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DATA FROM LATERAL IMPACT SLED TESTS

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16. Abstract

The Highway Safety Research Institute under Contract No. DOT-HS-4-00921, "Quantification of Thoracic Response and Injury," has conducted the following lateral impact sled tests at various velocities: 1. TRRL dummy (7 tests); 2. Part 572 dummy (10 tests), and, 3. Cadavers (12 tests). In all these tests accelerometers were mounted in or on the exterior of the thorax. This report contains the accelerometer traces for all tests as well as the first two integrals computed from the traces.

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Test with Cadavers (Figure and Page Numbers)

Transducer (See Table 2 for code)	Test Conditions							
	15 mph (R and P*)		20 mph (P)		20 mph (R)		26 mph (R and P)	
	Fig.	Pg.	Fig.	Pg.	Fig.	Pg.	Fig.	Pg.
LS - accel.	7	18	40	51	76	87	112	123
- vel.	8	19	41	52	77	88	113	124
- dis.	9	20	42	53	78	89	114	125
US - accel.	10	21	43	54	79	90	115	126
- vel.	11	22	44	55	80	91	116	127
- dis.	12	23	45	56	81	92	117	128
LLR - accel.	13	24	46	57	82	93	118	129
- vel.	14	25	47	58	83	94	119	130
- dis.	15	26	48	59	84	95	120	131
RLR - accel.	16	27	49	60	85	96	121	132
- vel.	17	28	50	61	86	97	122	133
- dis.	18	29	51	62	87	98	123	134
LUR - accel.	19	30	52	63	88	99	124	135
- vel.	20	31	53	64	89	100	125	136
- dis.	21	32	54	65	90	101	126	137
RUR - accel.	22	33	55	66	91	102	127	138
- vel.	23	34	56	67	92	103	128	139
- dis.	24	35	57	68	93	104	129	140
TIPA - accel.	25	36	58	69	94	105	130	141
- vel.	26	37	59	70	95	106	131	142
- dis.	27	38	60	71	96	107	132	143
TILR - accel.	-		61	72	97	108	-	
- vel.	-		62	73	98	109	-	
- dis.	-		63	74	99	110	-	

*Note: R = Rigid flat surface. P = Padded surface.

Test with Cadavers (Figure and Page Numbers) - cont.

Transducer (See Table 2 for code	Test Conditions							
	15 mph (R and P*)		20 mph (P)		20 mph (R)		26 mph (R and P)	
	Fig.	Pg.	Fig.	Pg.	Fig.	Pg.	Fig.	Pg.
T12PA - accel.	28	39	64	75	100	111	133	144
- vel.	29	40	65	76	101	112	134	145
- dis.	30	41	66	77	102	113	135	146
T12LR - accel.	31	42	67	78	103	114	136	147
- vel.	32	43	68	79	104	115	137	148
- dis.	33	44	69	80	105	116	138	149
PPA - accel.	34	45	70	81	106	117	139	150
- vel.	35	46	71	82	107	118	140	151
- dis.	36	47	72	83	108	119	141	152
PLR - accel.	37	48	73	84	109	120	142	153
- vel.	38	49	74	85	110	121	143	154
- dis.	39	50	75	86	111	122	144	155

Tests with Part 572 dummy (Figures and Page Numbers)

Transducer (See Table 4 for code	Test Conditions							
	15 mph (R and P)		20 mph (P)		20 mph (R)		26 mph (R and P)	
	Fig.	Pg.	Fig.	Pg.	Fig.	Pg.	Fig.	Pg.
HPA - accel.	145	156	163	174	181	192	199	210
- vel.	146	157	164	175	182	193	200	211
- dis.	147	158	165	176	183	194	201	212
HRL - accel.	148	159	166	177	184	195	202	213
- vel.	149	160	167	178	185	196	207	214
- dis.	150	161	168	179	186	197	204	215
TPA - accel.	151	162	169	180	187	198	205	216
- vel.	152	163	170	181	188	199	206	217
- dis.	153	164	171	182	139	200	207	218
TRL - accel.	154	165	172	183	190	201	208	219
- vel.	155	166	173	184	191	202	209	220
- dis.	156	167	174	185	192	203	210	221
PPA - accel.	157	168	175	186	193	204	211	222
- vel.	158	169	176	187	194	205	212	223
- dis.	159	170	177	188	195	206	213	224
PRL - accel.	160	171	178	189	196	207	214	225
- vel.	161	172	179	190	197	208	215	226
- dis.	162	173	180	191	198	209	216	227

Tests with TRRL dummy (Figures and Page Numbers)

Transducer (See Table 4 for code)	Test Conditions							
	Rigid Wall		15 mph (R and P)		20 mph (P)		27 mph (P)	
	Fig.	Pg.	Fig.	Pg.	Fig.	Pg.	Fig.	Pg.
HPA - accel.	217	228	235	246	253	264	271	282
- vel.	218	229	236	247	254	265	272	283
- dis.	219	230	237	248	255	266	273	284
HRL - accel.	220	231	238	249	256	267	274	285
- vel.	221	232	239	250	257	268	275	286
- dis.	222	233	240	251	258	269	276	287
TPA - accel.	223	234	241	252	259	270	277	288
- vel.	224	235	242	253	260	271	278	289
- dis.	225	236	243	254	261	272	279	290
TRL - accel.	226	237	244	255	262	273	280	291
- vel.	227	238	245	256	263	274	281	292
- dis.	228	239	246	257	264	275	282	293
PPA - accel.	229	240	247	258	265	276	283	294
- vel.	230	241	248	259	266	277	284	295
- dis.	231	242	249	260	267	278	285	296
PRL - accel.	232	243	250	261	268	279	286	297
- vel.	233	244	251	262	269	280	287	298
- dis.	234	245	252	263	270	281	288	299

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1.0 INTRODUCTION

The Highway Safety Research Institute under Contract No. DOT-HS-4-00921, "Quantification of Thoracic Response and Injury," has conducted the following impact sled tests at various velocities:

- TRRL Dummy (7 tests)
- Part 572 Dummy (10 tests)
- Cadaver into rigid and padded door structures (12 tests)

In all these tests accelerometers were mounted in the thorax. For the cadavers, the instrumentation consisted of a matrix of ten or twelve accelerometers located on the sternum, ribs, and spinal vertebrae (up to ten of them monitoring acceleration in the horizontal plane). Triaxial accelerometer packages were used in the dummy thoraxes. For the dummies and cadavers triaxial accelerometer packs were also mounted on the pelvic structures. Head accelerations were measured only for the dummies, also using triaxial accelerometer packs.

