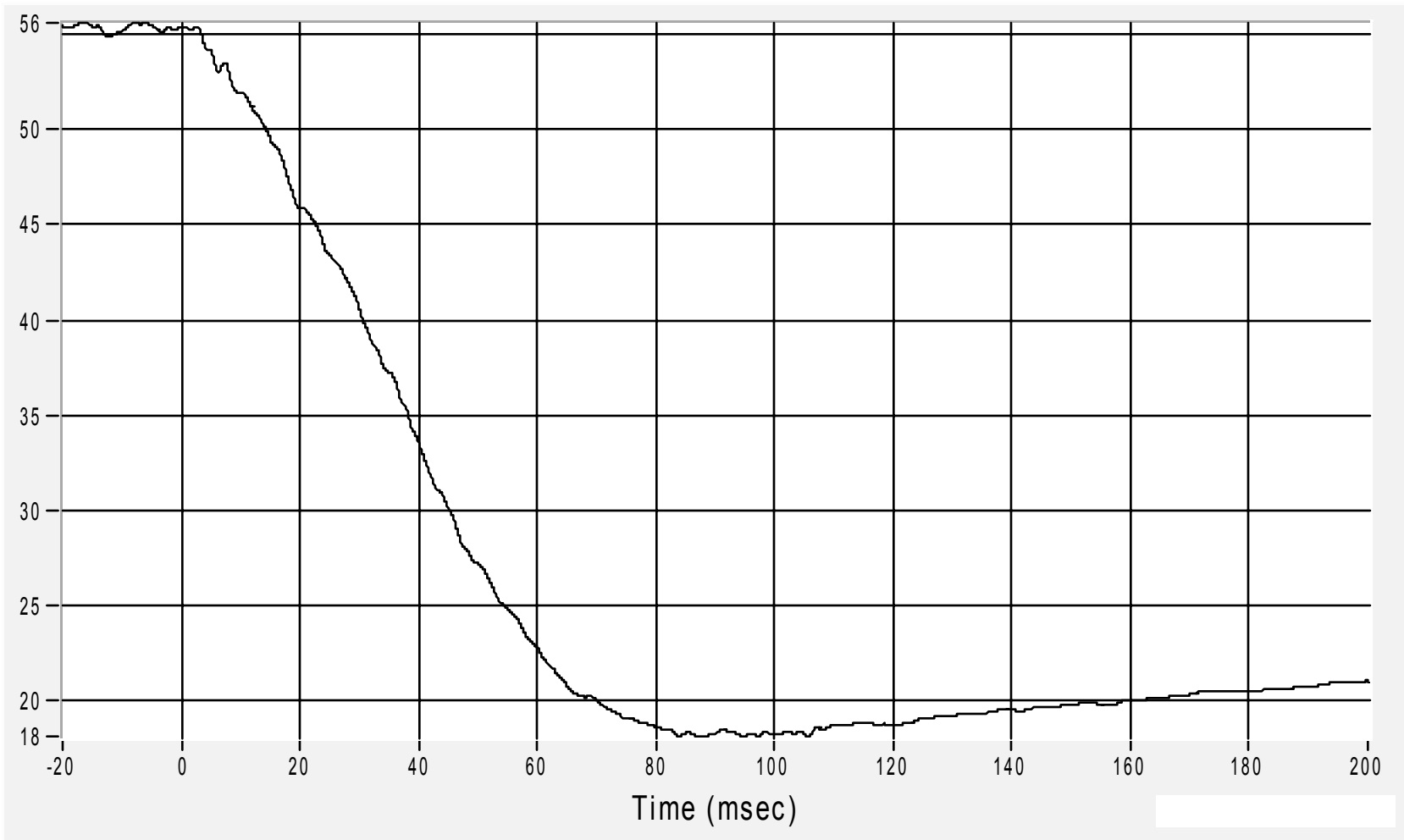
Medical College of Wisconsin
Vehicle Crashworthiness Lab

MDB Center of Gravity (X) Velocity

Velocity (km/h) CFC180

Max 55.4 km/h at 2.6 msec

Min 18.1 km/h at 94.8 msec



04SN04 - 2004 ACURA 3.5RL 4-DOOR SEDAN

13 January 2004

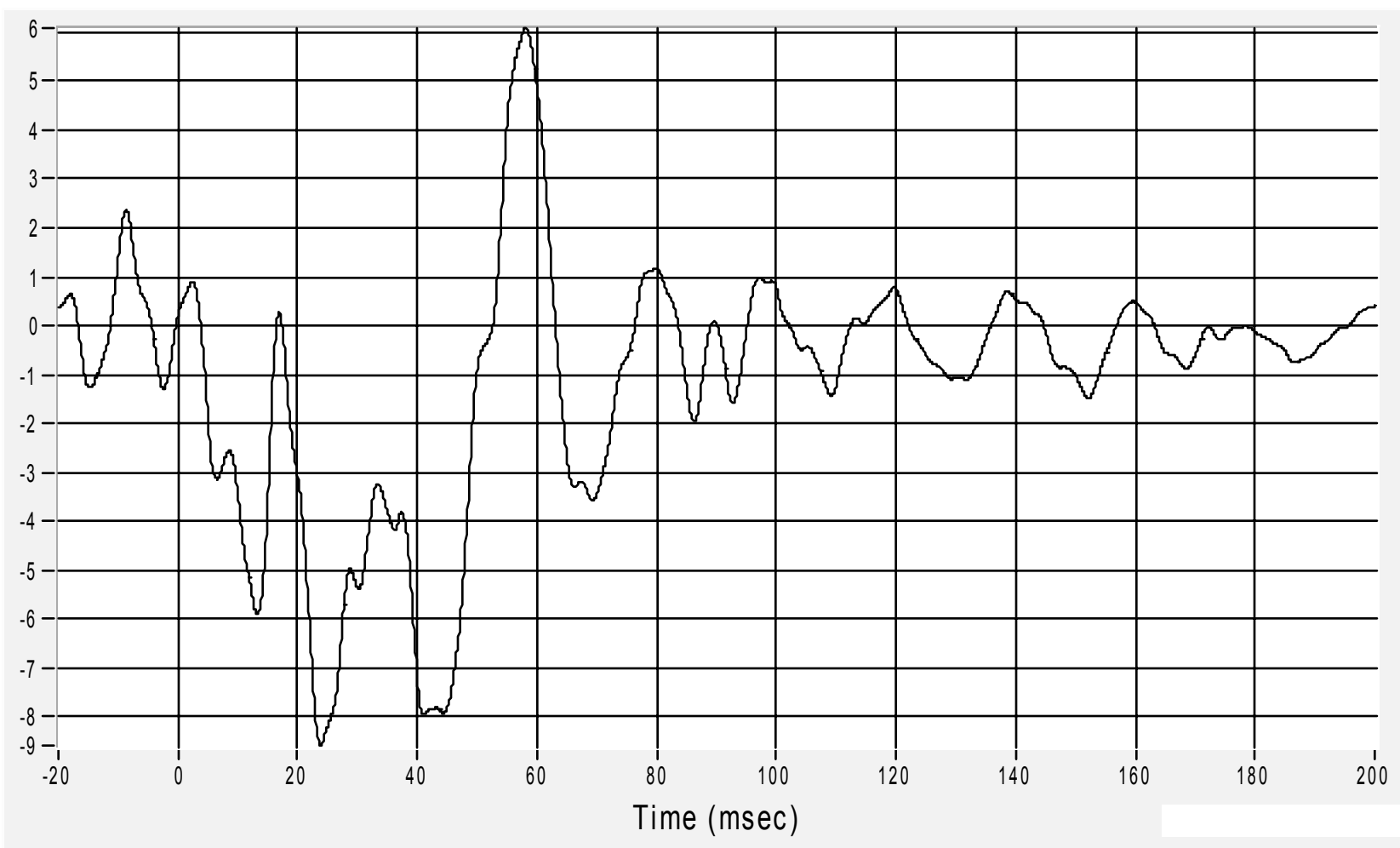
Medical College of Wisconsin
Vehicle Crashworthiness Lab

MDB Center of Gravity (Y) Acceleration

Acceleration (G's) CFC60

Max 6.1 G at 58.1 msec

Min -8.6 G at 23.8 msec



04SN04 - 2004 ACURA 3.5RL 4-DOOR SEDAN

13 January 2004

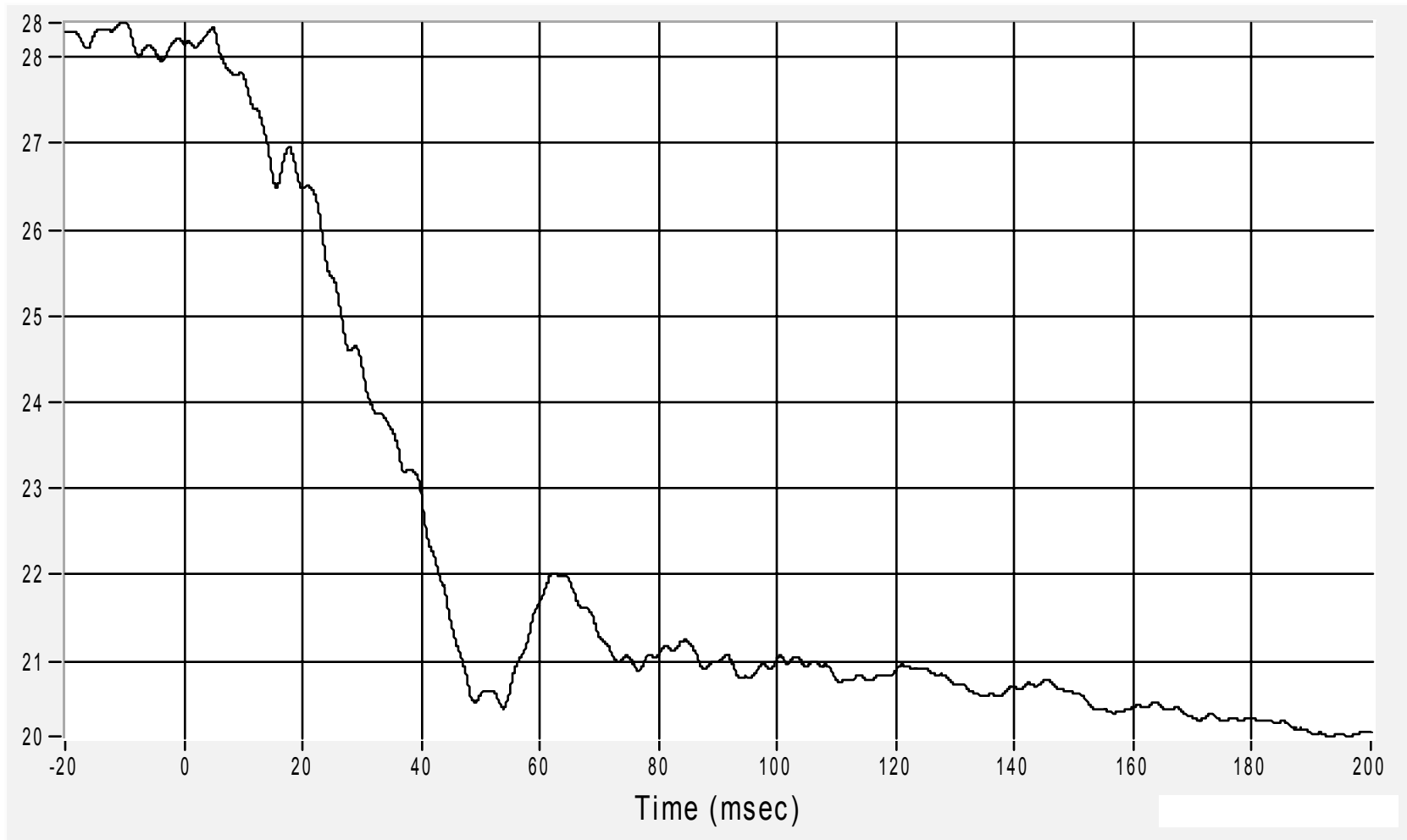
Medical College of Wisconsin
Vehicle Crashworthiness Lab

MDB Center of Gravity (Y) Velocity

Velocity (km/h) CFC180

Max 28.3 km/h at 4.8 msec

Min 20.1 km/h at 193.1 msec



04SN04 - 2004 ACURA 3.5RL 4-DOOR SEDAN

13 January 2004

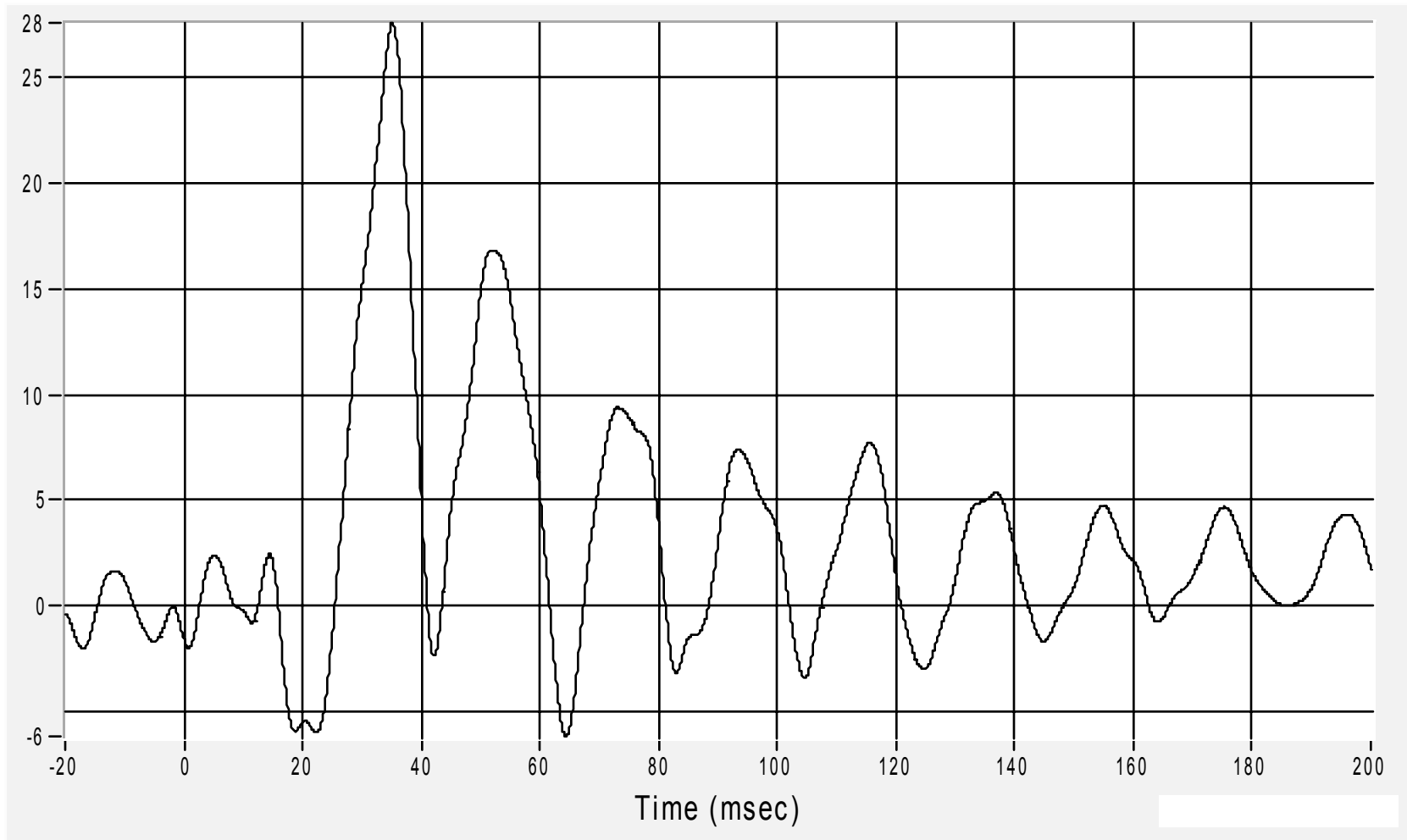
Medical College of Wisconsin
Vehicle Crashworthiness Lab

MDB Center of Gravity (Z) Acceleration

Acceleration (G's) CFC60

Max 27.6 G at 35.1 msec

Min -6.2 G at 64.4 msec



04SN04 - 2004 ACURA 3.5RL 4-DOOR SEDAN

13 January 2004

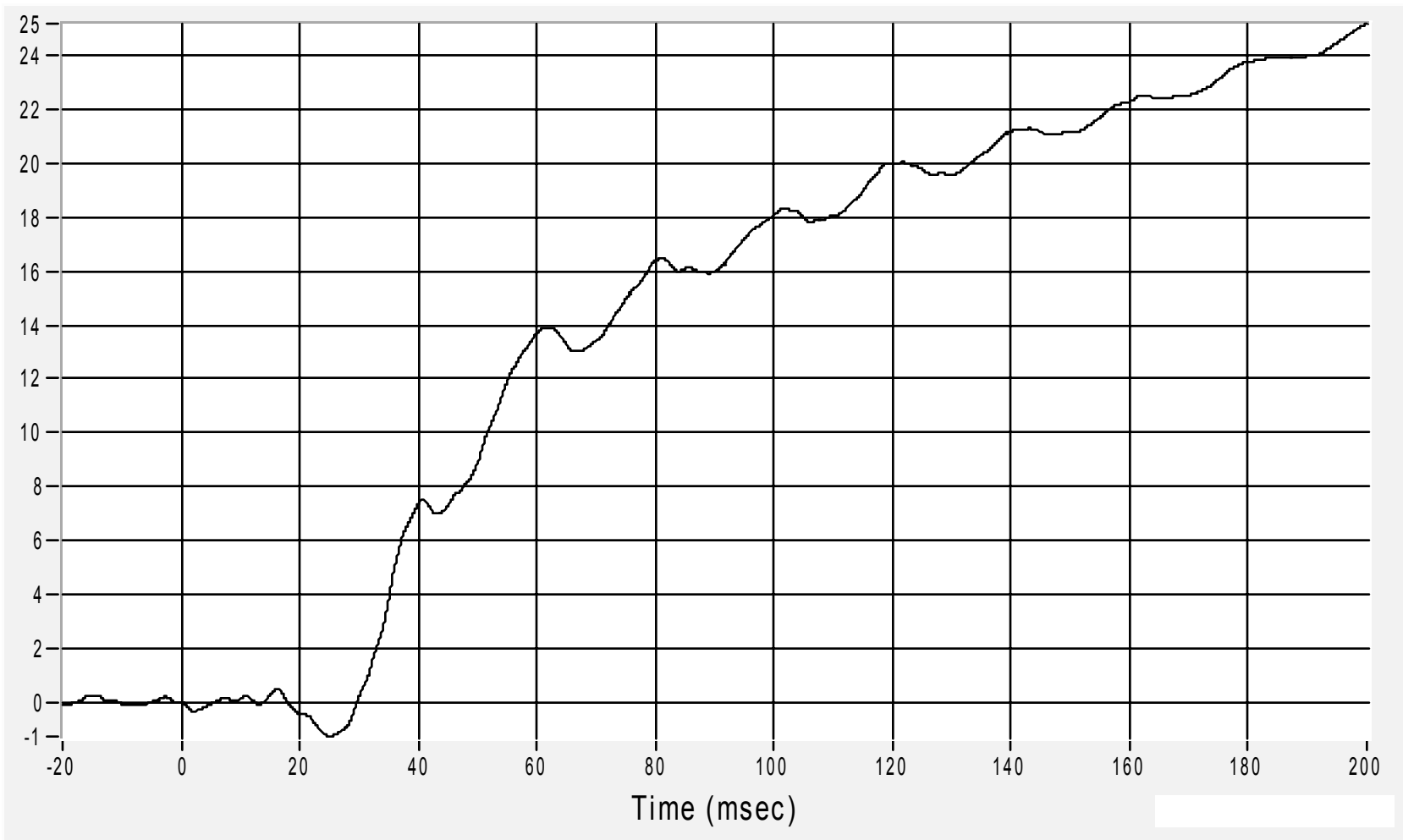
Medical College of Wisconsin
Vehicle Crashworthiness Lab