Under the above-mentioned contract, the emphasis was placed on analysis of the recorded accelerometer data. For the cadavers, these data were digitized, filtered (100Hz), and post-processed using a variety of additional procedures for the purposes of data display, injury predictive equation development, and human impact response corridor generation. The data from the tests with dummies have yet to be digitized, filtered, and displayed in a similar format.

In order to provide NHTSA with integrals of the accelerometer data described above, the following tasks were accomplished:

1. Data from the tests using TRRL and Part 572 dummies were digitized, filtered, and stored in line files;
2. Data display software was modified to include computation of the first and second integrals of the stored accelerometer traces.
3. Calcomp plots of the first and second integrals of all accelerometers located in the horizontal plane were produced.

The remainder of this report contains summaries of the tests as well as the Calcomp plots which have been produced. Part 2 describes the various impact sled body bucks and test procedures including instrumentation and data handling. Part 3 presents summaries and the plots for the cadaver test subjects while Parts 4 and 5 accomplish the same for Part 572 and TRRL dummies.

2.0 TEST SETUP, INSTRUMENTATION, AND DATA PROCESSING

2.1 Test Setup

The purpose of the tests discussed in this report is to study the interaction of cadaver and dummy test subjects with idealized door side structures during a lateral impact. The HSRI rebound sled was used for the tests. This sled is accelerated up to a velocity, coasts free, enters an energy-storing decelerator, and rebounds from the decelerator at a velocity almost as great as the entry velocity. The result is an acceleration-produced velocity change which is larger than any sled linear velocity seen by an observer watching the sled.

The lateral impacts of dummy or cadaver subjects with idealized door structures were accomplished as follows. First, the sled bucks and subjects were positioned initially as is shown for four typical tests in Figures 1 through 4. The sled and subject were then accelerated together up to the entrance velocity. As the sled enters the decelerator, and its direction is reversed, the test subject continues to move at the entrance velocity toward the simulated side structures by sliding along the seating surface which has been selected for minimum friction. The closing velocity between the subject and the side structures is thus approximately equal to the velocity change experienced by the sled due to the decelerator. A loss of about 1 mph is experienced by the subject due to sliding friction and a similar loss occurs as the mass of the subject interacts with the side structures mounted on the sled.

Some of the details which were essential to the success of the tests are concerned with subject positioning, restraint from motion relative to the sled during acceleration, free-sliding during the relative motions before impact, and construction of the barrier. Positioning of the four types of subjects is shown in Figures 1-4. Figure 1 shows the TRRL dummy while Figures 2 and 3 show a Part 572 dummy with and without the left arm attached. Figure 4 shows a cadaver subject.

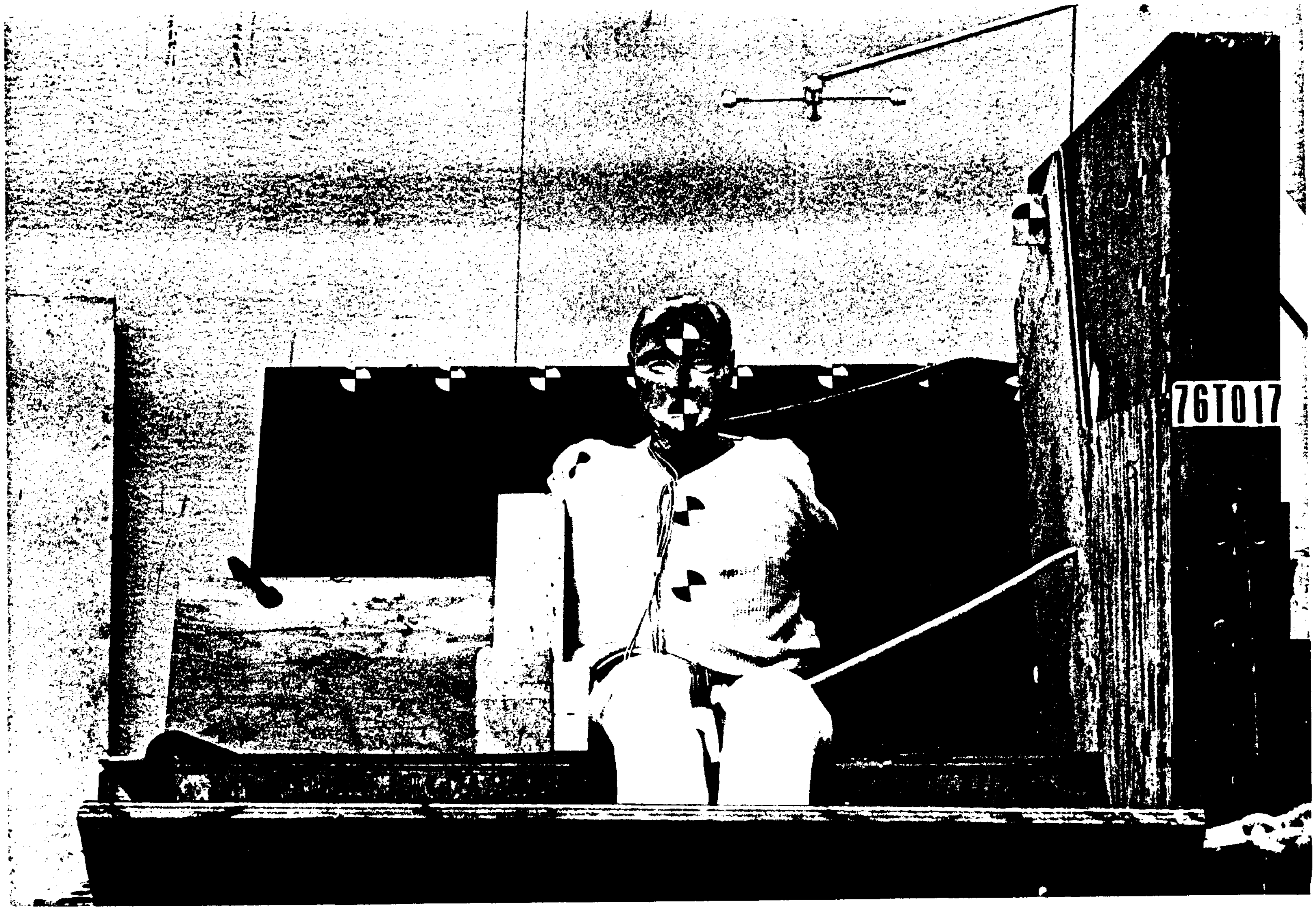


FIG. 1. Initial setup for lateral impact of TRLL dummy with rigid side structures.