MDB Center of Gravity (Z) Velocity

Velocity (km/h) CFC180

Max 25.2 km/h at 199.9 msec

Min -1.3 km/h at 25.2 msec



04SN04 - 2004 ACURA 3.5RL 4-DOOR SEDAN

13 January 2004

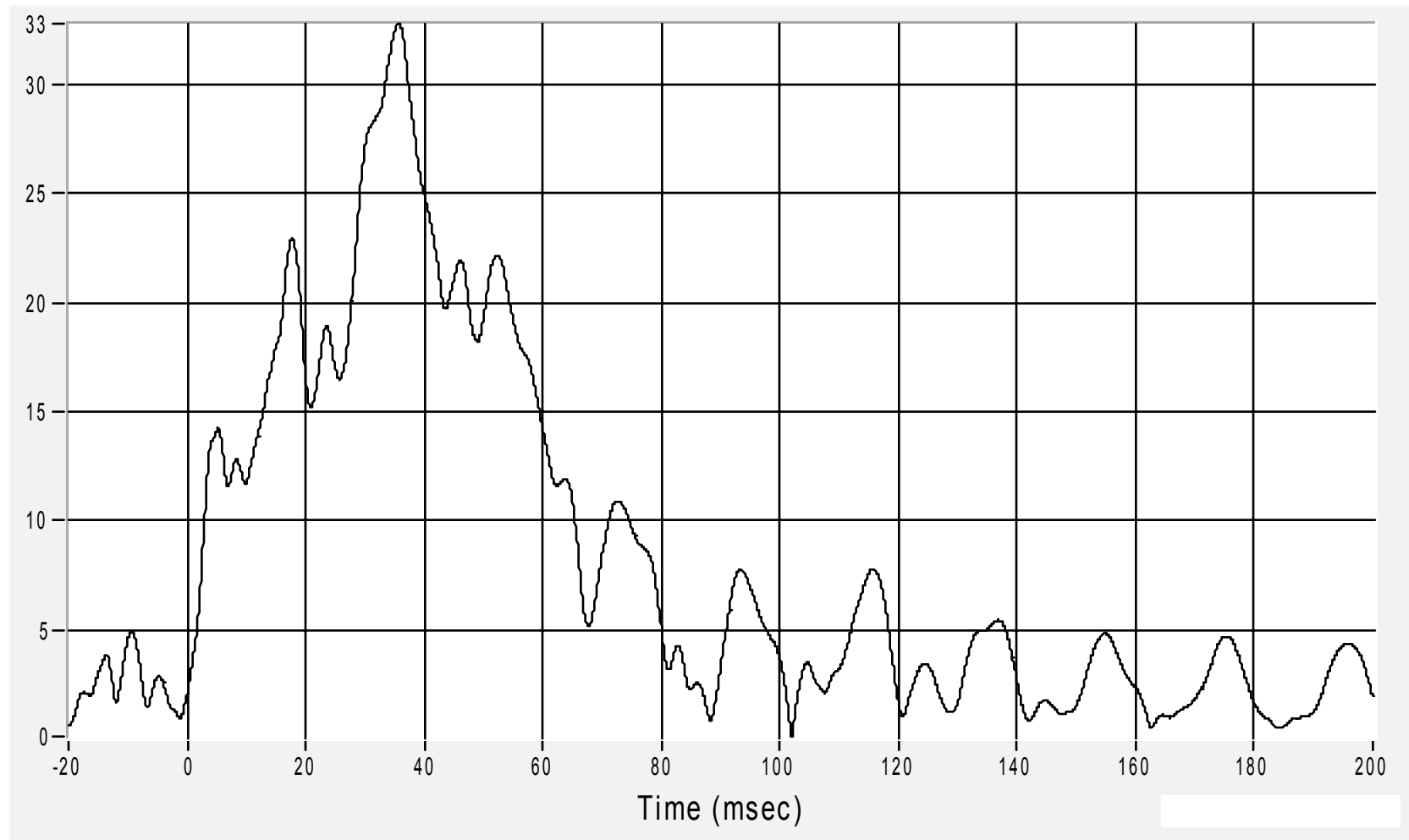
Medical College of Wisconsin
Vehicle Crashworthiness Lab

MDB Center of Gravity Resultant Acceleration

Acceleration (G's) CFC60

Max 32.8 G's at 35.6 msec

Min 0.1 G's at 102.0 msec



04SN04 - 2004 ACURA 3.5RL 4-DOOR SEDAN

13 January 2004

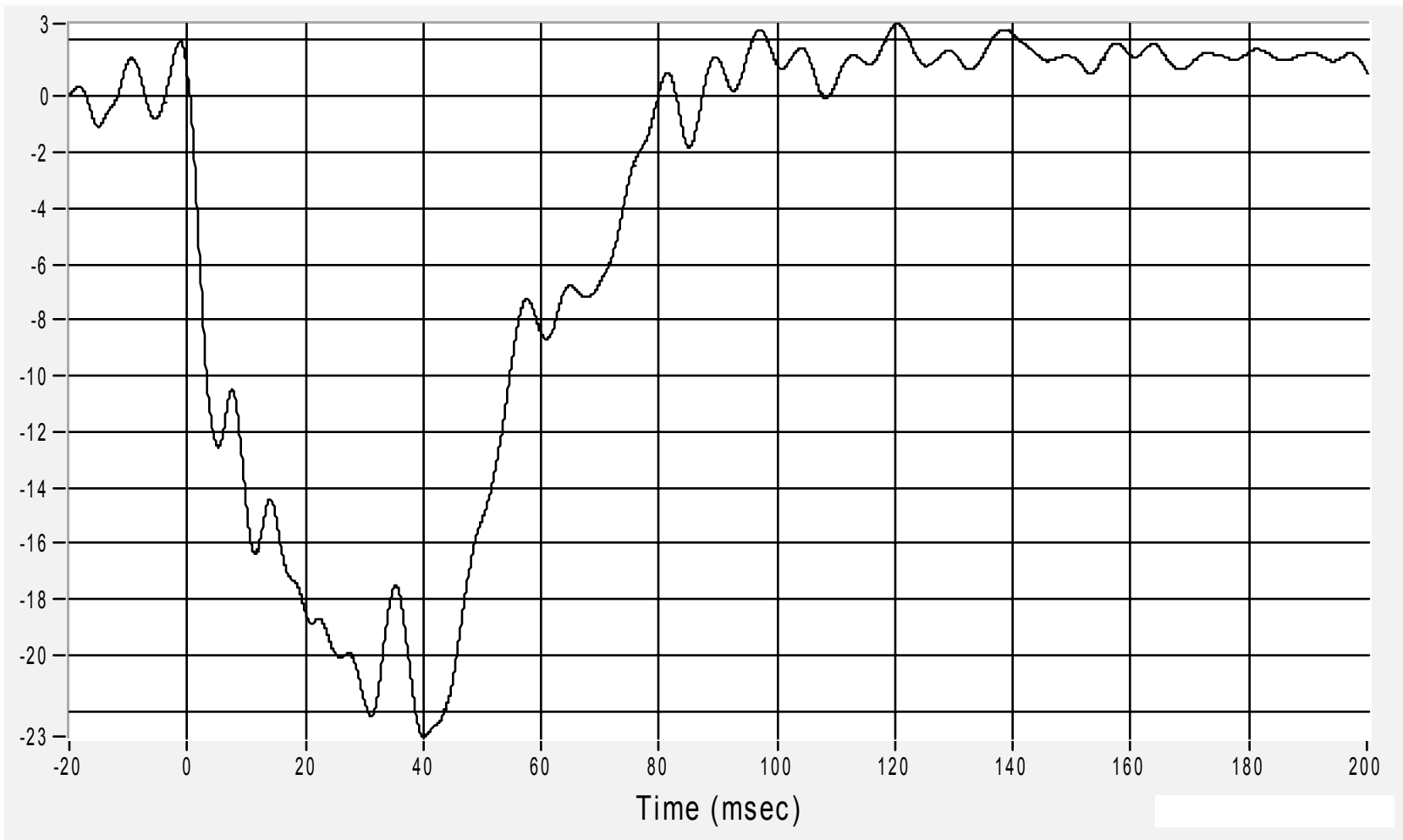
Medical College of Wisconsin
Vehicle Crashworthiness Lab

MDB Rear (X) Acceleration

Acceleration (G's) CFC60

Max 2.6 G at 120.4 msec

Min -22.9 G at 40.0 msec



04SN04 - 2004 ACURA 3.5RL 4-DOOR SEDAN

13 January 2004

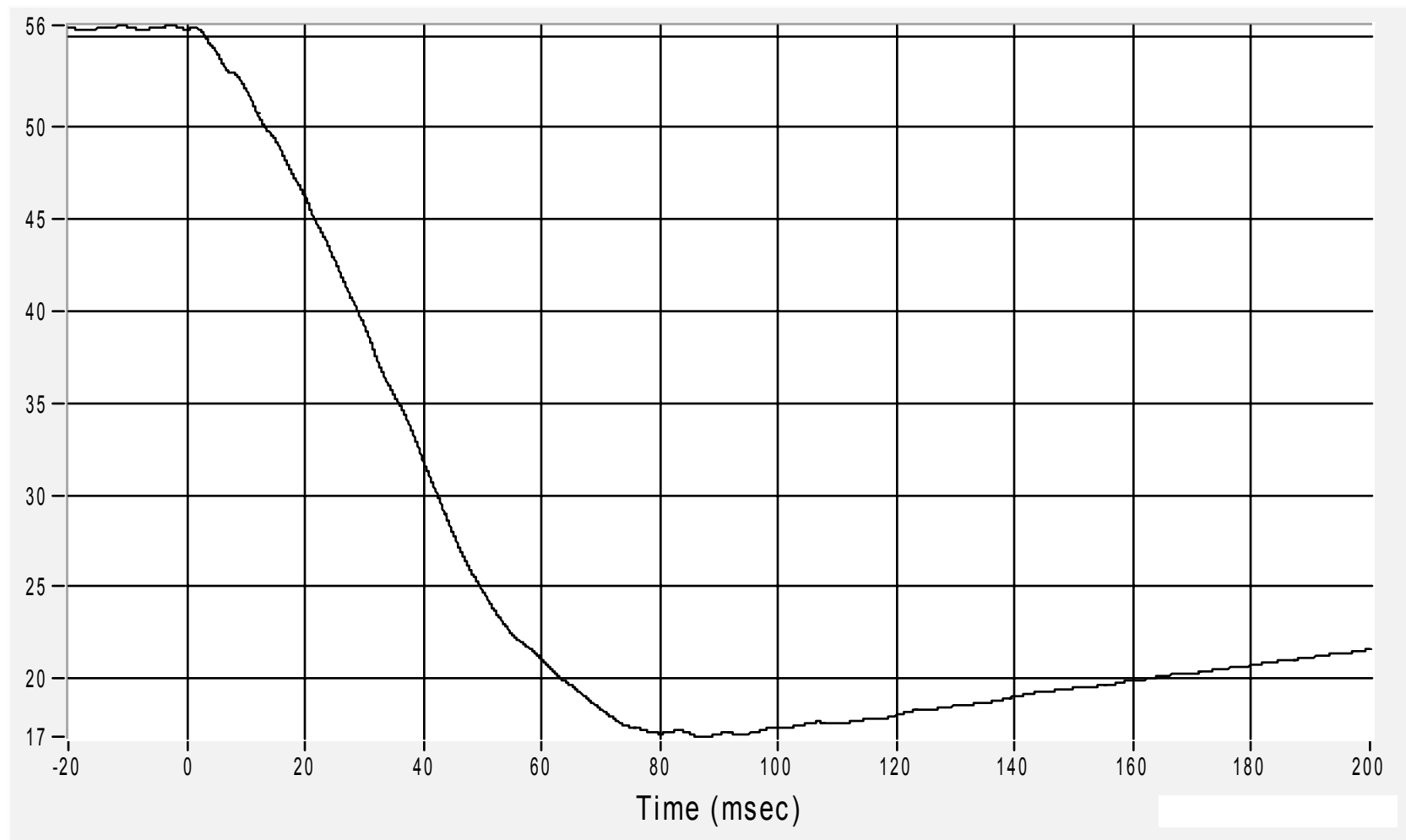
Medical College of Wisconsin
Vehicle Crashworthiness Lab

MDB Rear (X) Velocity

Velocity (km/h) CFC180

Max 55.4 km/h at 1.4 msec

Min 16.8 km/h at 87.0 msec



04SN04 - 2004 ACURA 3.5RL 4-DOOR SEDAN

13 January 2004

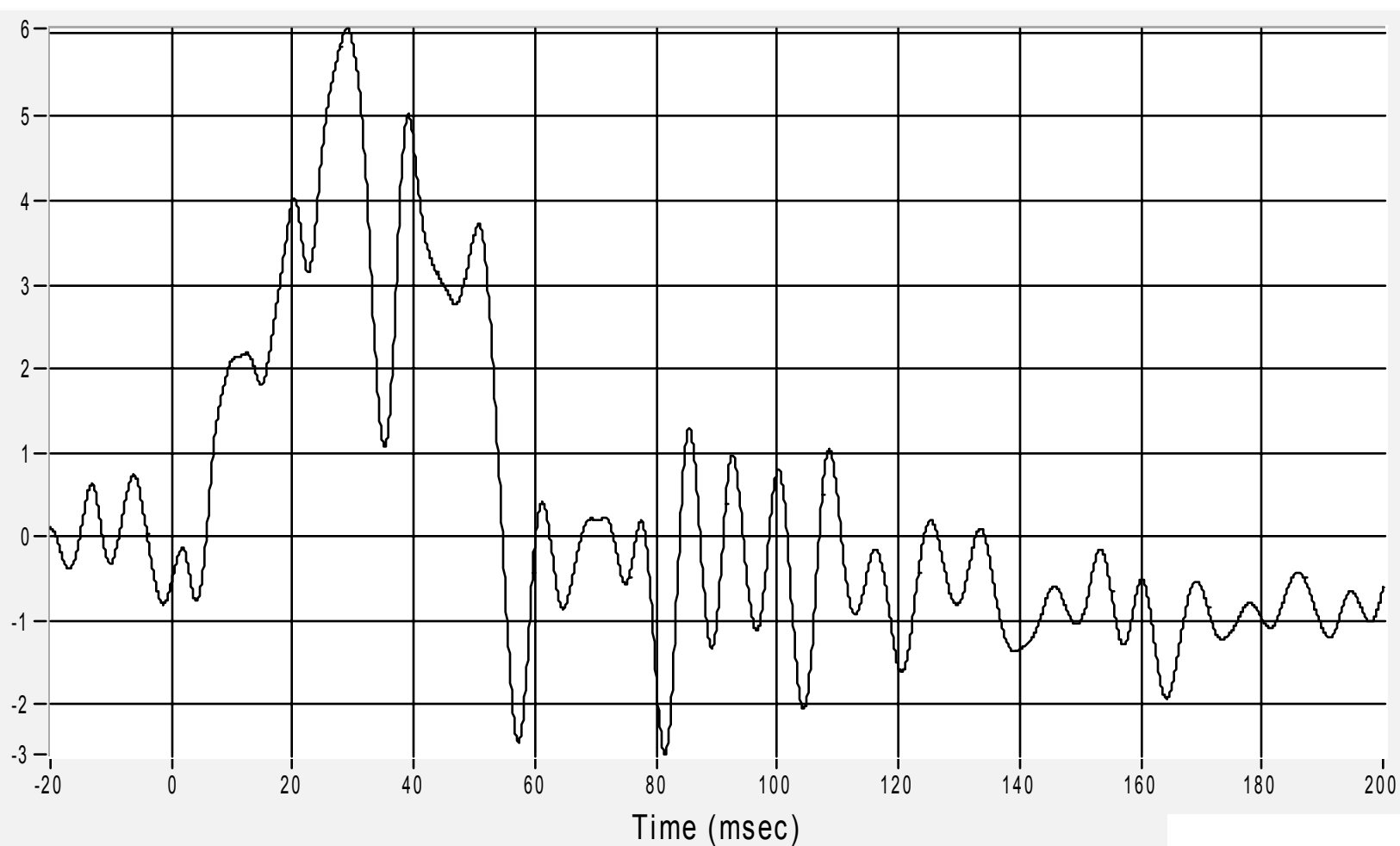
Medical College of Wisconsin
Vehicle Crashworthiness Lab