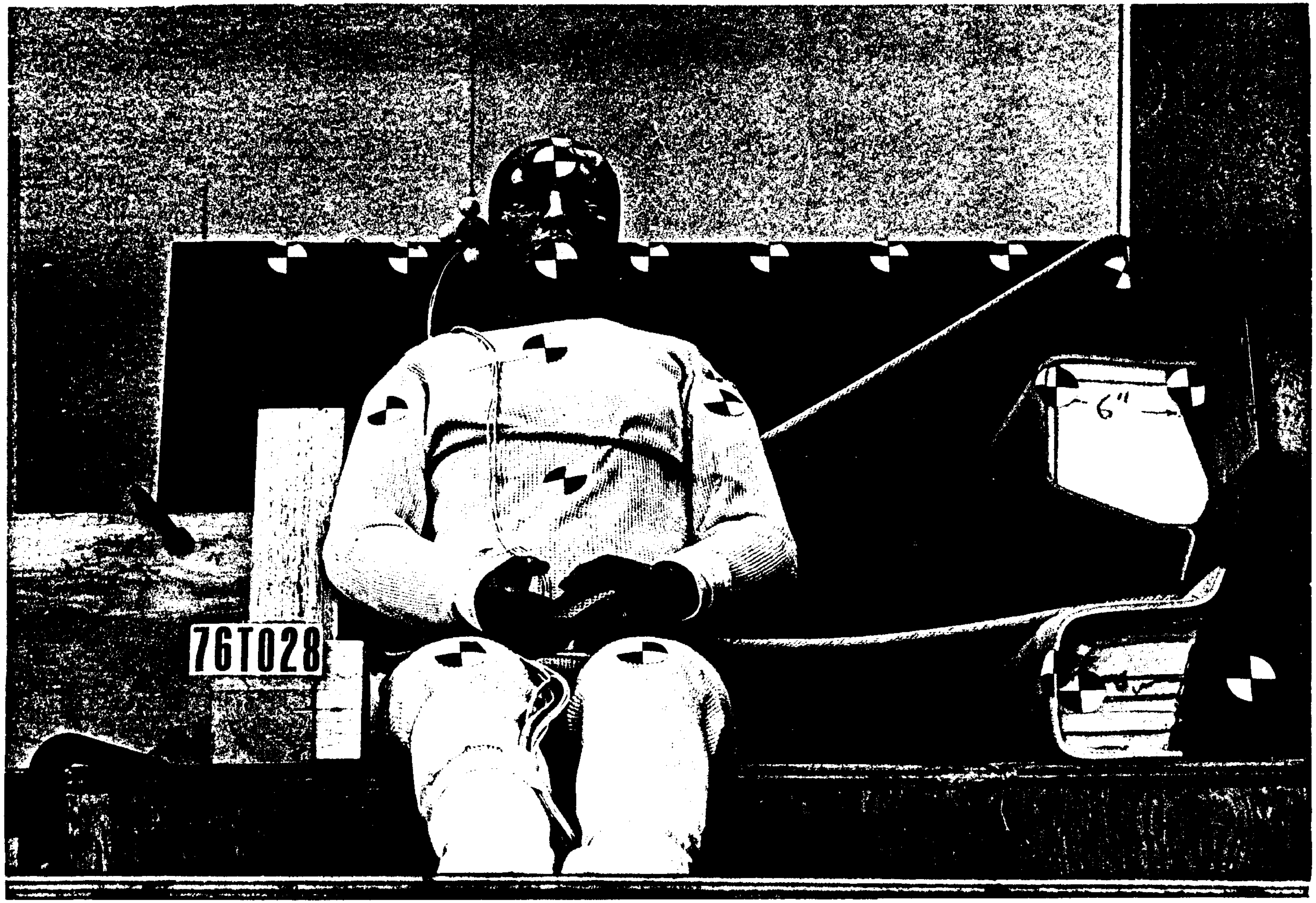


FIG. 2. Initial setup for lateral impact of Part 572 dummy with simulated RSV side structure.