MDB Rear (Y) Acceleration

Acceleration (G's) CFC60

Max 6.1 G at 29.0 msec

Min -2.6 G at 81.4 msec



04SN04 - 2004 ACURA 3.5RL 4-DOOR SEDAN

13 January 2004

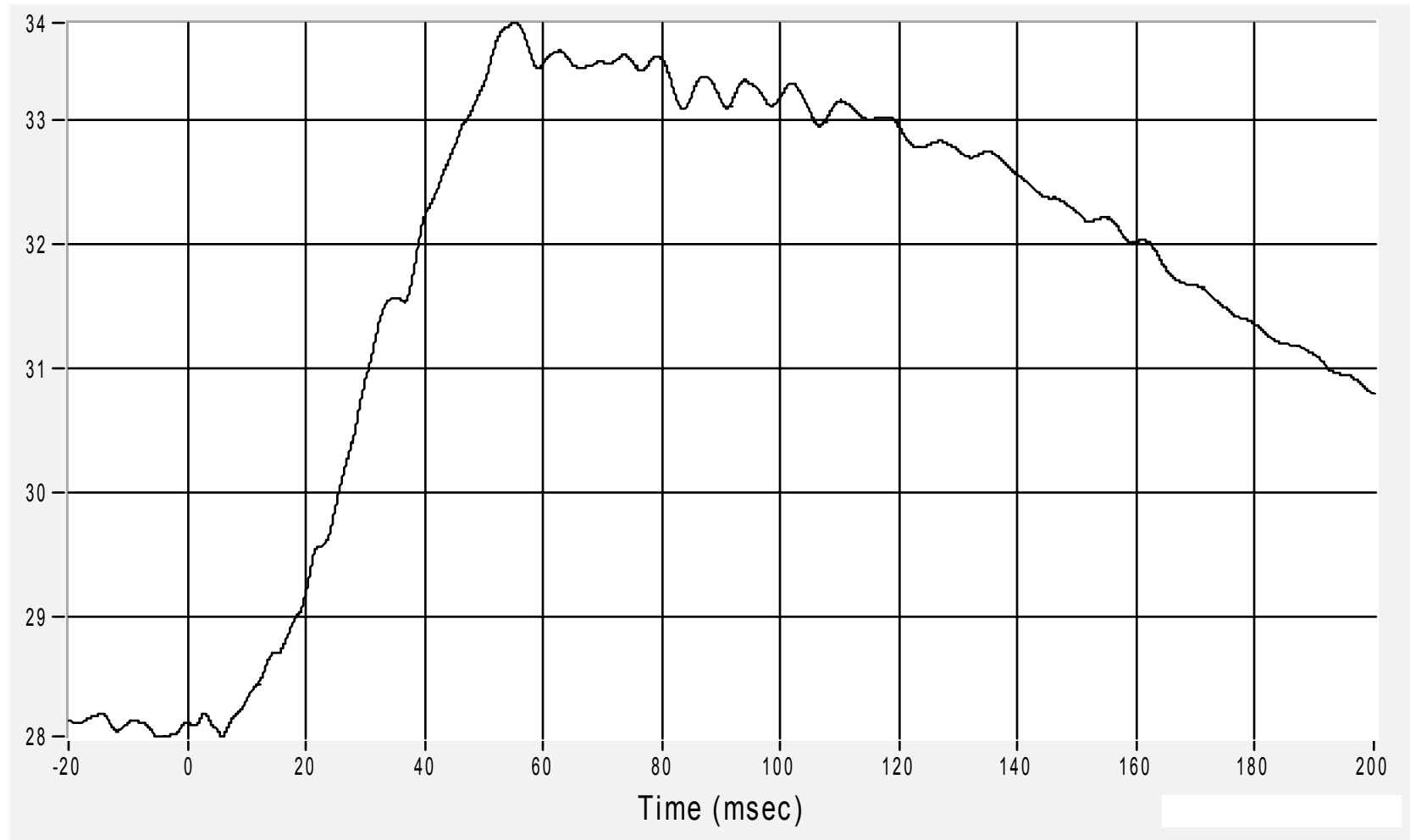
Medical College of Wisconsin
Vehicle Crashworthiness Lab

MDB Rear (Y) Velocity

Velocity (km/h) CFC180

Max 33.8 km/h at 55.2 msec

Min 28.0 km/h at 5.9 msec



04SN04 - 2004 ACURA 3.5RL 4-DOOR SEDAN

13 January 2004

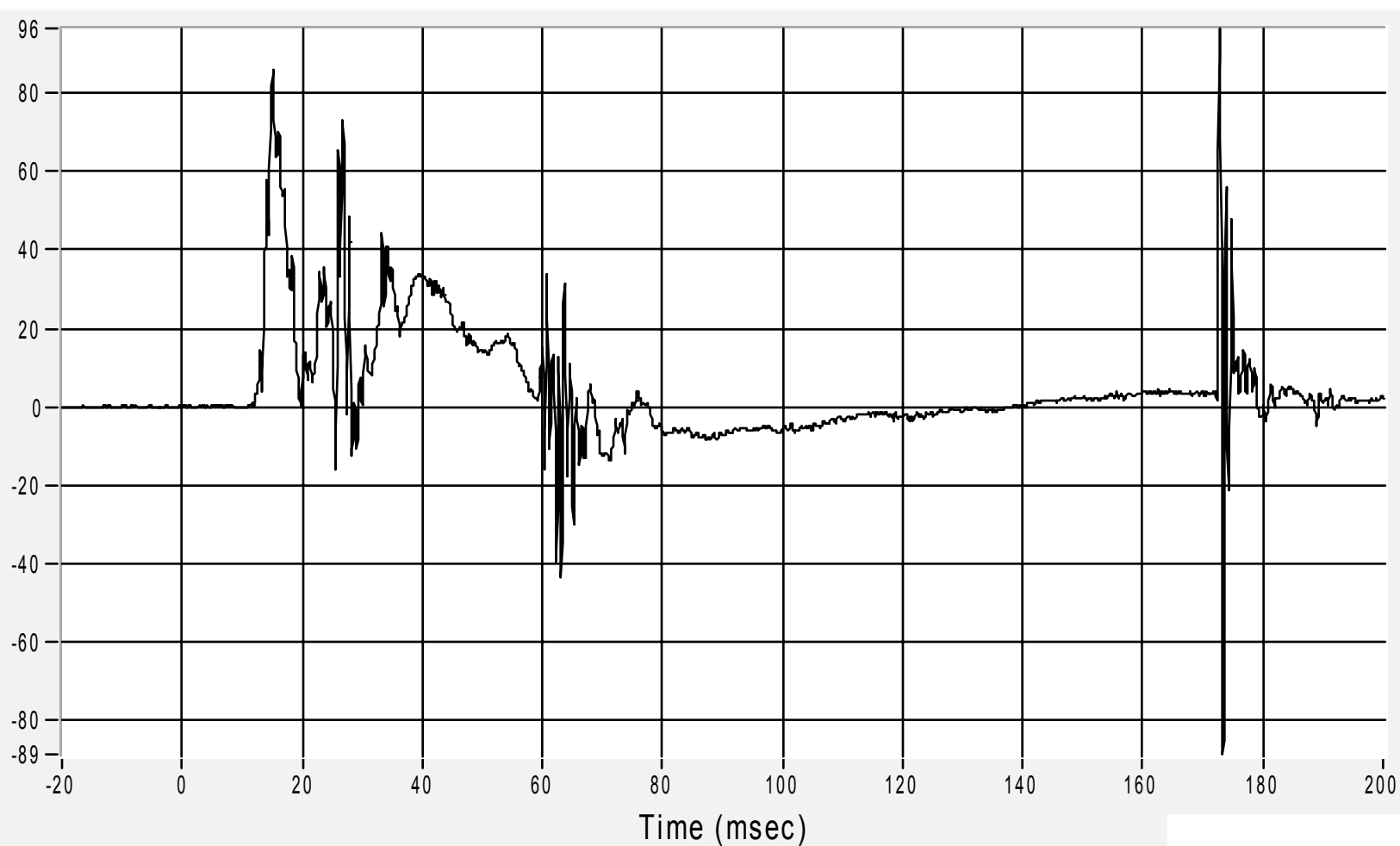
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Driver Upper Rib (Y) - Redundant Acceleration

Acceleration (G's) CFC1000

Max 96.4 G at 172.8 msec

Min -88.5 G at 173.4 msec



04SN04 - 2004 ACURA 3.5RL 4-DOOR SEDAN

13 January 2004

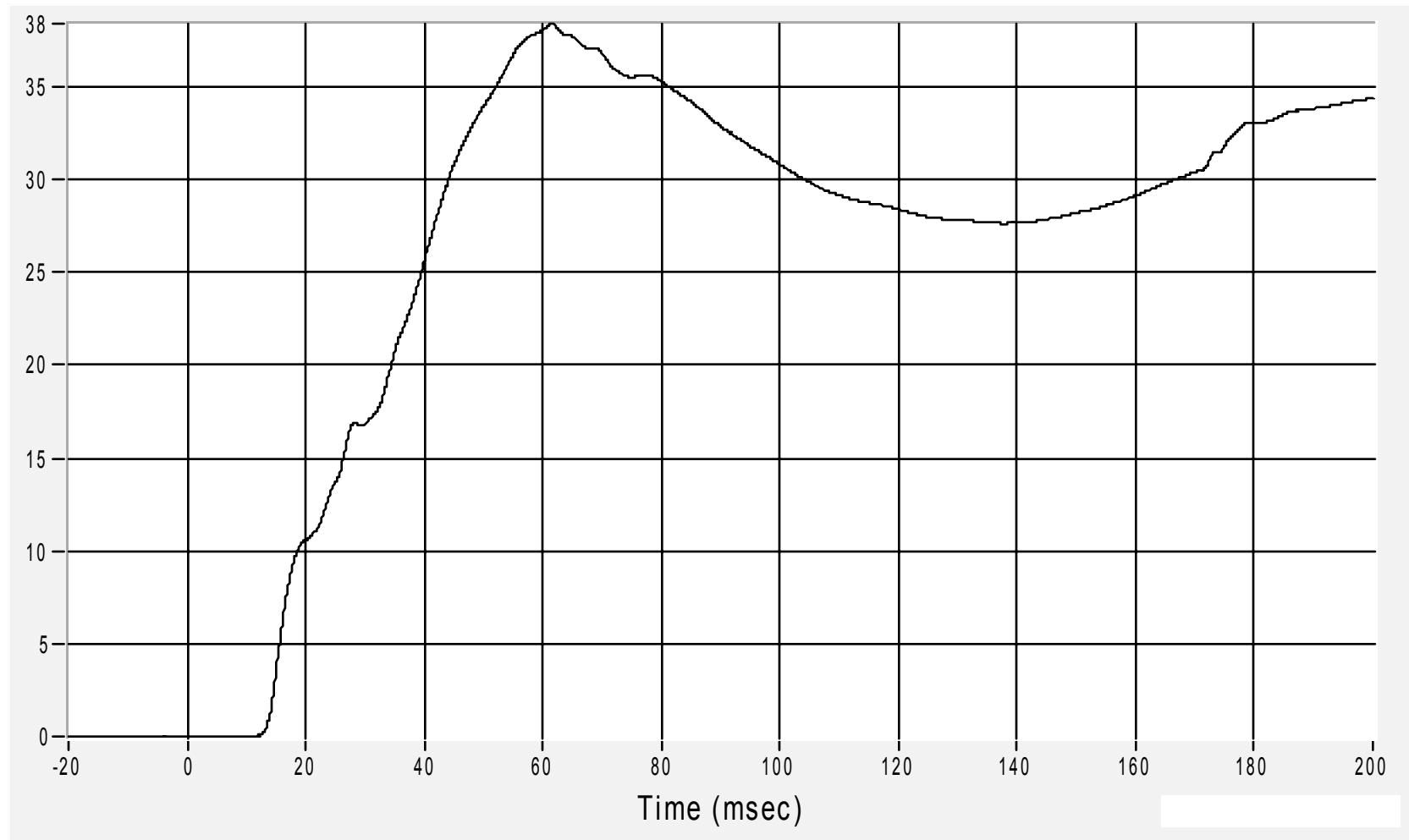
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Driver Upper Rib (Y) Velocity - Redundant

Velocity (km/h) CFC180

Max 38.4 km/h at 61.6 msec

Min 0.0 km/h at 0.0 msec



04SN04 - 2004 ACURA 3.5RL 4-DOOR SEDAN

13 January 2004

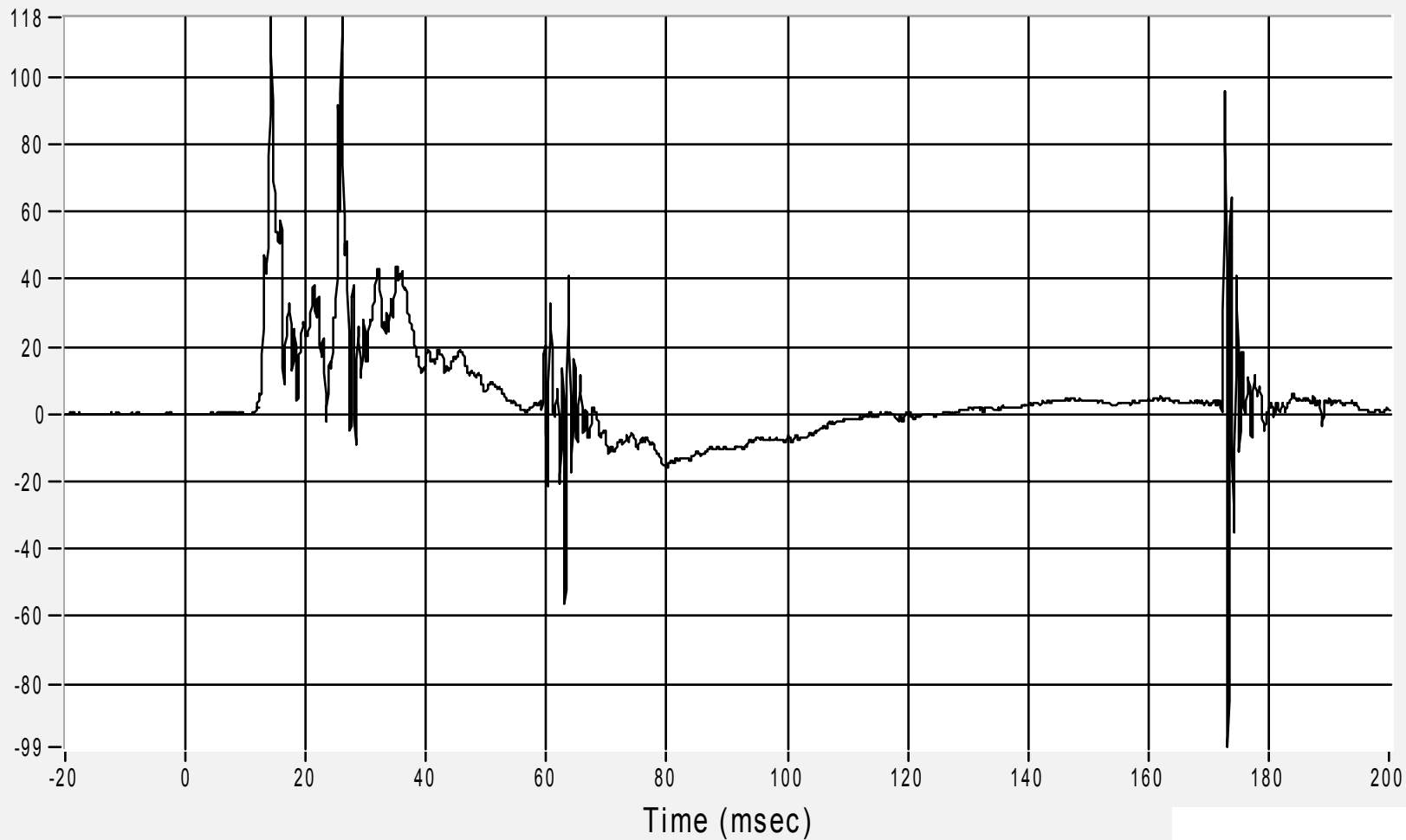
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Driver Lower Rib (Y) - Redundant Acceleration

Acceleration (G's) CFC1000

Max 117.7 G at 26.0 msec

Min -98.8 G at 173.3 msec



04SN04 - 2004 ACURA 3.5RL 4-DOOR SEDAN

13 January 2004

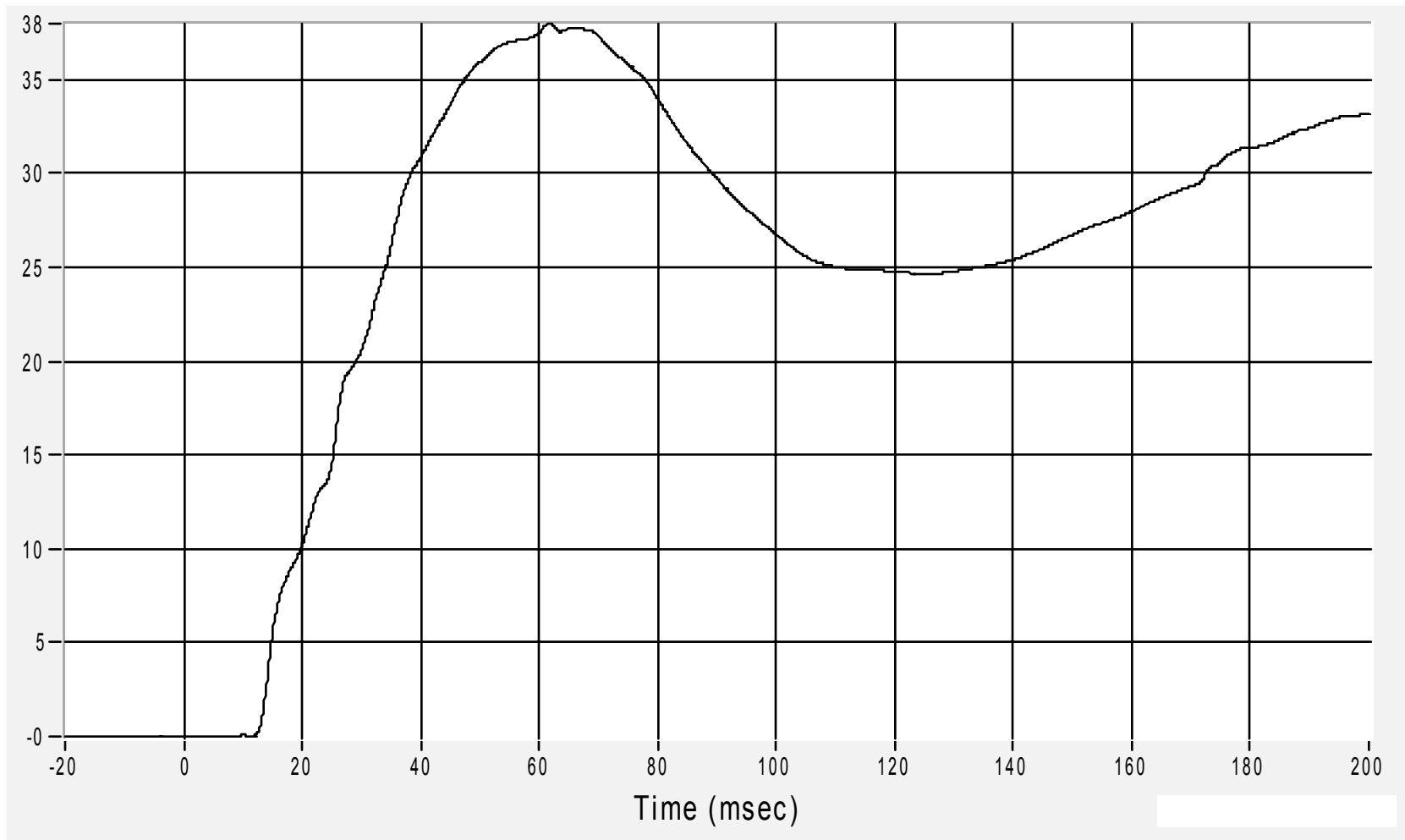
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Driver Lower Rib (Y) Velocity - Redundant

Velocity (km/h) CFC180

Max 38.0 km/h at 61.7 msec

Min 0.0 km/h at 3.9 msec



04SN04 - 2004 ACURA 3.5RL 4-DOOR SEDAN

13 January 2004

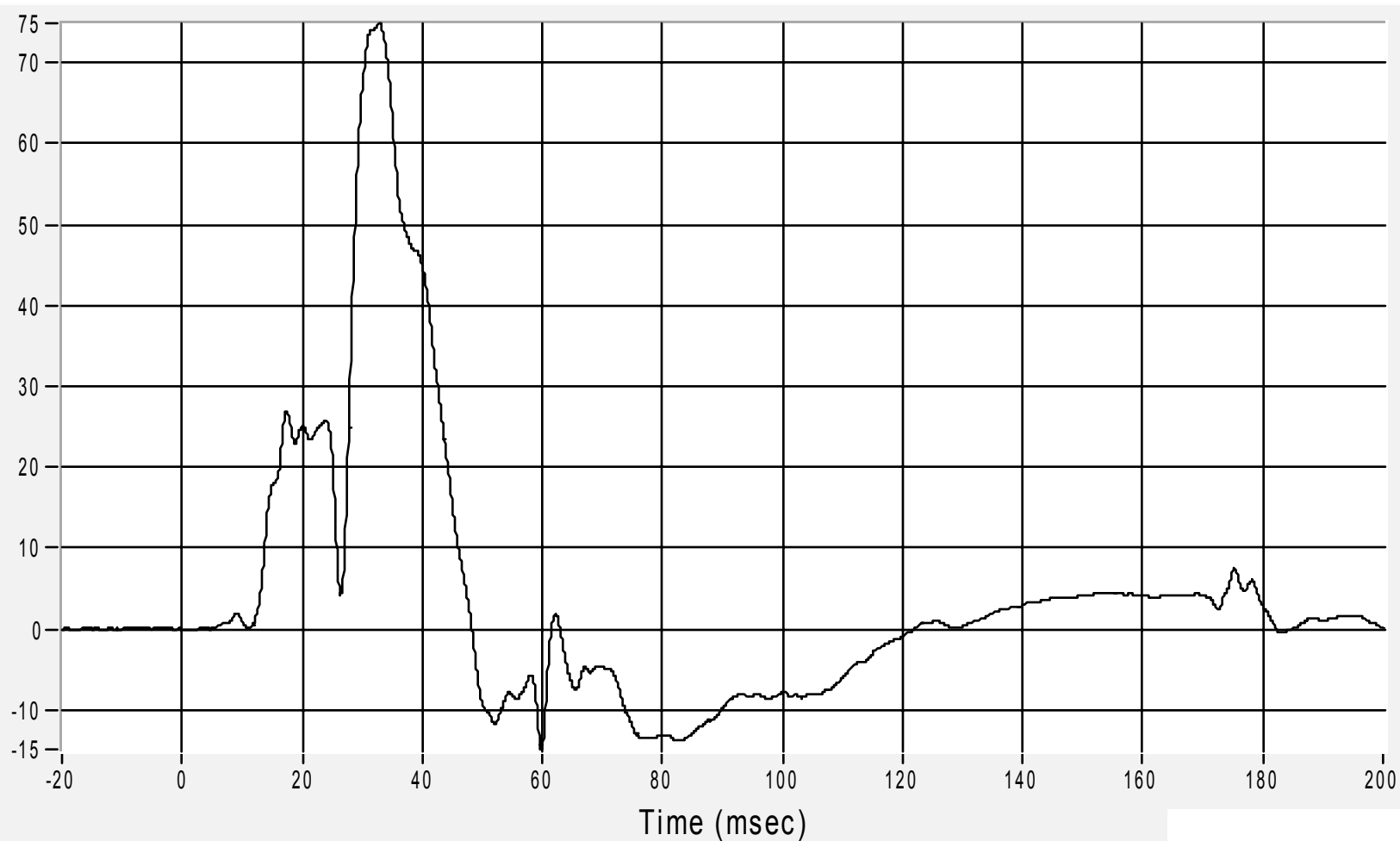
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Driver Lower Spine (Y) - Redundant Acceleration

Acceleration (G's) CFC180

Max 74.9 G at 32.9 msec

Min -14.9 G at 59.8 msec



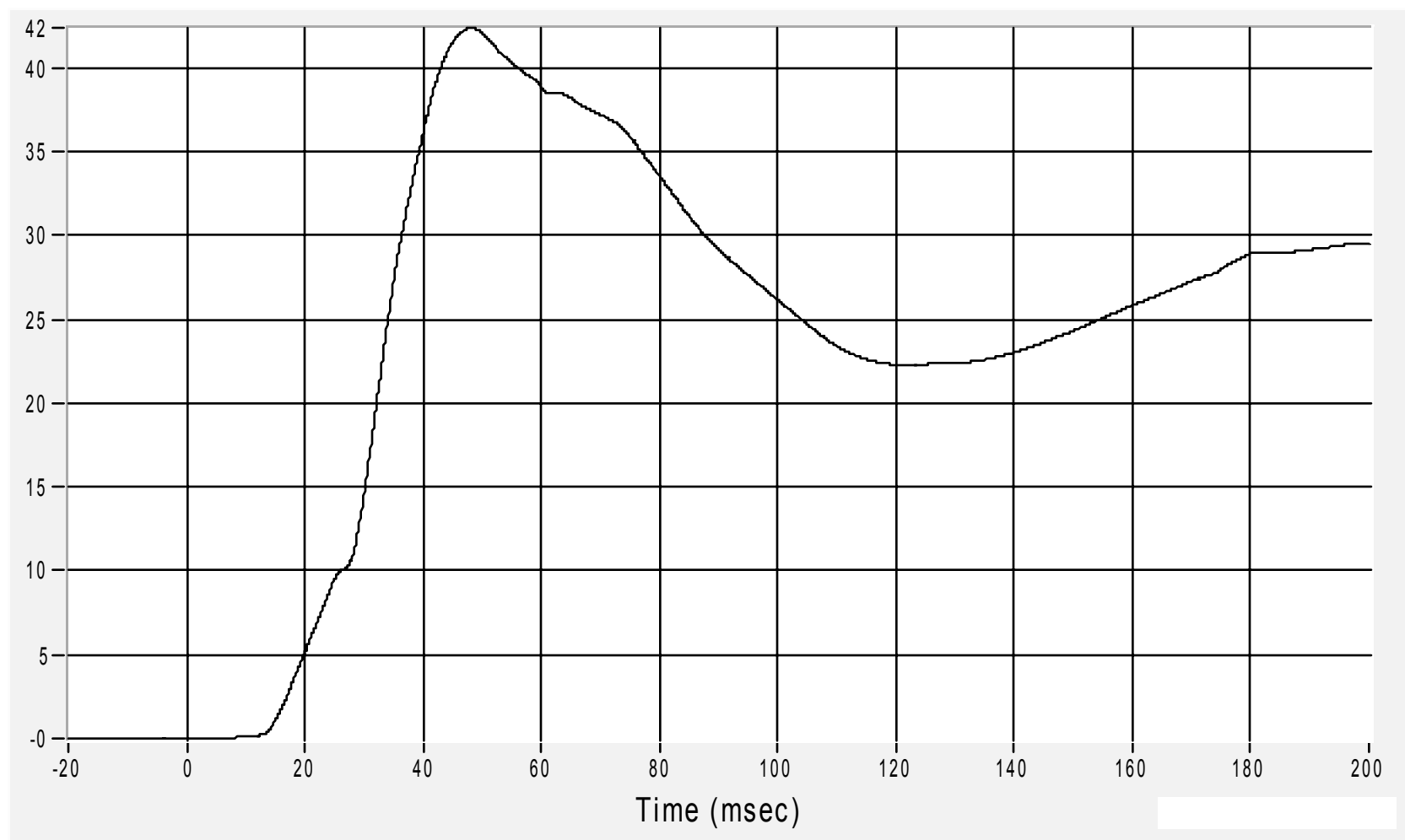
04SN04 - 2004 ACURA 3.5RL 4-DOOR SEDAN

13 January 2004

Medical College of Wisconsin
Vehicle Crashworthiness Lab

Driver Lower Spine (Y) Velocity - Redundant

Velocity (km/h) CFC180

Max 42.4 km/h at 48.2 msec**Min 0.0 km/h at 2.7 msec**

04SN04 - 2004 ACURA 3.5RL 4-DOOR SEDAN

13 January 2004

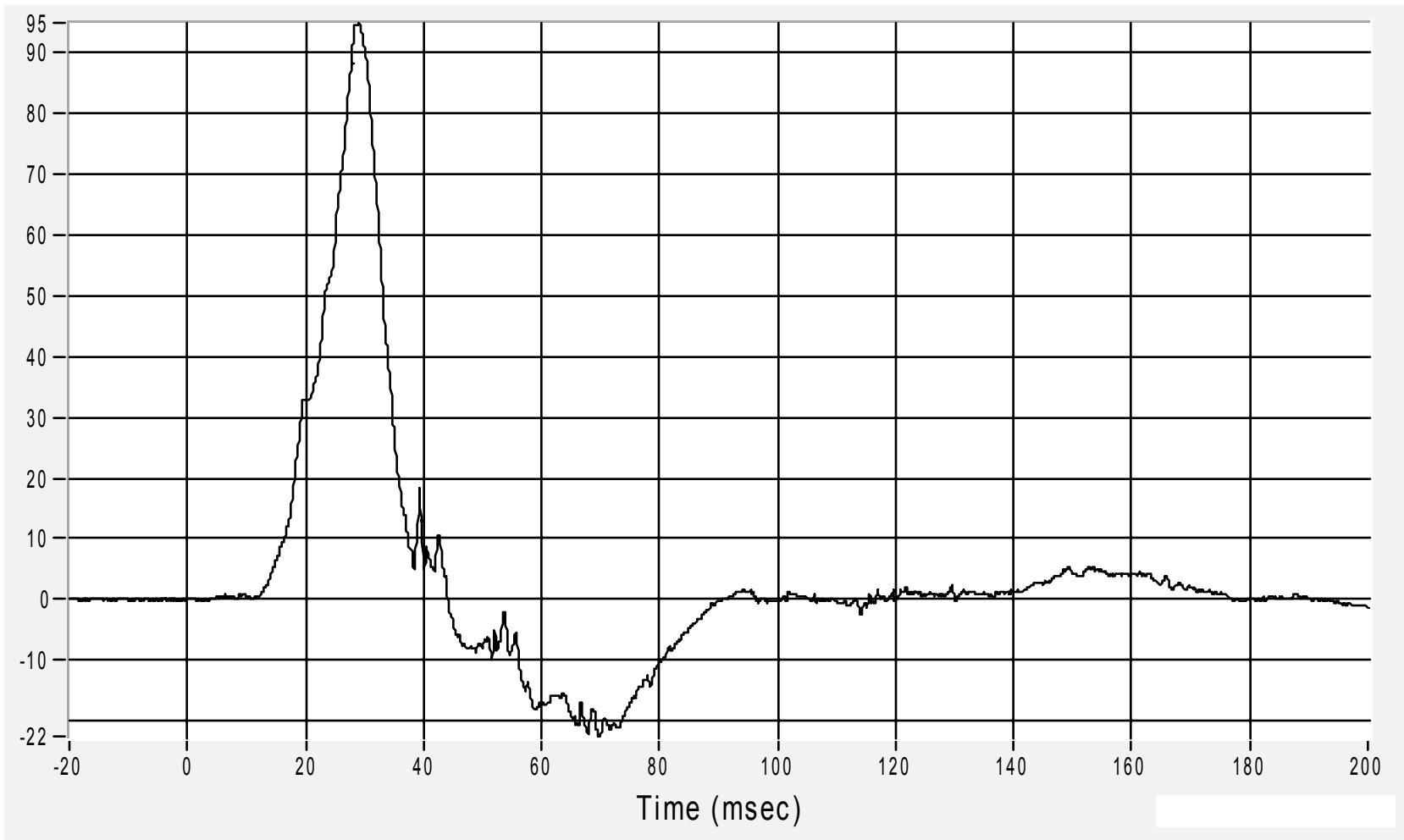
*Medical College of Wisconsin
Vehicle Crashworthiness Lab*

Driver Pelvic (Y) - Redundant Acceleration

Acceleration (G's) CFC1000

Max 94.8 G at 29.0 msec

Min -22.5 G at 69.7 msec



04SN04 - 2004 ACURA 3.5RL 4-DOOR SEDAN

13 January 2004

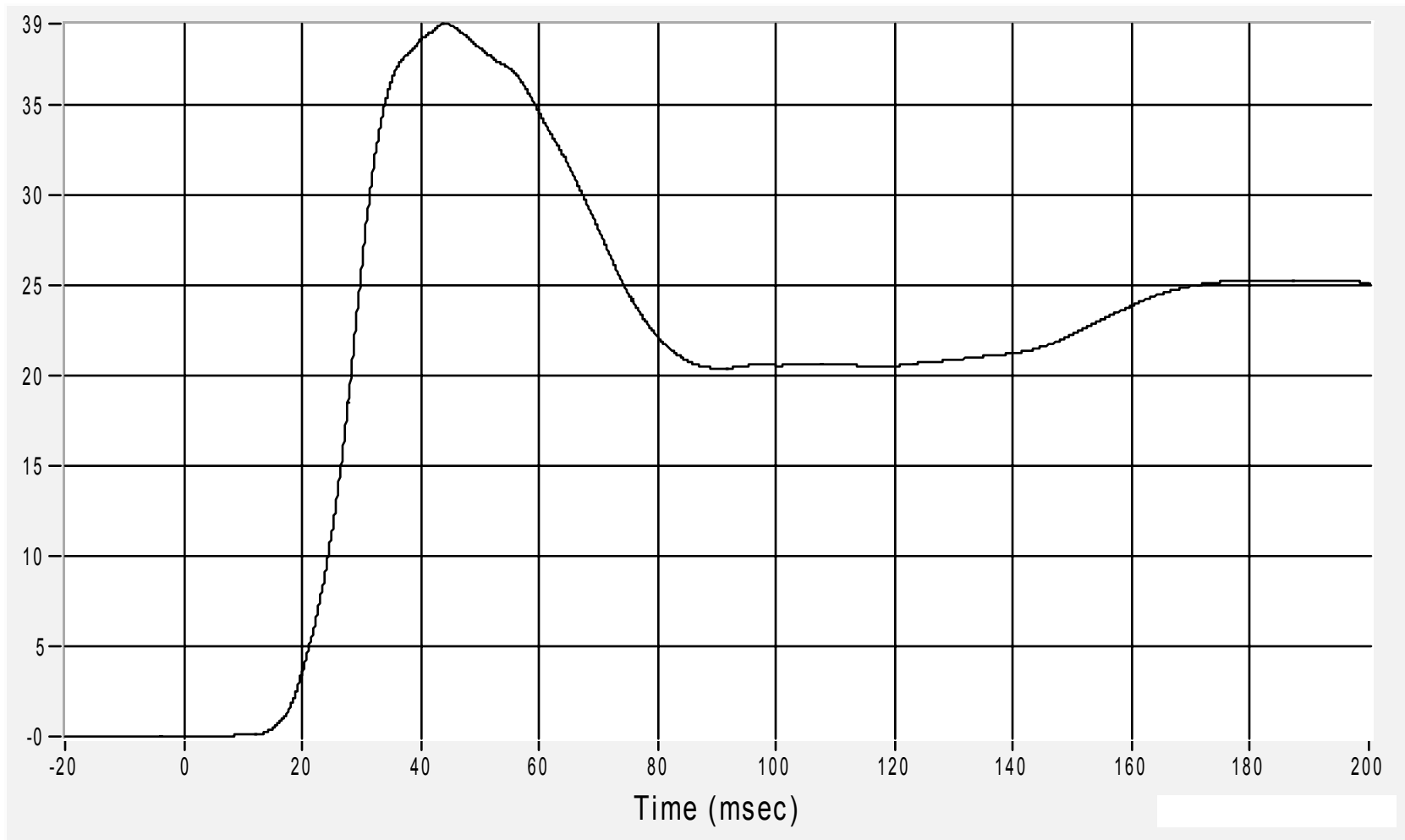
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Driver Pelvic (Y) Velocity - Redundant

Velocity (km/h) CFC180

Max 39.4 km/h at 44.2 msec

Min 0.0 km/h at 3.8 msec



04SN04 - 2004 ACURA 3.5RL 4-DOOR SEDAN

13 January 2004

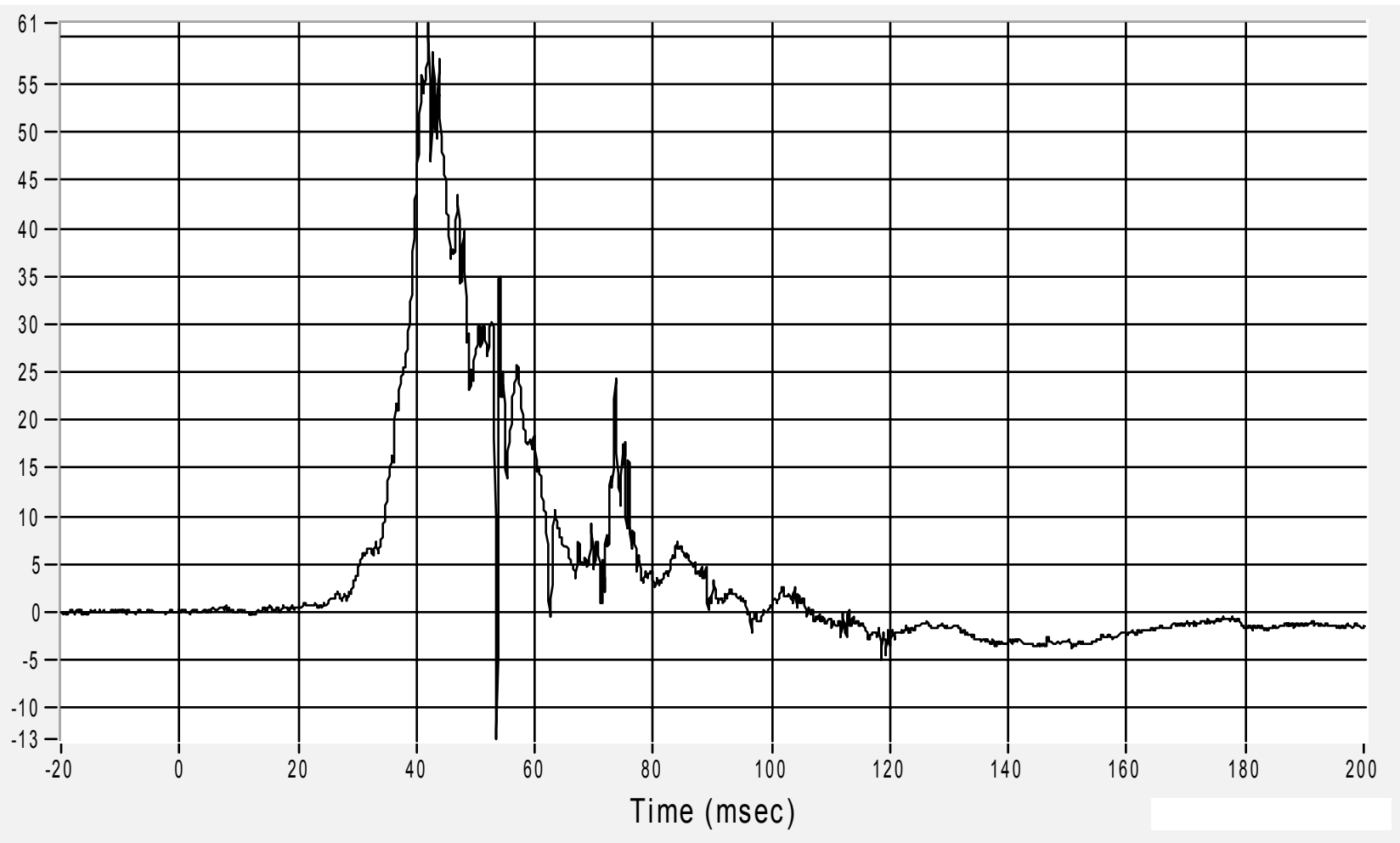
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Passenger Upper Rib (Y) - Redundant Acceleration