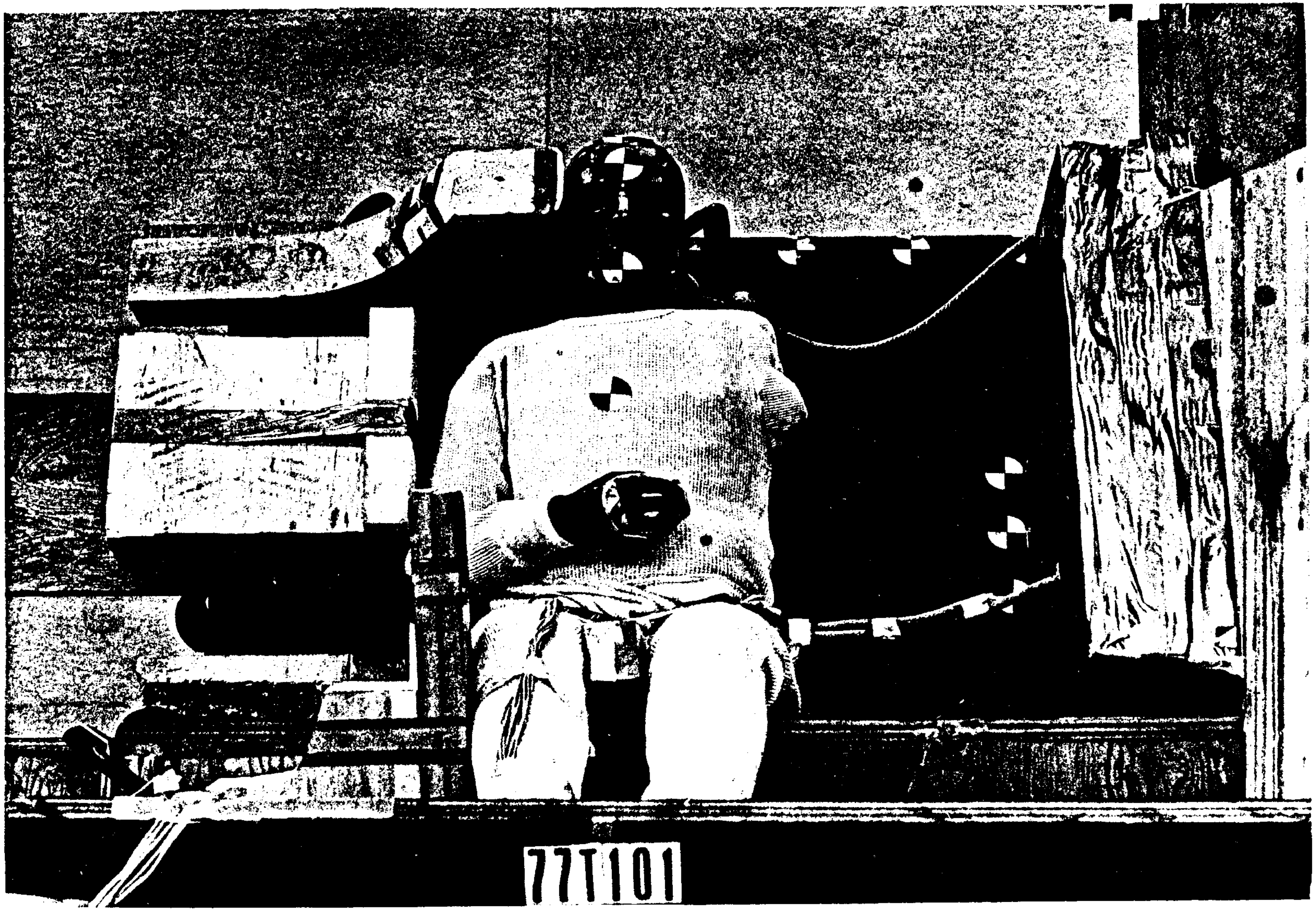


FIG. 3. Initial setup for lateral impact of Part 572 dummy (left arm removed) with flat, energy-absorbing side structure.

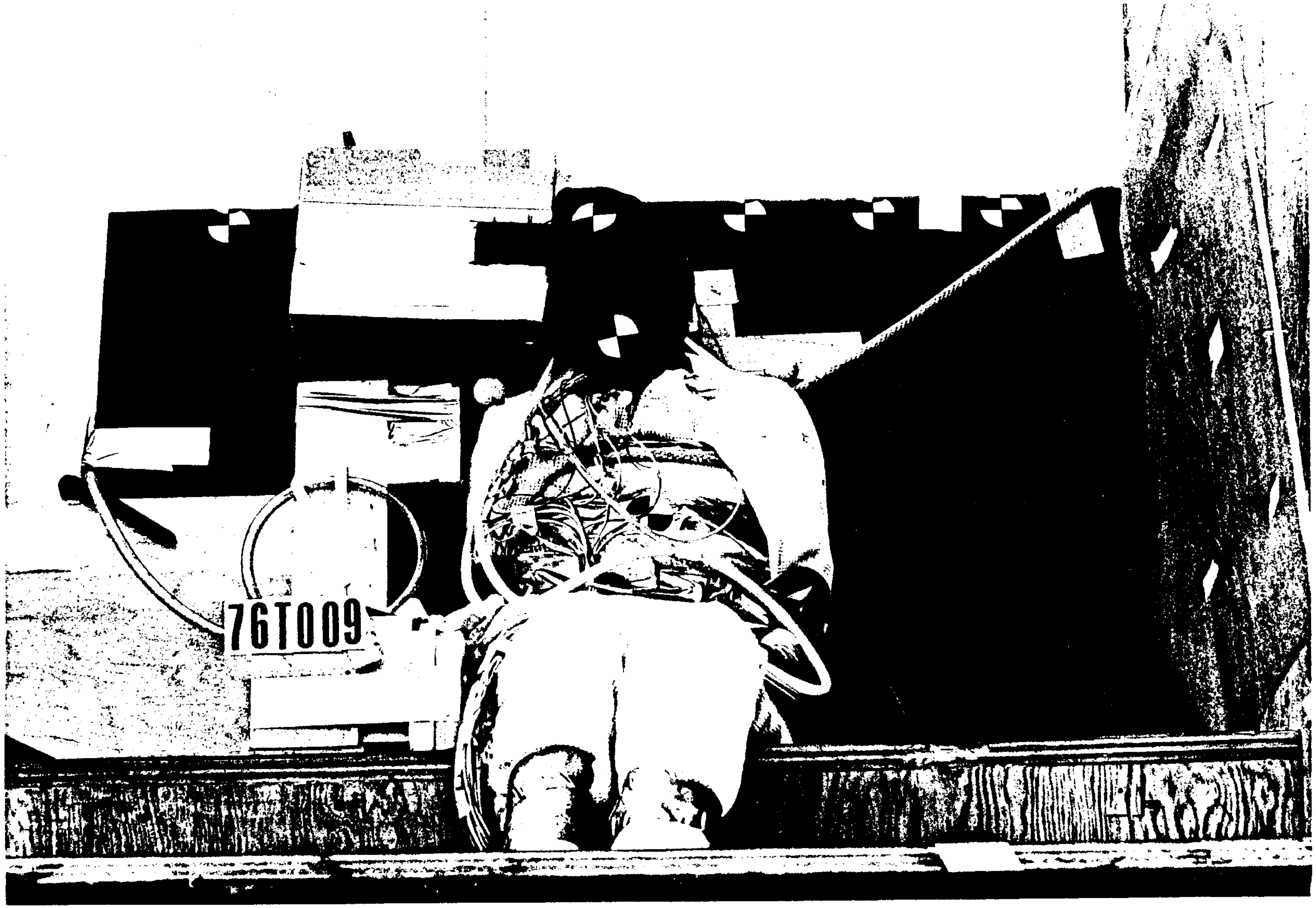


FIG. 4. Initial setup for lateral impact of cadaver subject with rigid side structures.

In all these cases the right side of the subject is positioned against a bolster to prevent undue motion or alteration of position during the acceleration of the sled. Figure 2 shows no lateral support for the head of the dummy while Figure 3 shows the support necessary for the higher velocity tests utilizing dummies. The support was necessary for all cadaver tests.