Acceleration (G's) CFC1000

Max 61.4 G at 42.1 msec

Min -13.3 G at 53.5 msec



04SN04 - 2004 ACURA 3.5RL 4-DOOR SEDAN

13 January 2004

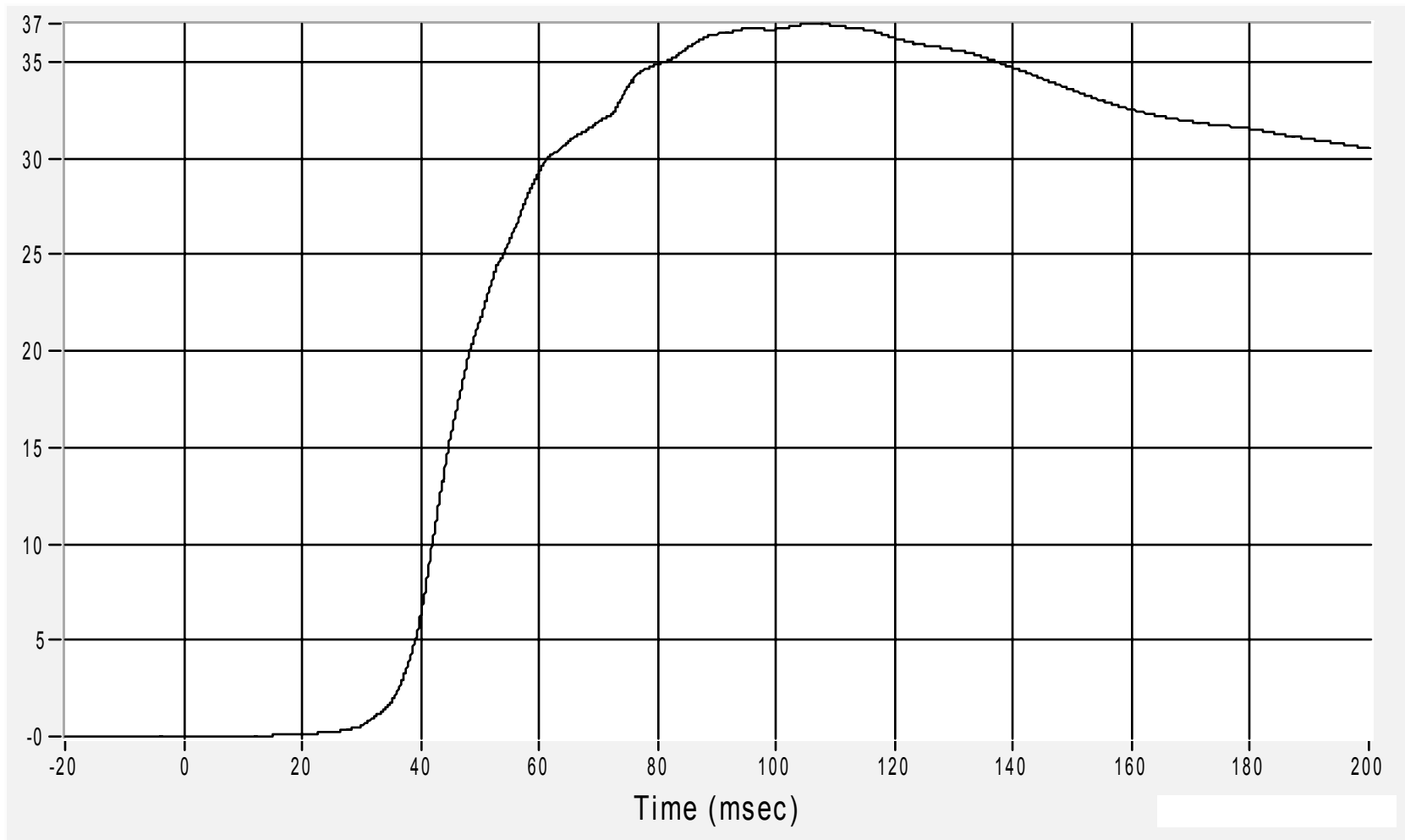
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Passenger Upper Rib (Y) Velocity - Redundant

Velocity (km/h) CFC180

Max 37.0 km/h at 106.2 msec

Min 0.0 km/h at 0.0 msec



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13 January 2004

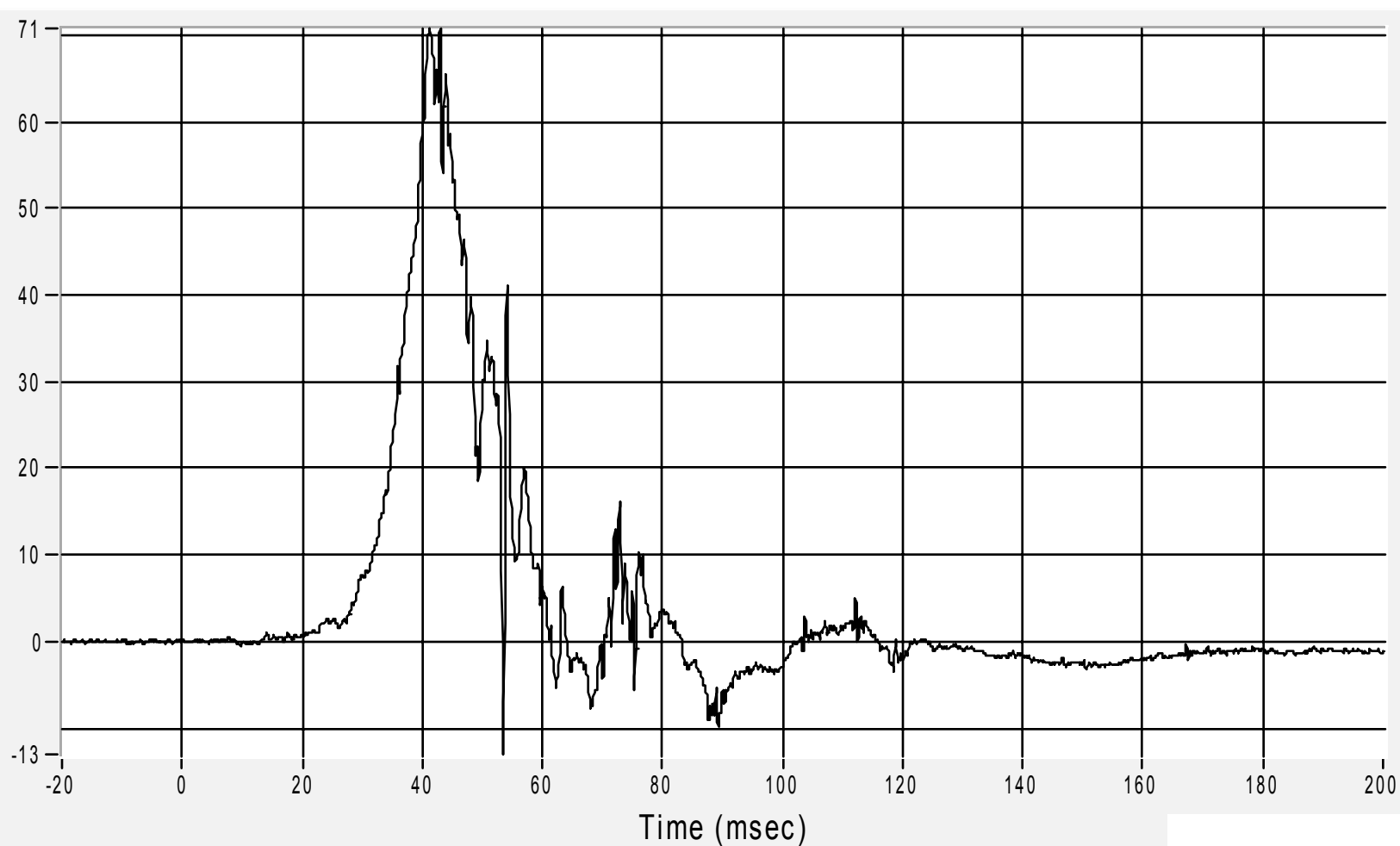
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Passenger Lower Rib (Y) - Redundant Acceleration

Acceleration (G's) CFC1000

Max 70.8 G at 41.2 msec

Min -13.0 G at 53.4 msec



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13 January 2004

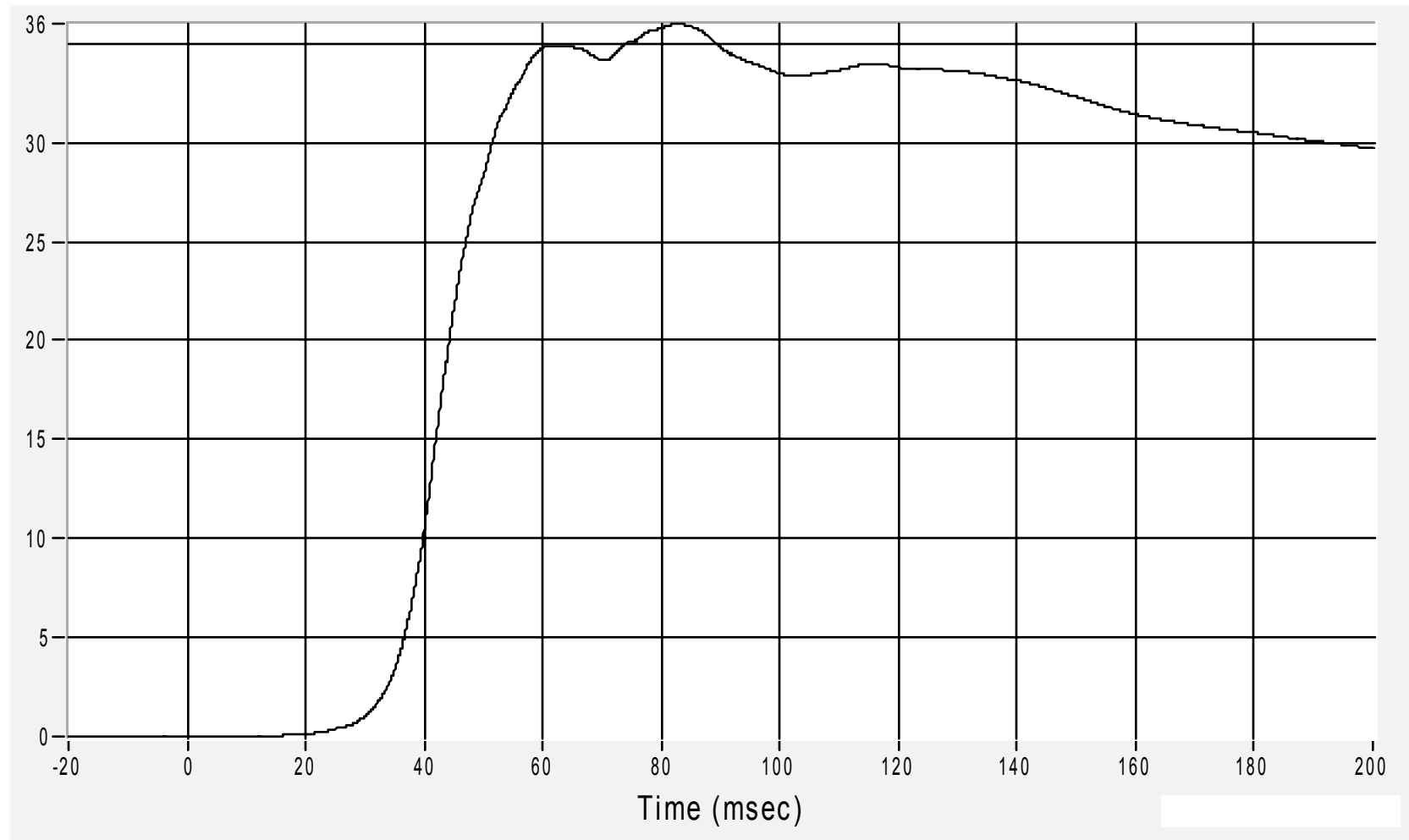
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Passenger Lower Rib (Y) Velocity - Redundant

Velocity (km/h) CFC180

Max 36.0 km/h at 82.9 msec

Min 0.0 km/h at 0.0 msec



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13 January 2004

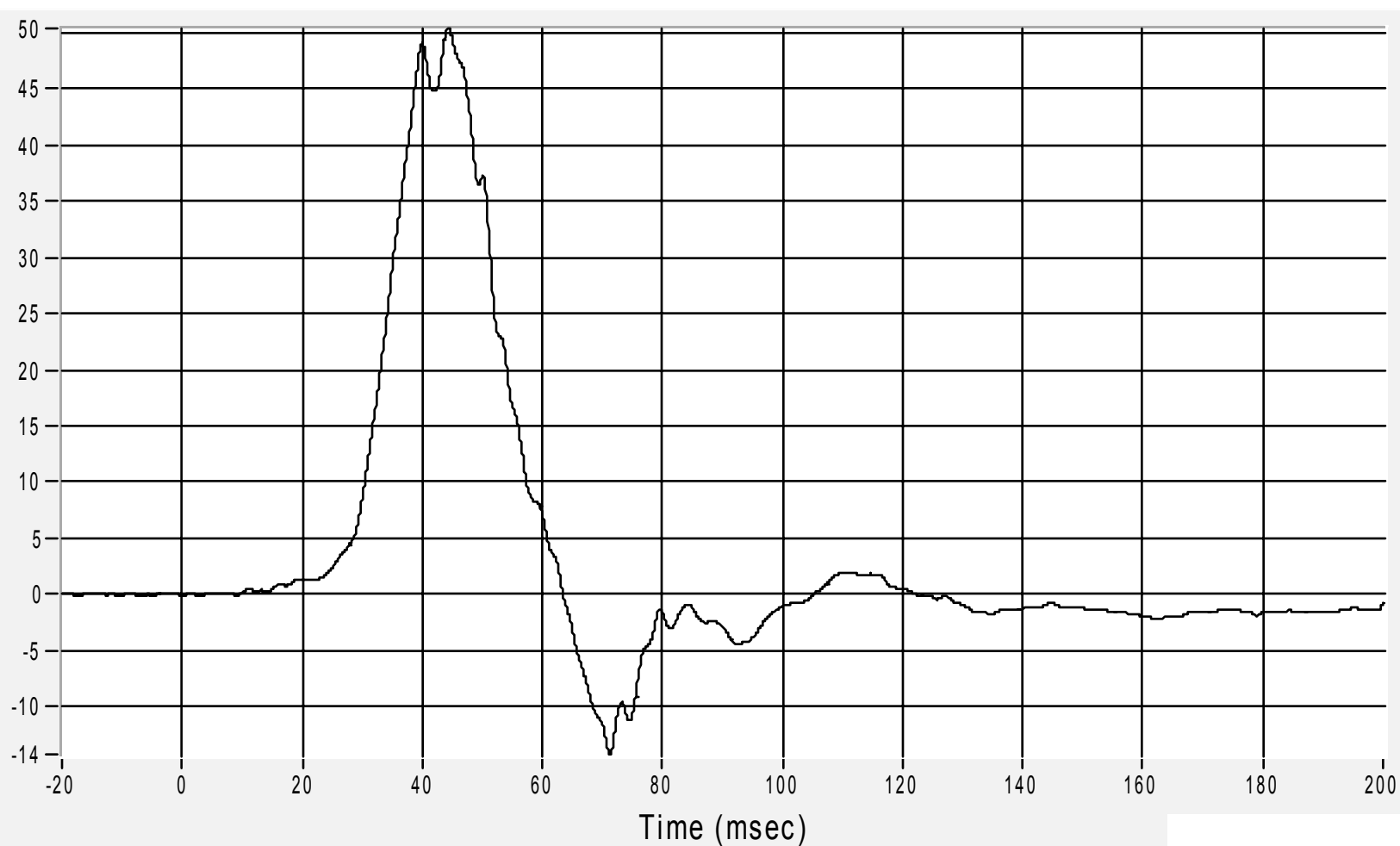
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Passenger Lower Spine (Y) - Redundant Acceleration

Acceleration (G's) CFC180

Max 50.3 G at 44.3 msec

Min -14.2 G at 71.3 msec



04SN04 - 2004 ACURA 3.5RL 4-DOOR SEDAN

13 January 2004

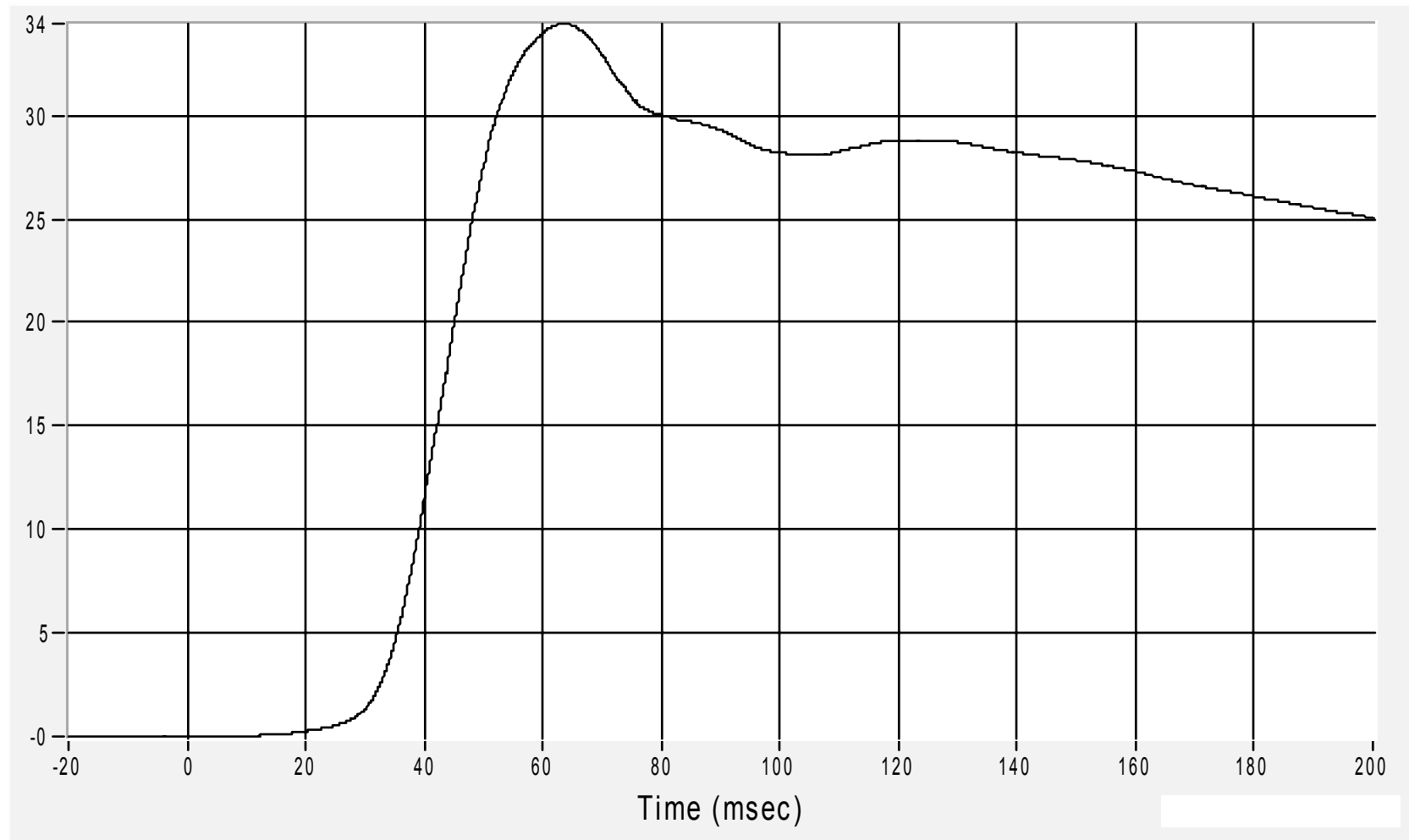
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Passenger Lower Spine (Y) Velocity - Redundant

Velocity (km/h) CFC180

Max 34.4 km/h at 63.4 msec

Min 0.0 km/h at 3.9 msec



04SN04 - 2004 ACURA 3.5RL 4-DOOR SEDAN

13 January 2004

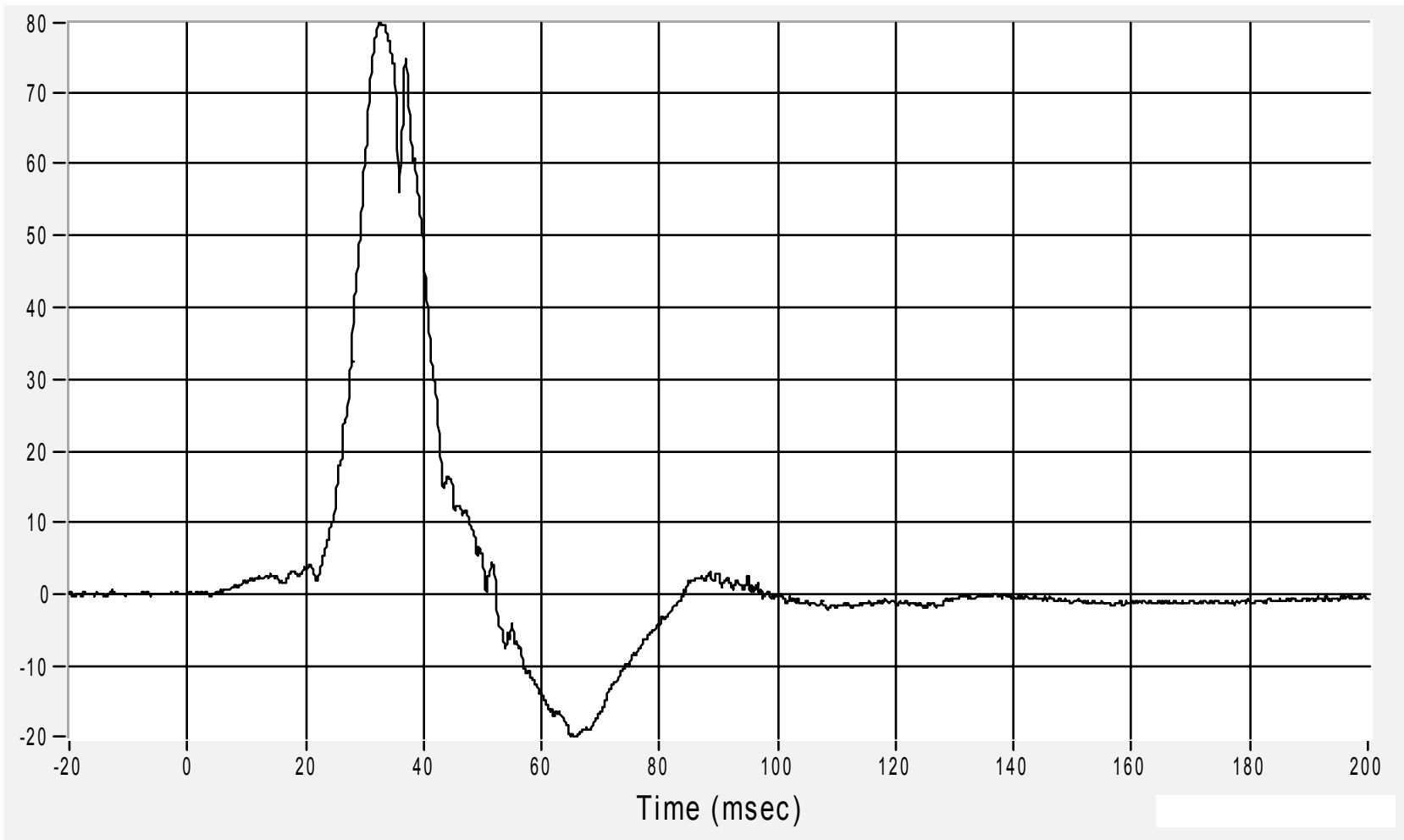
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Passenger Pelvic (Y) - Redundant Acceleration

Acceleration (G's) CFC1000

Max 79.6 G at 32.4 msec

Min -19.7 G at 65.0 msec



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13 January 2004

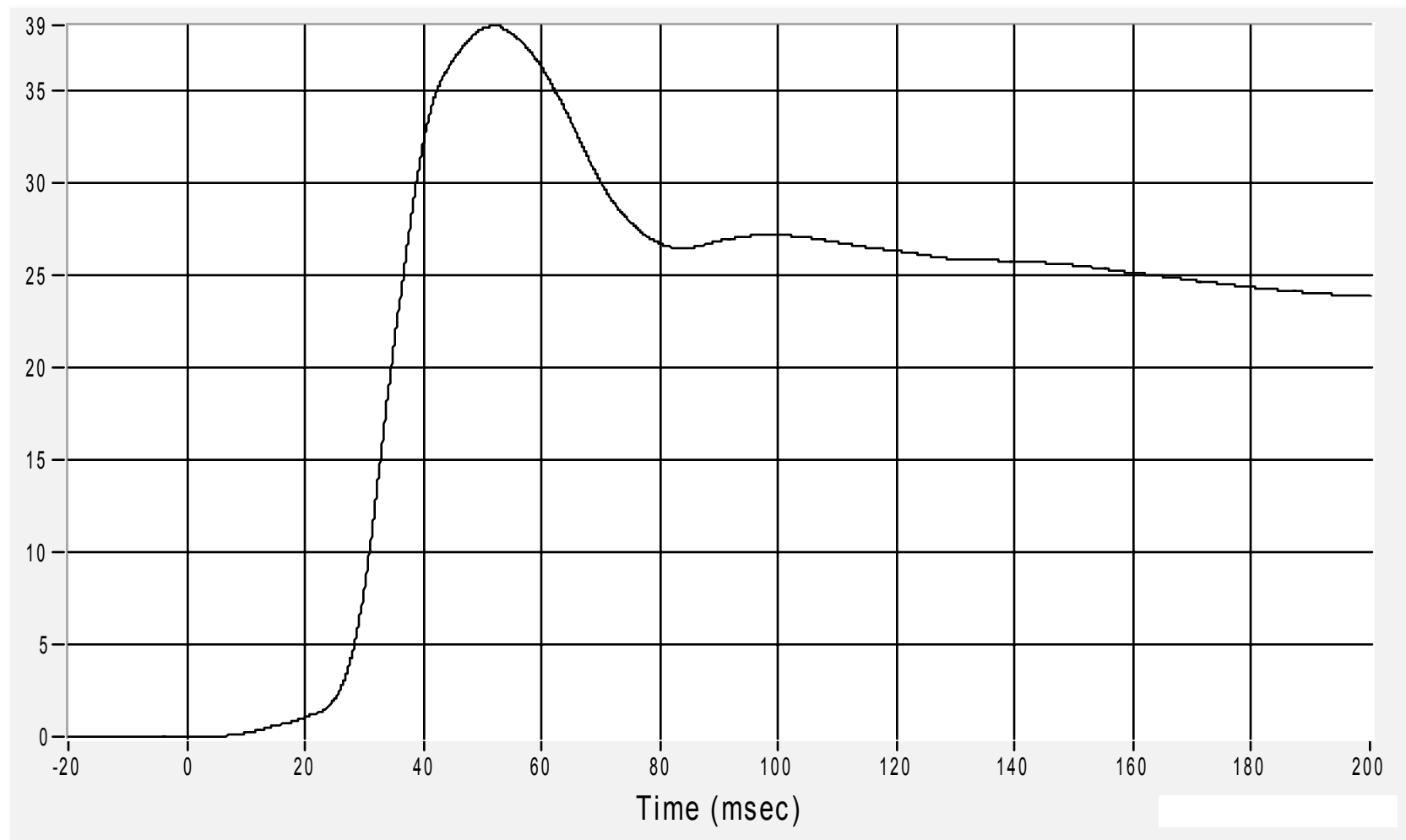
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Passenger Pelvic (Y) Velocity - Redundant

Velocity (km/h) CFC180

Max 38.5 km/h at 52.2 msec

Min 0.0 km/h at 0.0 msec



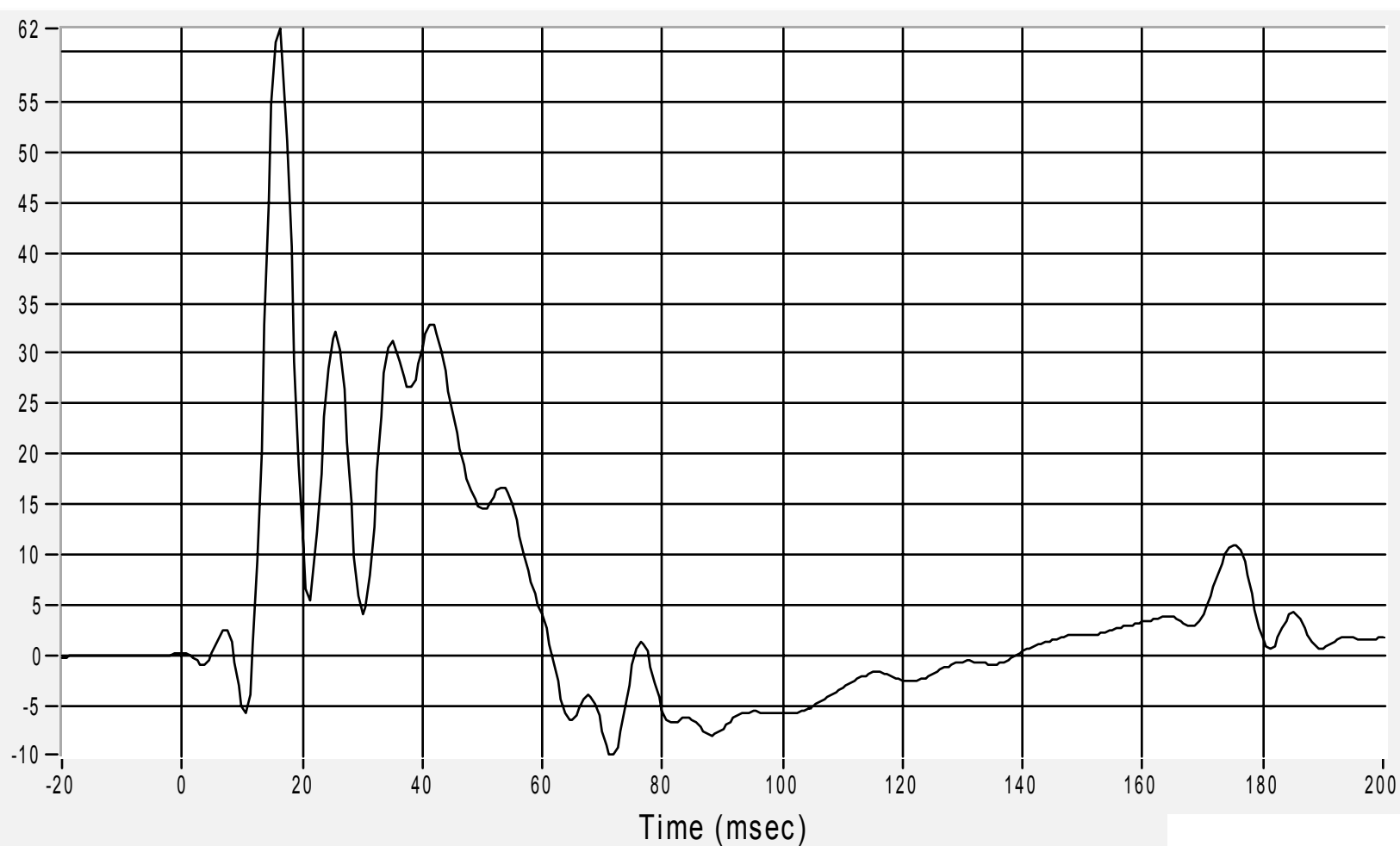
04SN04 - 2004 ACURA 3.5RL 4-DOOR SEDAN

13 January 2004

Medical College of Wisconsin
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Driver Upper Rib (Y) - Redundant Acceleration

Acceleration (G's) FIR100

Max 62.3 G at 16.2 msec**Min -9.8 G at 71.9 msec**

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13 January 2004

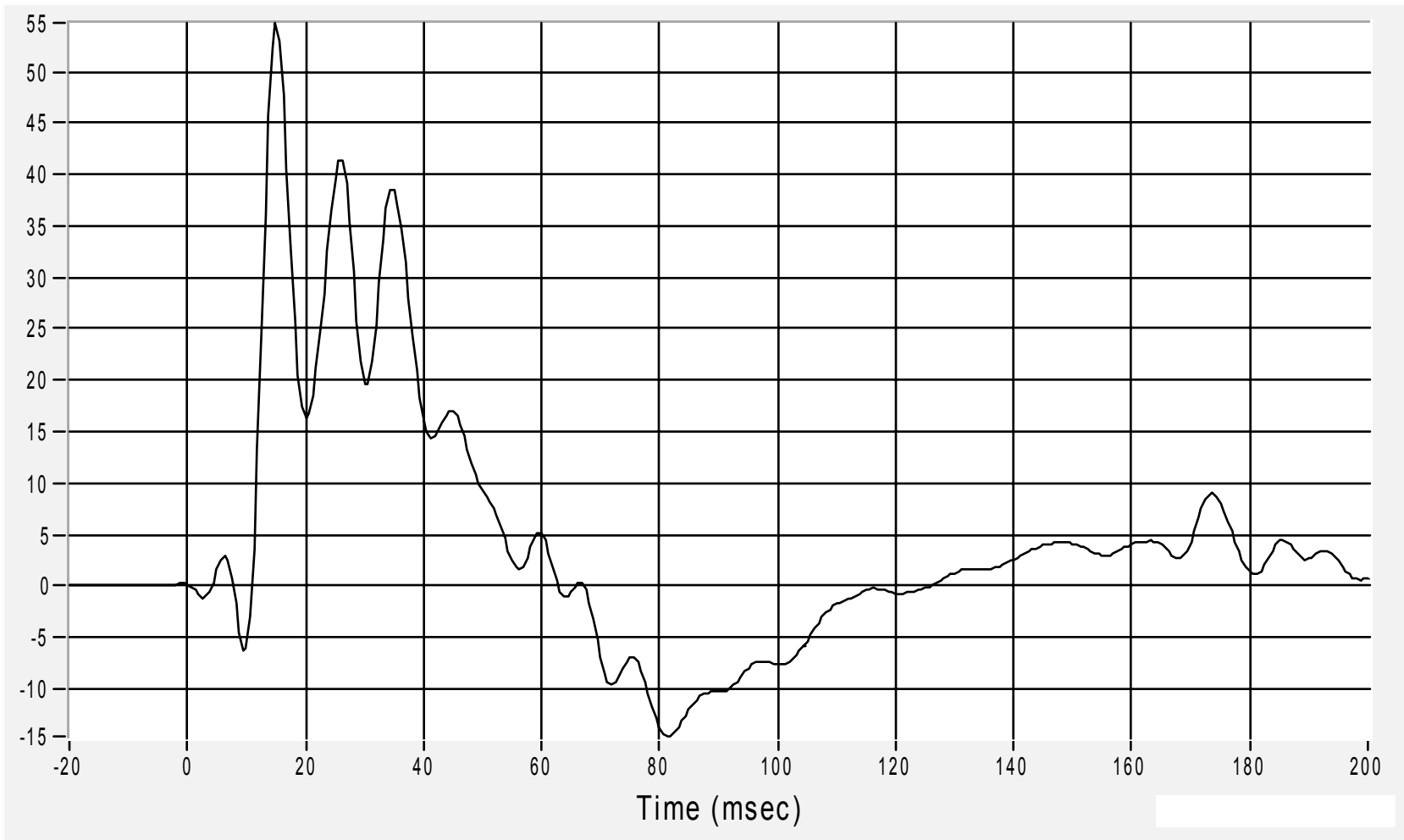
*Medical College of Wisconsin
Vehicle Crashworthiness Lab*