During the period of the test when a relative velocity was developing between the subject and the seat it was necessary to assure a mimimum of friction between the two. After preliminary studies using modern materials such as teflon and silicone lubricants, it was found that the combination of inexpensive cotton garments and common linoleum provided a suitably "frictionless" surface. These materials were used for all tests.

The three different types of simulated side structures are shown in Figures 1-3. The rigid structure shown in Figure 1 is simply a flat plywood wall. The structure shown in Figure2 is derived from the Minicars Research Safety Vehicle project (See "Research Safety Vehicle - Phase II, Volume II, Comprehensive Technical Results," NTIS No. HS-803250, Minicars, Inc, Nov. 1977). The schematic in Figure 5 shows the geometry and materials of construction. Figure 3 shows the case where a flat, energy-absorbing pad was mounted between the dummy and the rigid face of the plywood wall. The padding materials are described for each test where they are used in the later sections of this report.

2.2 Instrumentation

Accelerometers were mounted on the thoraxes of both dummy and cadaver subjects. Triaxial accelerometer clusters were mounted within the thorax for both classes of dummies while individual accelerometers were mounted externally to the thoracic skeleton of cadavers. Accelerometer locations and orientations are shown schematically for cadaver subjects in Figure 6. The mounts are fastened to the most lateral position on the ribs shown and also at the top and bottom of the sternum. Triaxial clusters were mounted (for most tests) to the first and twelfth thoracic vertebrae. The positive direction for each location is shown

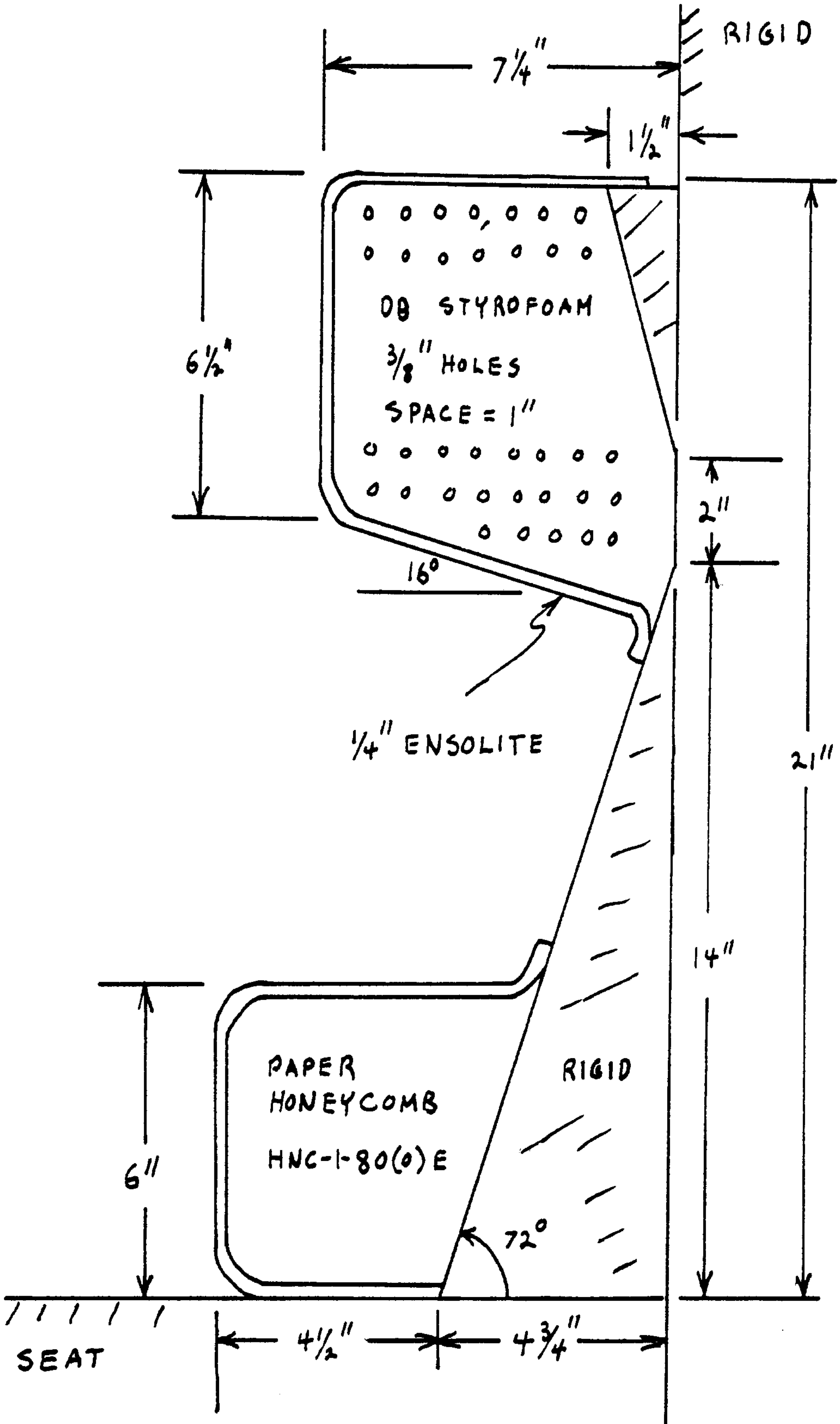
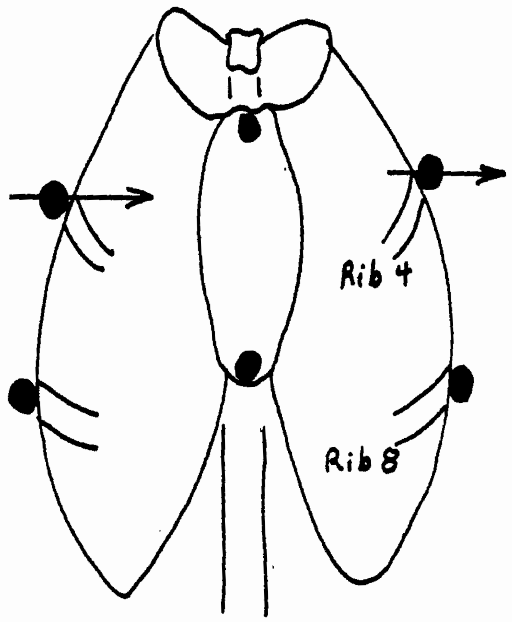
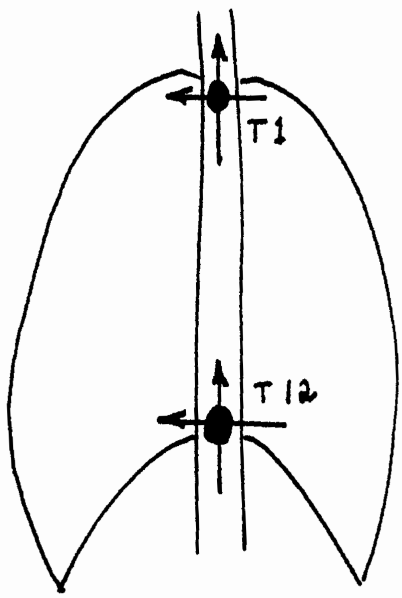


FIG. 5. Schematic of RSV door side structure for use in impact sled tests.



Front (All ● plus to front)



Rear (T1 + T12 have accelerometer plus to front)

FIG 6. Location and directions of accelerometer mounts used on cadaver thorax.

in the schematic. It was not possible or practical to achieve the precise orientations shown during pre-test surgical preparation of the cadavers. Even if it were possible, the precise orientations of the transducers would be altered by the large overall geometric changes which take place in a cadaver thorax when repositioning from a supine to a seated position. Coarse measurements which have been made on all mounts for all subjects indicate that the errors in orientation are less than 5 degrees for most cases. This accuracy is sufficient for the intended applications of these data.

Triaxial clusters of accelerometers were mounted on the pelvic structures for both classes of dummies as well as the cadavers. Accelerometers were also mounted in the heads of the dummies.

The differential velocity of the sled which represents the velocity of impact between the test subject and the simulated side structures has been obtained from velocity traps monitoring entry and rebound velocity. The minor velocity loss due to sliding friction of the test subject on the seat has been computed for a few subjects using analysis of the high speed motion pictures taken for each test and is about 1 mph.

2.3 Data Processing

The first step in processing the accelerometer signals, which were initially recorded on FM analog tape, was to digitize them. The digitized data were then filtered at 100 hz. A trapeziodal integration rule was used to produce the first and second integrals. Calcomp plots could be made at any stage of this operation. All plots are included after Parts 3, 4, and 5 of this report.

It should be noted that the quantities contained in the plots represent the instantaneous magnitude of one component of an acceleration, velocity, or position vector. Without knowledge of the orientation of the vector as a function of time or of the magnitudes of the other two components, the definition of the three vector quantities is incomplete. Great caution should be used in drawing conclusions based only on the data traces contained in this report.

3.0 TESTS USING CADAVERS

Table 1 summarizes the tests using cadaver subjects. The differential velocities of impact are 15, 20, and 25 mph. Impacts are into rigid or padded wall structures. The padding is either sculptured to represent an RSV interior side door structure or presented as a flat surface. Subject anthropometry and a summary description of the observed injuries are also included in Table 1. The estimated level of injury for each body region is also included.

The acceleration, velocity, and distance plots for these tests are presented as Figures 7-144. They are organized into four groupings each of which contains similar tests. Figures 7-39 describe the results of Test Nos. 76T023 and 76T029 which are 15 mph impacts with rigid and padded side surfaces. Figures 40-75 contain 20 mph impacts into padded surfaces while Figures 76-111 cover impacts at the same velocity into a rigid surface. The final group of figures covers 25 mph impacts.

The coding identification for the various plots is described in Table 2. The reader is referred to Figure 6 for a schematic anatomical description. Data from a few channels are not reported due to equipment failures. Also, a T1LR mount was not used until the later tests.

TABLE 1. TEST SUMMARY. CADAVER SUBJECTS (page 1 of 2)

TEST NO.	DIFFERENTIAL VELOCITY (mph)	SIDE STRUCTURE	ANTHROPOMETRY				INJURIES	
			AGE	SEX	HT (cm)	WT (kg)	AIS	DESCRIPTION
76T029	15	RSV	67	M	167.1	62.5	2	4 rib fractures on left side
76T003	13.5	Flat rigid	60	M	180.5	102.1	2	1 rib fracture on left side
76T034	19.6	RSV	62	M	183.5	59	4	Thorax - 24 rib fractures, left shoulder blade fracture (Subject brittle)
							4	Head - Left parietal bone fracture
76T039	20	RSV	72	M	186.8	73.9	4	11 rib fractures, very slight surface hemorrhage on heart.
77T095	20	Flat padded (4 inches Ethafoam 220 closed cell polyetyhlene foam backed up by 2 inches of Scott Impact II open cell foam)	77	M	183.2	92.8	4	7 left rib and 3 right rib fractures Very small superficial interior aortic hemorrhage Tear and hemorrhage between left lobes of lungs.
77T098	20	Flat padded (6 inches Scott Impact II open cell foam)	71	M	168.2	59	4	4 left rib and 9 right rib fractures Hemorrhage on pericardium near aorta Pneumothorax and slight tear in lung. Minor fracture at C5 at disc.
76T010	19.6	Flat rigid	84	M	162.2	87.8	4	Thorax - 10 left rib and 5 right rib fractures
							4/5	Brain - bruising at base of frontal lobe.

TABLE 1. TEST SUMMARY. CADAVER SUBJECTS (page 2 of 2)

TEST NO.	DIFFERENTIAL VELOCITY (mph)	SIDE STRUCTURES	ANTHROPOMETRY				INJURIES	
			AGE	SEX	HT (cm)	WT (kg)	AIS	DESCRIPTION
76T011	20	Flat rigid	69	M	170.2	74.9	4	Thorax - 7 left side and 5 right side fractures
							4	Abdomen - spleen crushed, small tear on surface of liver
							5	Head/neck - depressed fracture left side with free blood in cavity. Fracture between C4 and C5.
77T089	20	Flat rigid	66	M	173.5	55.1	4/5	Thorax - 7 left rib and 2 right rib fractures, small bruise on posterior of aorta, and torn vessel connections in heart.
							4	Head - temporal bone fracture
77T092	20	Flat rigid	45	F	176.7	58.3	4/5	Thorax - 10 left rib and 3 right rib fractures, hemorrhages at junction of heart muscle and aorta, lungs punctured by ribs
							4	Head - left parietal fracture
76T042	25	RSV	58	F	177.7	64.5	4	Fractures of 12 ribs and left humerus
76T009	25	Flat rigid	75	F	155.5	44.1	6	Thorax - Multiple rib fractures, right pulmonary artery tear, right lung tear.
							5	Abdomen - Crushed left kidney
							5	Pelvis - Left iliac spine crushed
							6	Head/neck - Massive left depressed skull fracture and fractures at C1 and C2.