Driver Lower Rib (Y) - Redundant Acceleration

Acceleration (G's) FIR100

Max 54.7 G at 15.0 msec

Min -14.6 G at 81.2 msec



04SN04 - 2004 ACURA 3.5RL 4-DOOR SEDAN

13 January 2004

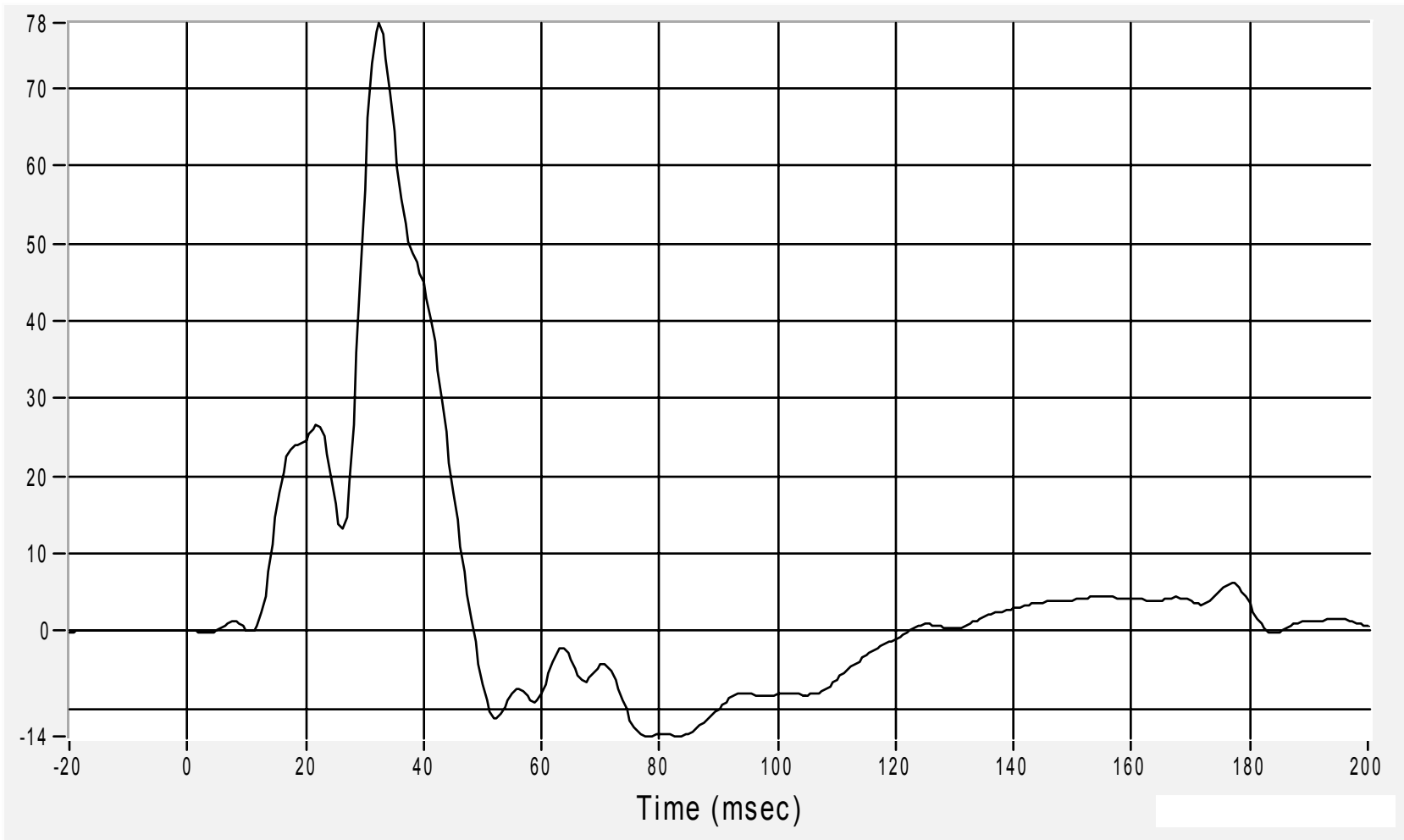
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Driver Lower Spine (Y) - Redundant Acceleration

Acceleration (G's) FIR100

Max 78.4 G at 32.5 msec

Min -13.6 G at 77.5 msec



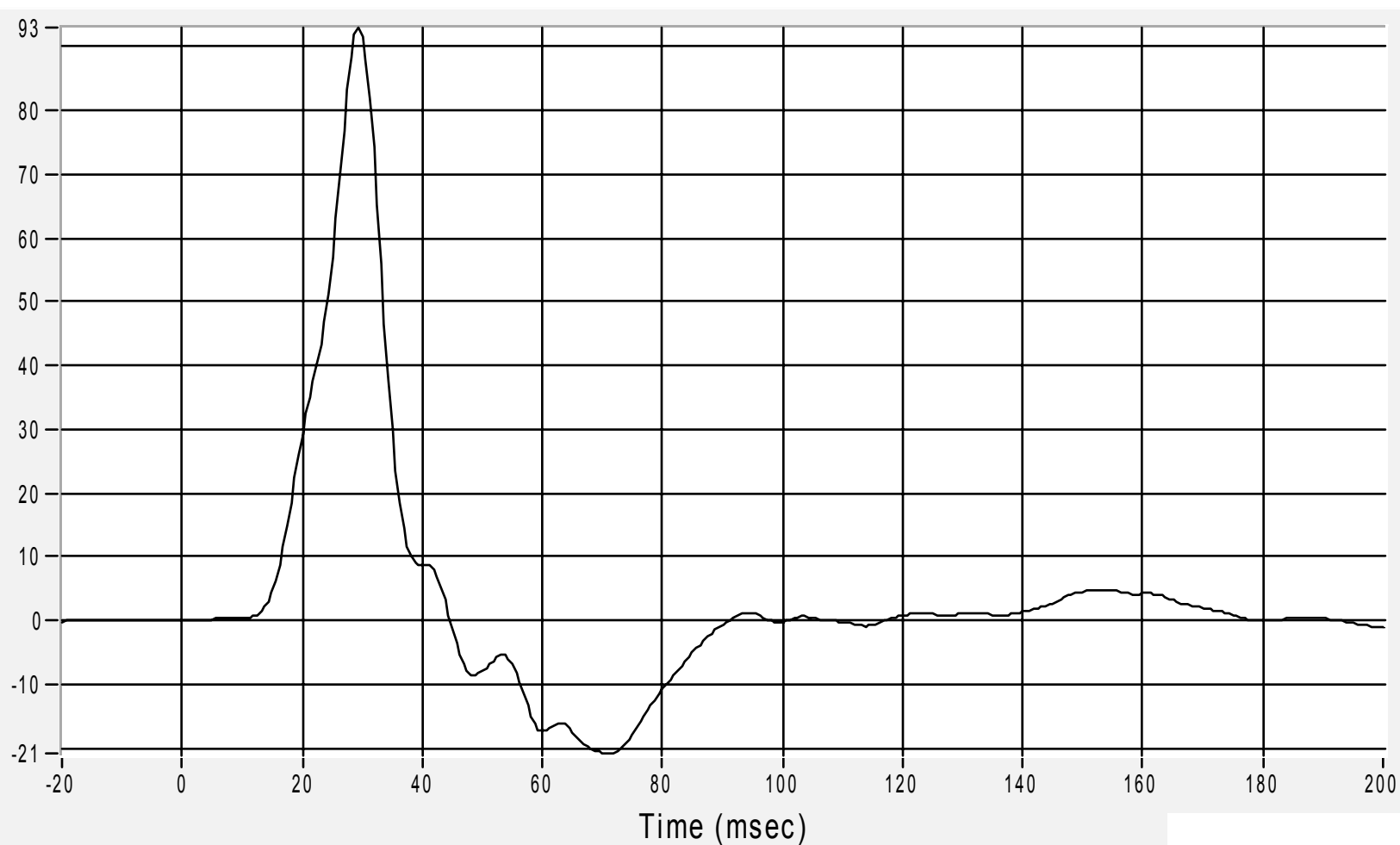
04SN04 - 2004 ACURA 3.5RL 4-DOOR SEDAN

13 January 2004

Medical College of Wisconsin
Vehicle Crashworthiness Lab

Driver Pelvic (Y) - Redundant Acceleration

Acceleration (G's) FIR100

Max 93.0 G at 29.4 msec**Min -20.9 G at 71.2 msec**

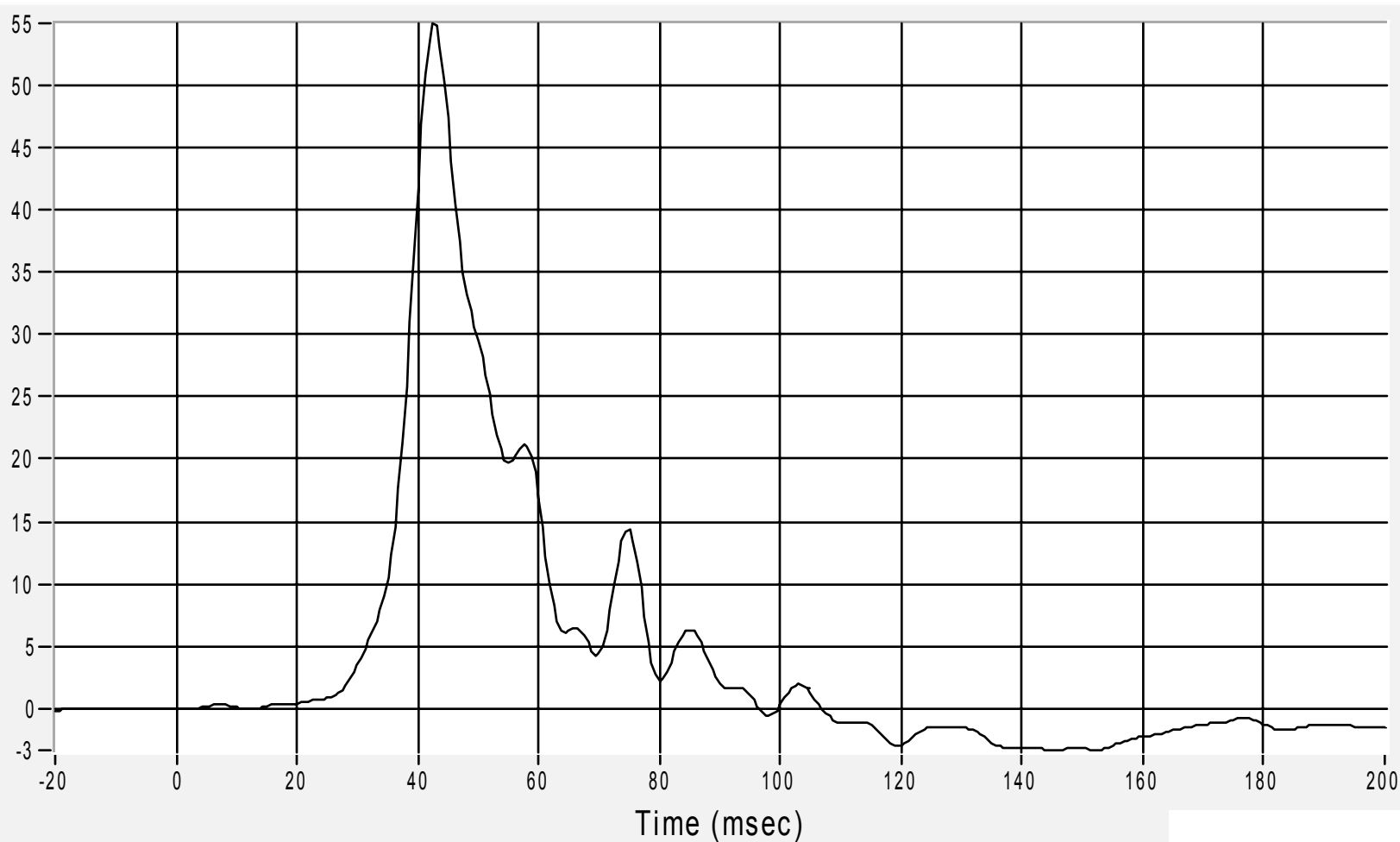
04SN04 - 2004 ACURA 3.5RL 4-DOOR SEDAN

13 January 2004

*Medical College of Wisconsin
Vehicle Crashworthiness Lab*

Passenger Upper Rib (Y) - Redundant Acceleration

Acceleration (G's) FIR100

Max 55.0 G at 42.5 msec**Min -3.4 G at 145.6 msec**

04SN04 - 2004 ACURA 3.5RL 4-DOOR SEDAN

13 January 2004

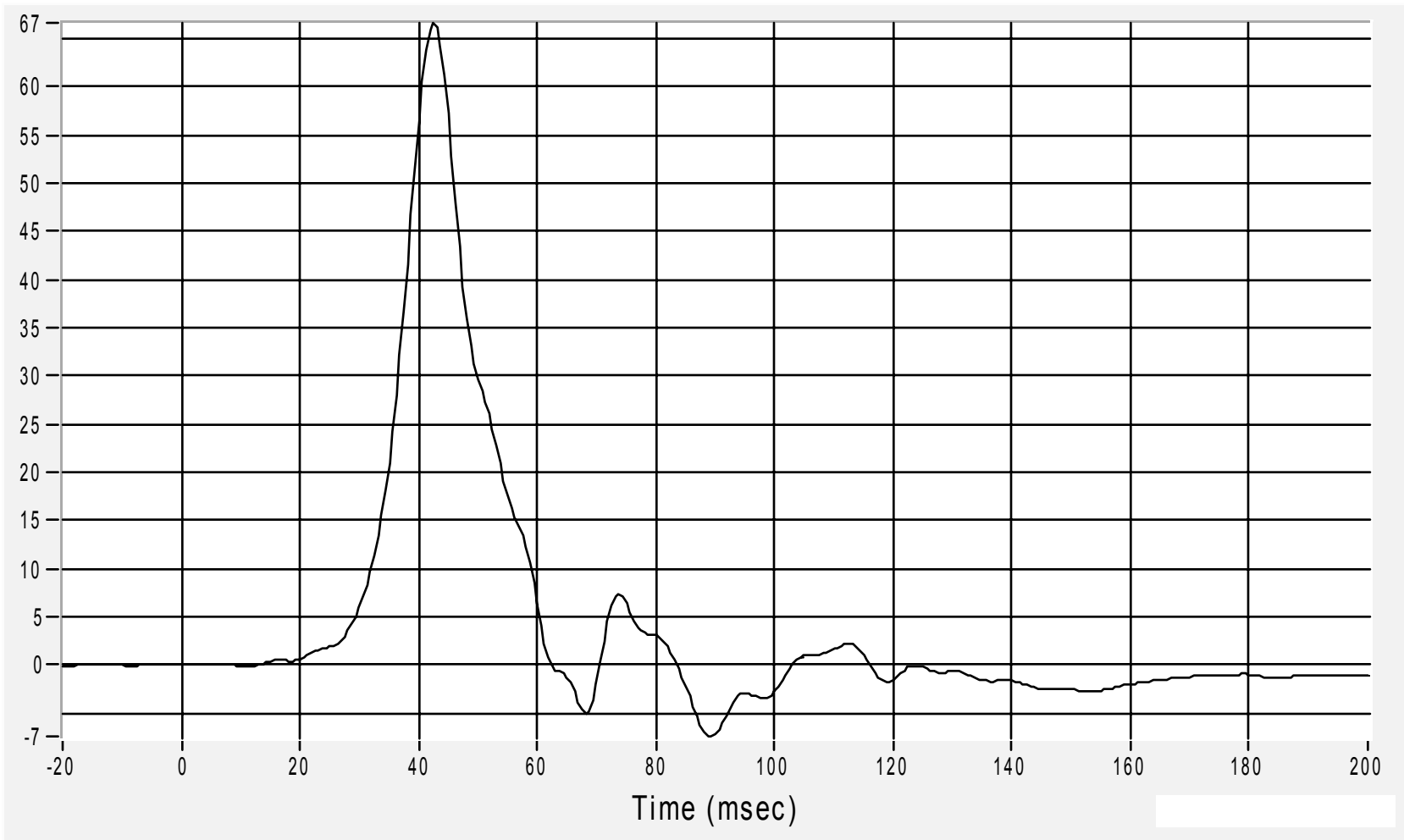
*Medical College of Wisconsin
Vehicle Crashworthiness Lab*

Passenger Lower Rib (Y) - Redundant Acceleration

Acceleration (G's) FIR100

Max 66.6 G at 42.5 msec

Min -7.4 G at 89.4 msec



04SN04 - 2004 ACURA 3.5RL 4-DOOR SEDAN

13 January 2004

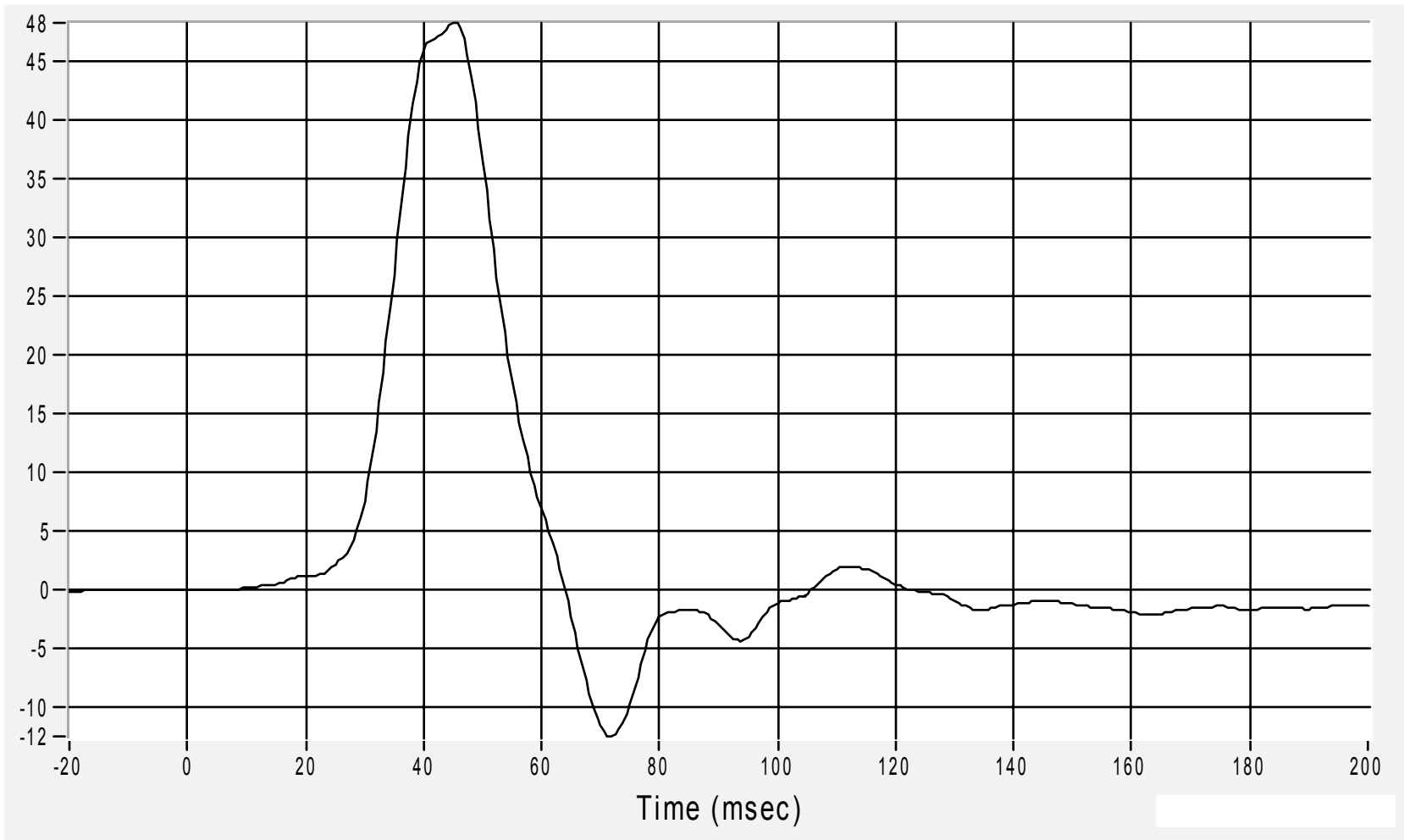
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Passenger Lower Spine (Y) - Redundant Acceleration