Table 2. CODING IDENTIFICATION FOR ACCELERATION, VELOCITY, AND DISTANCE PLOTS (CADAVER SUBJECTS)

1. Lower sternals (LS). A mount pointing positive out from the bottom of the sternum.

2. Upper sternals (US). A mount pointing positive out from the top of the sternum.

3. Left lower ribs (LLR). A mount pointing positive toward the front of the subject at the most lateral point of the eight rib on the left side.

4. Right lower ribs (RLR). A mount pointing positive toward the front of the subject at the most lateral point of the eighth rib on the right side.

5. Left upper ribs (LUR). A mount pointing positive toward the left side of the subject at the most lateral point of the fourth rib on the left side.

6. Right upper ribs (RUR). A mount pointing positive toward the left side of the subject at the most lateral point of the fourth rib on the right side.

7. TIPA. A mount on the first thoracic vertebra pointing positive toward the front of the subject.

8. TIRL. A mount on the first thoracic vertebra pointing positive to the left side of the subject.

9. T12PA. A mount on the twelfth thoracic vertebra pointing positive toward the front of the subject.

10. T12RL. A mount on the twelfth thoracic vertebra pointing positive to the left side of the subject.

11. Pelvis PA. A mount on the pelvis pointing positive to the front of the subject.

12. Pelvis RL. A mount on the pelvis pointing positive to the left side of the subject.

4.0 TESTS USING THE PART 572 DUMMY

Table 3 summarizes the tests using the Part 572 dummy as a subject. As before there are three differential test velocities - 15, 20, 25 mph and rigid or padded wall structures.

Table 3. TEST SUMMARY. PART 572 DUMMY.

Test No.	Differential Velocity mph	Side Structures
76T028	15	RSV
76T012	13.5	Flat rigid
76T043	20	RSV
77T099	20	Flat with 6 inches of Scott Impact II open cell foam (dummy without arm)
77T100	20	Flat with two outer layers (1 inch each) of Scott Impact II open cell foam and 4 inches of seating foam (dummy without arm)
77T101	20	Flat with perpendicular matrix of seating foam and Scott foam strips (dummy without arm)
76T013	19.6	Flat rigid
76T014	20	Flat rigid
76T044	27	RSV
76T015	25.8	Flat rigid

The acceleration, velocity, and distance plots for these tests are presented as Figures 145-216. They are organized into four groupings each of which contains similar tests. Figures 145-162 describe the results of Test Nos. 76T012 and 76T028 which are essentially 15 mph impacts with rigid and padded side surfaces. Figures 163-180 describe the results of 20 mph impacts with a variety of padded surfaces while Figures 181-198 are for rigid surfaces. Figures 199-216 cover 25 mph impacts.

Coding identification for the dummy accelerometers is contained in Table 4.

Table 4. CODING IDENTIFICATION FOR ACCELERATION, VELOCITY, AND DISTANCE PLOTS (DUMMY SUBJECTS)

1. Head P-A (HPA). Mount in head pointing positive to front.
2. Head R-L (HRL). Mount in head pointing positive to left side of subject.
3. Thorax P-A (TPA). Mount in chest pointing positive to front.
4. Thorax R-L (TRL). Mount in chest pointing positive to left side of subject.
5. Pelvis P-A (PPA). Mount on pelvis pointing positive to front.
6. Pelvis R-L (PRL). Mount on pelvis pointing positive to left side of subject.