Acceleration (G's) FIR100

Max 48.4 G at 45.0 msec

Min -12.5 G at 71.9 msec



04SN04 - 2004 ACURA 3.5RL 4-DOOR SEDAN

13 January 2004

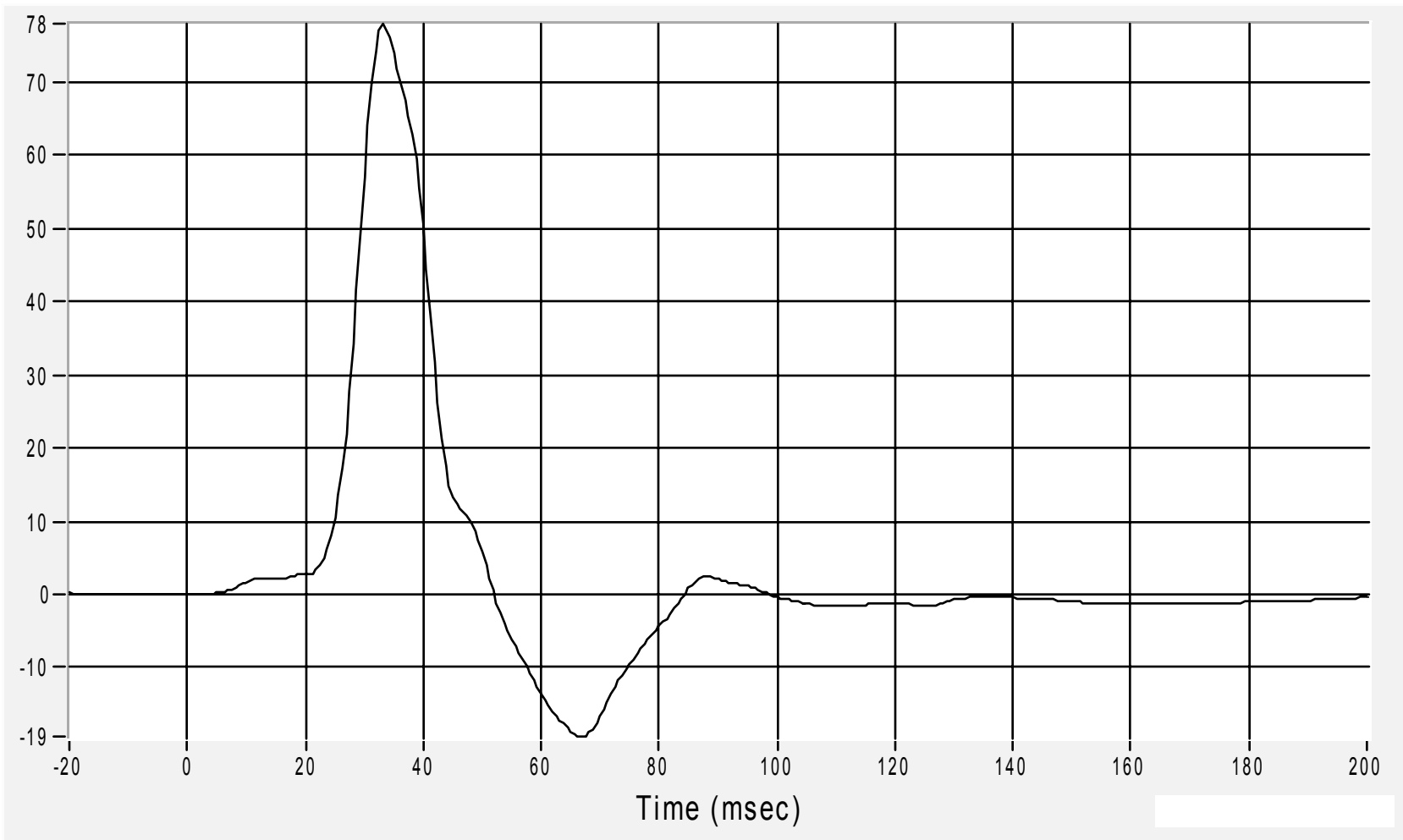
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Passenger Pelvic (Y) - Redundant Acceleration

Acceleration (G's) FIR100

Max 78.0 G at 33.1 msec

Min -19.4 G at 66.9 msec



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13 January 2004

Medical College of Wisconsin
Vehicle Crashworthiness Lab

APPENDIX C

SID CONFIGURATION AND VERIFICATION RESULTS

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**VERIFICATION TEST RESULTS SUMMARY
PRE AND POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial Number SID H3 056 Test Sequences 03 and 04

TEST	PRE		POST	
	COMMENTS	BY	COMMENTS	BY
EXTERNAL DIMENSIONS	Pass all requirements	Mark Meyer	Pass all requirements	Mark Meyer
THORACIC SHOCK ABSORBER TEST	Pass all requirements	Mark Meyer	N/A	N/A
LATERAL THORAX IMPACT TEST	Pass all requirements	Mark Meyer	Pass all requirements	Mark Meyer
LATERAL PELVIS IMPACT TEST	Pass all requirements	Mark Meyer	Pass all requirements	Mark Meyer
ABDOMINAL COMPRESSION	Pass all requirements	Mark Meyer	N/A	N/A
LUMBAR FLEXION	Pass all requirements	Mark Meyer	N/A	N/A
HYBRID III LATERAL NECK TEST	Pass all requirements	Mark Meyer	Pass all requirements	Mark Meyer
HYBRID III LATERAL HEAD DROP	Pass all requirements	Mark Meyer	Pass all requirements	Mark Meyer

SID Serial Number SID H3 058 Test Sequences 03 and 04

TEST	PRE		POST	
	COMMENTS	BY	COMMENTS	BY
EXTERNAL DIMENSIONS	Pass all requirements	Mark Meyer	Pass all requirements	Mark Meyer
THORACIC SHOCK ABSORBER TEST	Pass all requirements	Mark Meyer	N/A	N/A
LATERAL THORAX IMPACT TEST	Pass all requirements	Mark Meyer	Pass all requirements	Mark Meyer
LATERAL PELVIS IMPACT TEST	Pass all requirements	Mark Meyer	Pass all requirements	Mark Meyer
ABDOMINAL COMPRESSION	Pass all requirements	Mark Meyer	N/A	N/A
LUMBAR FLEXION	Pass all requirements	Mark Meyer	N/A	N/A
HYBRID III LATERAL NECK TEST	Pass all requirements	Mark Meyer	Pass all requirements	Mark Meyer
HYBRID III LATERAL HEAD DROP	Pass all requirements	Mark Meyer	Pass all requirements	Mark Meyer

SUMMARY
SID PRE AND POST VERIFICATION

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial Number

SID H3 056

Test Sequences

03 and 04

SID H3 058

TEST PARAMETER	SPECIFICATION	SID H3 056		SID H3 058	
		PRE	POST	PRE	POST
MEASUREMENTS					
Date	-	23Dec03	19Jan04	23Dec03	19Jan04
Sequential Test Number	-	03	04	03	04
Temperature (°C)	18.9-25.5	22.0	20.4	19.9	20.6
Relative Humidity (%)	10-70	23.1	14.4	23.4	14.0
SH – Seated Height (mm)	889-909	909	908	909	908
RH – Rib Height (mm)	501-521	507	511	507	507
HP – Hip Pivot Height (mm)	99	99/99	99/99	99/99	99/99
RD – Rib From Back Line (mm)	229-241	229	229	229	229
KH – Knee Pivot from Back Line (mm)	511-526	518/517	519/517	517/522	521/520
KV – Knee Pivot to Floor (mm)	490-505	503/495	503/503	499/501	497/497
HW – Hip Width (mm)	356-391	364	365	357	357
THORAX IMPACTS					
Date	-	23Dec03	19Jan04	23Dec03	19Jan04
Sequential Test Number	-	03	04	03	04
Temperature (°C)	18.9-25.5	22.3	20.6	20.7	21.1
Relative Humidity (%)	10-70	22.4	13.5	23.5	13.9
Probe Speed (m/s)	4.21-4.33	4.28	4.29	4.29	4.27
Upper Rib Acceleration (G)	37-46	40.7	44.9	44.2	41.9
Lower Rib Acceleration (G)	37-46	40.9	44.7	41.6	40.9
Lower Spine Acceleration (G)	15-22	19.9	17.4	20.7	16.3
PELVIS IMPACTS					
Date	-	23Dec03	19Jan04	23Dec03	19Jan04
Sequential Test Number	-	03	04	03	04
Temperature (°C)	18.9-25.5	22.4	20.7	21.0	21.2
Relative Humidity (%)	10-70	22.0	13.6	23.5	14.0
Probe Speed (m/s)	4.21-4.33	4.28	4.27	4.27	4.27
Pelvis Acceleration (G)	40-60	50.1	56.9	47.2	51.2
THORACIC SHOCK ABSORBER					
Shock Absorber ID Number	-	1764	-	03130164	-
Damper Setting	1-10	6-1/4	-	5	-
Date	-	17Oct03	-	17Oct03	-
Sequential Test Number	-	01	-	01	-
Temperature	18.9-25.5	23.5	-	23.0	-
Relative Humidity	10-70	34.0	-	35.2	-
Probe Speed (m/s) Low	3.05	3.05	-	3.05	-
Force (N)	836 – 1125	896.7	-	1025.7	-
Displacement (mm)	30 – 35	31.2	-	30.1	-
Probe Speed (m/s) Middle	4.27	4.27	-	4.27	-
Force (N)	1730 – 2099	1815.9	-	2083.5	-
Displacement (mm)	32 – 37	34.8	-	33.2	-
Probe Speed (m/s) High	6.10	6.10	-	6.10	-
Force (N)	3741 – 4448	4116.2	-	4357.4	-
Displacement (mm)	33 - 40	37.2	-	36.2	-

TEST PARAMETER	SPECIFICATION	SID H3 056		SID H3 058	
		PRE	POST	PRE	POST
ABDOMINAL COMPRESSION					
Date	-	12Oct03	-	12Oct03	-
Sequential Test Number	-	01	-	01	-
Temperature (°C)	18.9-25.5	23.0	-	22.2	-
Relative Humidity (%)	10-70	38.0	-	38.4	-
Force at 13 mm (N)	104-162	116.8	-	114.6	-
Force at 19 mm (N)	163-221	163.8	-	163.1	-
Force at 25 mm (N)	222-280	224.8	-	233.8	-
Force at 33 mm (N)	325-391	335.1	-	362.3	-
LUMBAR FLEXION					
Date	-	15Oct03	-	15Oct03	-
Sequential Test Number	-	01	-	01	-
Temperature (°C)	18.9-25.5	23.1	-	23.4	-
Relative Humidity (%)	10-70	35.4	-	35.4	-
Force at 0° (N)	0-26.7	0	-	0	-
Force at 0° (N)	97.8-151.2	113	-	116	-
Force at 0° (N)	151.2-204.6	152	-	174	-
Force at 0° (N)	204.6-258	217	-	211	-
Return Angle	12° Maximum	5	-	5	-
HYBRID III LATERAL NECK					
Date	-	22Dec03	16Jan04	22Dec03	17Jan04
Sequential Test Number	-	03	04	03	04
Temperature (°C)	18.9-25.5	20.7	20.8	19.1	20.8
Relative Humidity (%)	10-70	27.7	18.0	28.3	20.7
Pendulum Speed (m/s)	6.89-7.13	7.09	7.08	7.08	7.10
Pendulum Pulse 10ms (m/s)	1.96-2.55	2.01	2.29	2.16	2.29
Pendulum Pulse 20ms (m/s)	4.12-5.10	4.81	5.05	4.85	4.53
Pendulum Pulse 30ms (m/s)	5.73-7.01	6.97	6.93	6.92	6.69
Pendulum Pulse 40 –70 ms (m/s)	6.27-7.64	6.84	6.82	6.90	7.04
Max Head rotation (deg)	66-82	74.8	73.4	66.1	71.5
Head angle crosses zero (ms)	58-67	65.8	61.8	58.5	58.2
Peak Moment (Nm)	73-88	74.2	76.9	85.3	83.3
Moment crosses zero (ms)	49-64	49.2	49.4	50.9	49.4
Max rotation wrt peak moment (ms)	2-15	8.3	6.6	3.2	4.5
HYBRID III LATERAL HEAD DROP					
Date	-	18Dec03	15Jan04	18Dec03	15Jan04
Sequential Test Number	-	03	04	03	04
Temperature (°C)	18.9-25.5	19.2	20.2	19.0	20.5
Relative Humidity (%)	10-70	22.7	14.3	23.0	15.6
Resultant Max (G)	120-150	121.6	130.4	139.8	136.5
Longitudinal Max (G)	<15	2.0	11.6	3.9	14.0

DUMMY INSPECTION LIST**PRE AND POST TEST****CONFIGURED FOR LEFT SIDE IMPACT**

SID Serial Number

SID H3 056

Test Sequences

03 and 04

SID H3 058

		SID H3 056		SID H3 058	
		PRE	POST	PRE	POST
	Date	23Dec03	19Jan04	23Dec03	19Jan04
	Performed By	Mark Meyer	Mark Meyer	Mark Meyer	Mark Meyer
PART	INSPECTION	Pass	Pass	Pass	Pass
Skin	Visual	Pass	Pass	Pass	Pass
Head	Visual, Ballast, Accelerometer Mount	Pass	Pass	Pass	Pass
Neck	Visual and Palpated, Cable Torque	Pass	Pass	Pass	Pass
Spine Box	Visual, Ballast, Weldment, Accelerometer Mount	Pass	Pass	Pass	Pass
Rib Cage	Visual, Palpated, Measured, Stiffness	Pass	Pass	Pass	Pass
Sternum	Visual	Pass	Pass	Pass	Pass
Lumbar Spine	Visual	Pass	Pass	Pass	Pass
Abdomen	Visual	Pass	Pass	Pass	Pass
Pelvis	Visual, Palpated, Accelerometer Mount	Pass	Pass	Pass	Pass
Upper Legs	Visual	Pass	Pass	Pass	Pass
Knees	Visual, Stops, Inserts	Pass	Pass	Pass	Pass
Lower Legs	Visual, Range of Motion	Pass	Pass	Pass	Pass
Ankles	Visual, Range of Motion	Pass	Pass	Pass	Pass
Feet	Visual, Range of Motion	Pass	Pass	Pass	Pass
Joints	1 to 2 G Range	Pass	Pass	Pass	Pass
Other		None	None	None	None

APPENDIX D

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

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SID INSTRUMENTATION**FRONT SID H3 NO. 056**

	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
HEAD X ACCELERATION	J21551	ENDEVCO	20Aug03
HEAD Y ACCELERATION	J36659	ENDEVCO	29May03
HEAD Z ACCELERATION	J21466	ENDEVCO	29May03
SIX AXIS UPPER NECK LOAD CELL (FX, FY, FZ, MX, MY, MZ)	1591	DENTON ATD	7Apr03
UPPER RIB ACCELERATION	J43512	ENDEVCO	22Aug03
LOWER RIB ACCELERATION	J43444	ENDEVCO	22Aug03
LOWER SPINE ACCELERATION	J36603	ENDEVCO	07Aug03
PELVIS ACCELERATION	J43429	ENDEVCO	22Aug03
UPPER RIB REDUNDANT ACCELERATION	J43480	ENDEVCO	22Aug03
LOWER RIB REDUNDANT ACCELERATION	J43445	ENDEVCO	22Aug03
LOWER SPINE REDUNDANT ACCELERATION	J32665	ENDEVCO	07Aug03
PELVIS REDUNDANT ACCELERATION	J36617	ENDEVCO	07Aug03

REAR SID H3 NO. 058

	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
HEAD X ACCELERATION	P24628	ENDEVCO	08Sep03
HEAD Y ACCELERATION	P21689	ENDEVCO	20Aug03
HEAD Z ACCELERATION	P21704	ENDEVCO	05Sep03
SIX AXIS UPPER NECK LOAD CELL (FX, FY, FZ, MX, MY, MZ)	0452	DENTON	02Sep03
UPPER RIB ACCELERATION	J43513	ENDEVCO	22Aug03
LOWER RIB ACCELERATION	J43481	ENDEVCO	22Aug03
LOWER SPINE ACCELERATION	J43432	ENDEVCO	22Aug03
PELVIS ACCELERATION	J43434	ENDEVCO	22Aug03
UPPER RIB REDUNDANT ACCELERATION	J43479	ENDEVCO	22Aug03
LOWER RIB REDUNDANT ACCELERATION	J43475	ENDEVCO	22Aug03
LOWER SPINE REDUNDANT ACCELERATION	J36614	ENDEVCO	07Aug03
PELVIS REDUNDANT ACCELERATION	J43433	ENDEVCO	22Aug03

VEHICLE INSTRUMENTATION

	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
RIGHT FRONT SILL X	P21580	ENDEVCO	05Sep03
RIGHT FRONT SILL Y	P18288	ENDEVCO	05Aug03
RIGHT FRONT SILL Z	P25033	ENDEVCO	05Sep03
RIGHT REAR SILL X	P22522	ENDEVCO	21Aug03
RIGHT REAR SILL Y	P19287	ENDEVCO	22Apr03
RIGHT REAR SILL Z	P19385	ENDEVCO	05Sep03
REAR FLOORPAN ABOVE AXLE X	P21788	ENDEVCO	08Sep03
REAR FLOORPAN ABOVE AXLE Y	P19387	ENDEVCO	05Sep03
REAR FLOORPAN ABOVE AXLE Z	P21617	ENDEVCO	08Sep03
LEFT REAR SILL Y	P22230	ENDEVCO	08Sep03
LEFT FRONT SILL Y	P22283	ENDEVCO	07Aug03
LEFT FRONT DOOR CENTERLINE Y	98F98B27-N06	ENTRAN	20Aug03
RIGHT REAR OCCUPANT COMP Y	P24562	ENDEVCO	22Aug03
MID-REAR OF LEFT FRONT DOOR Y	98F98E11-K07	ENTRAN	23May03
LEFT FRONT DOOR UPPER C/L Y	98F98E11-K11	ENTRAN	20Aug03
MID-REAR OF LEFT REAR DOOR Y	N/A	N/A	N/A
LEFT REAR DOOR UPPER C/L Y	98H98H-F53	ENTRAN	21Aug03
LEFT LOWER B-PILLAR Y	P21820	ENDEVCO	07Aug03
LEFT MIDDLE B-PILLAR Y	P13839	ENDEVCO	20Aug03
LEFT LOWER A-PILLAR Y	P14223	ENDEVCO	05Sep03
LEFT UPPER A-PILLAR	P21151	ENDEVCO	05Sep03
FRONT SEAT TRACK Y	P13846	ENDEVCO	07Aug03
REAR SEAT TRACK Y	P24639	ENDEVCO	08Sep03
VEHICLE CG X	P14135	ENDEVCO	08Sep03
VEHICLE CG Y	P21605	ENDEVCO	05Sep03
VEHICLE CG Z	P21575	ENDEVCO	08Sep03

MDB INSTRUMENTATION

MDB CG X	P24089	ENDEVCO	05Sep03
MDB CG Y	P24733	ENDEVCO	03Sep03
MDB CG Z	P23595	ENDEVCO	29May03
MDB REAR FRAME MEMBER X	P13842	ENDEVCO	19Mar03
MDB REAR FRAME MEMBER Y	J43479	ENDEVCO	22Aug03