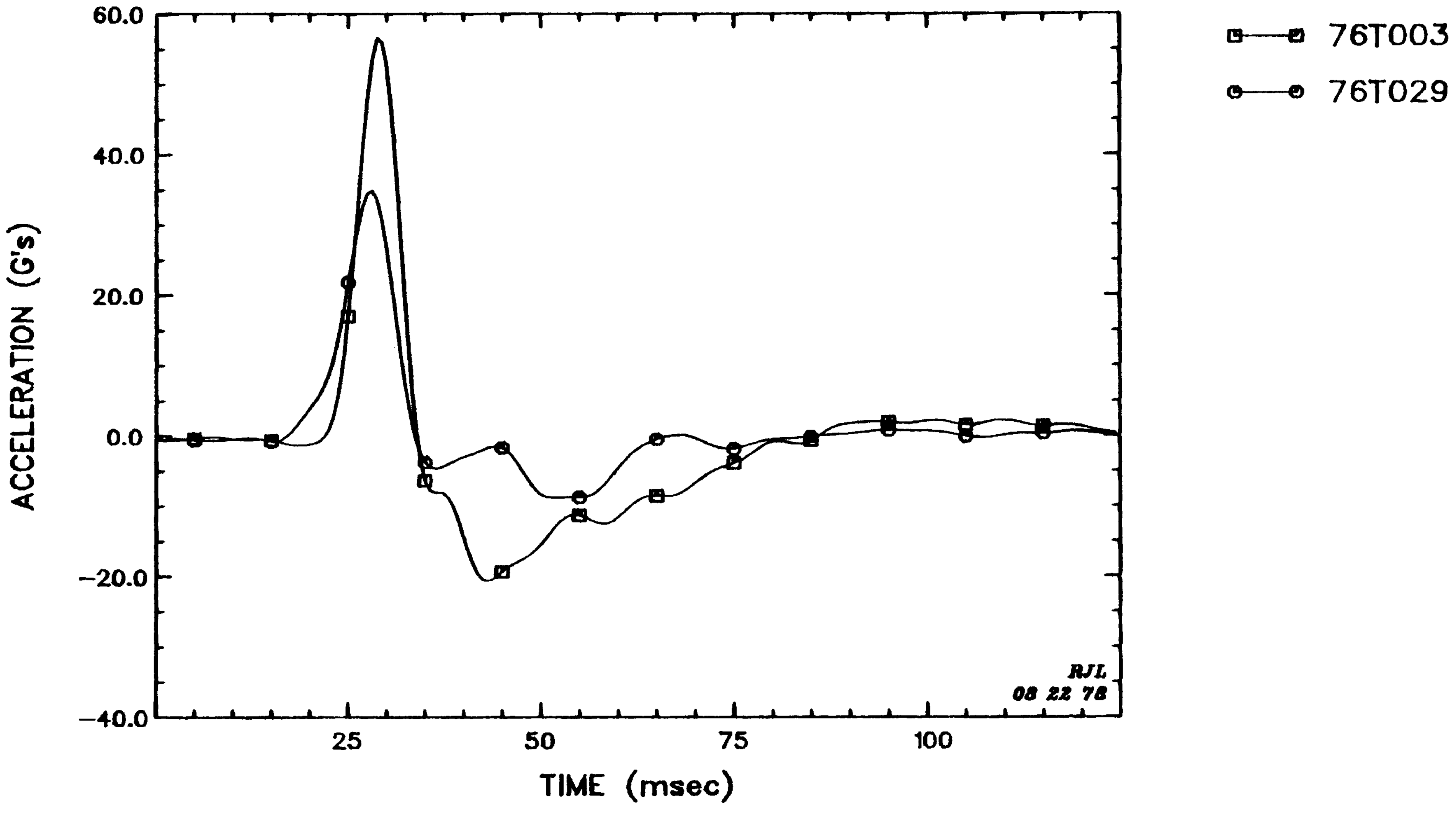
5.0 TESTS USING THE TRRL DUMMY

Table 5 summarizes the tests using the TRRL dummy as a subject. As in the other two test series, velocities of approximately 15, 20, and 25 mph were used with the addition of a low velocity 10 mph test. Either rigid or padded wall structures have been used.

The acceleration, velocity, and distance plots for these tests are presented as Figures 217-288. They are organized into four groupings each of which contains similar tests. Figures 217-234 describe the results of the three tests where the impact was with a rigid flat surface. The three velocities were 10, 13.5, and 19.6 mph. The second group, Figures 235-252, compare RSV and rigid side structures at similar velocities of 14.6 and 13.5 mph. Figures 253-270 compare two tests with RSV side structures at about 20 mph while Figures 271-288 show the results of the single test at 27 mph.

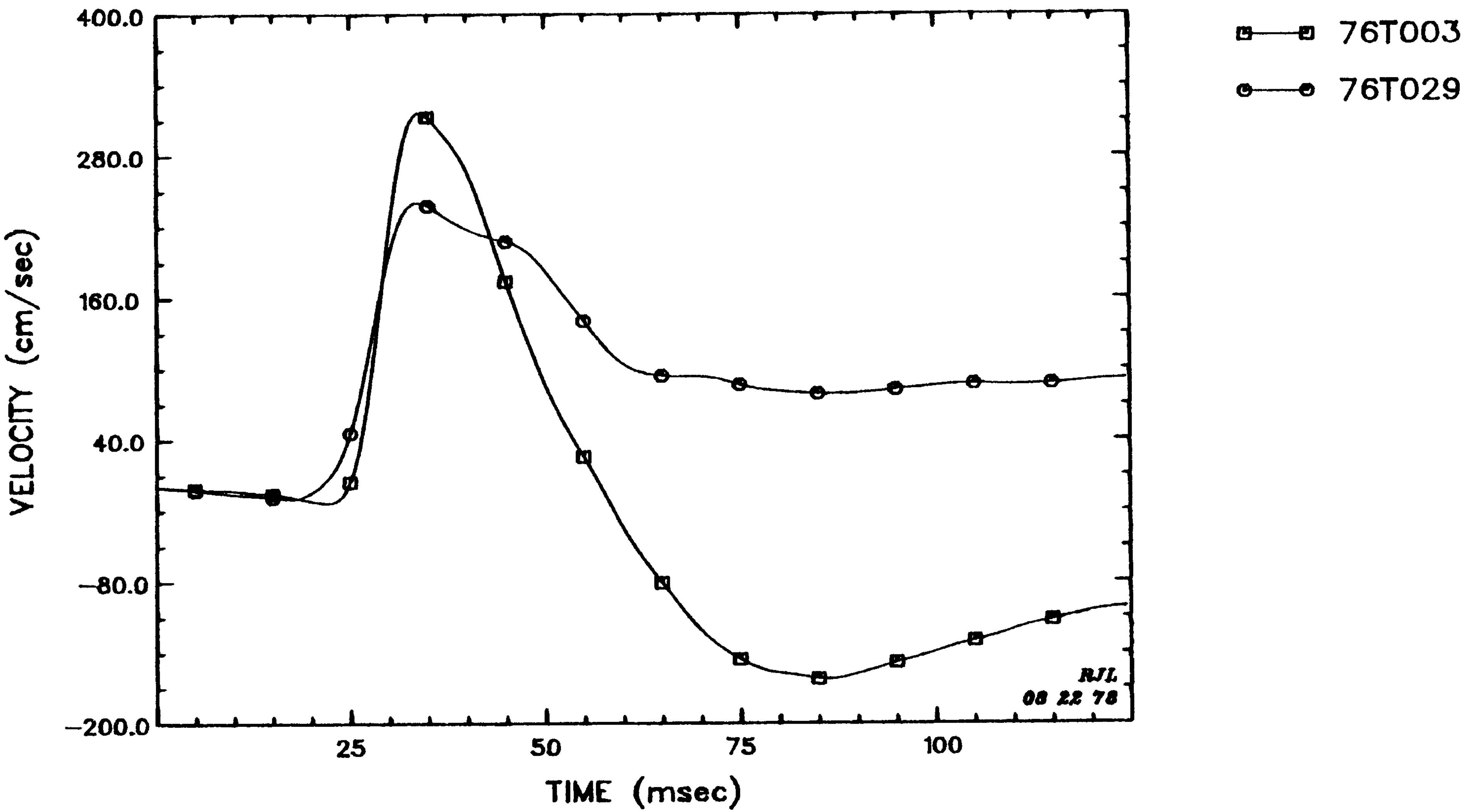
Table 5. TEST SUMMARY. TRRL DUMMY

Test No.	Differential Velocity mph	Side Structures
76T019	10	Flat rigid
76T045	14.6	RSV
76T016	13.5	Flat rigid
76T030	19.6	RSV
76T047	20	RSV
76T017	19.6	Flat rigid
76T046	27	RSV



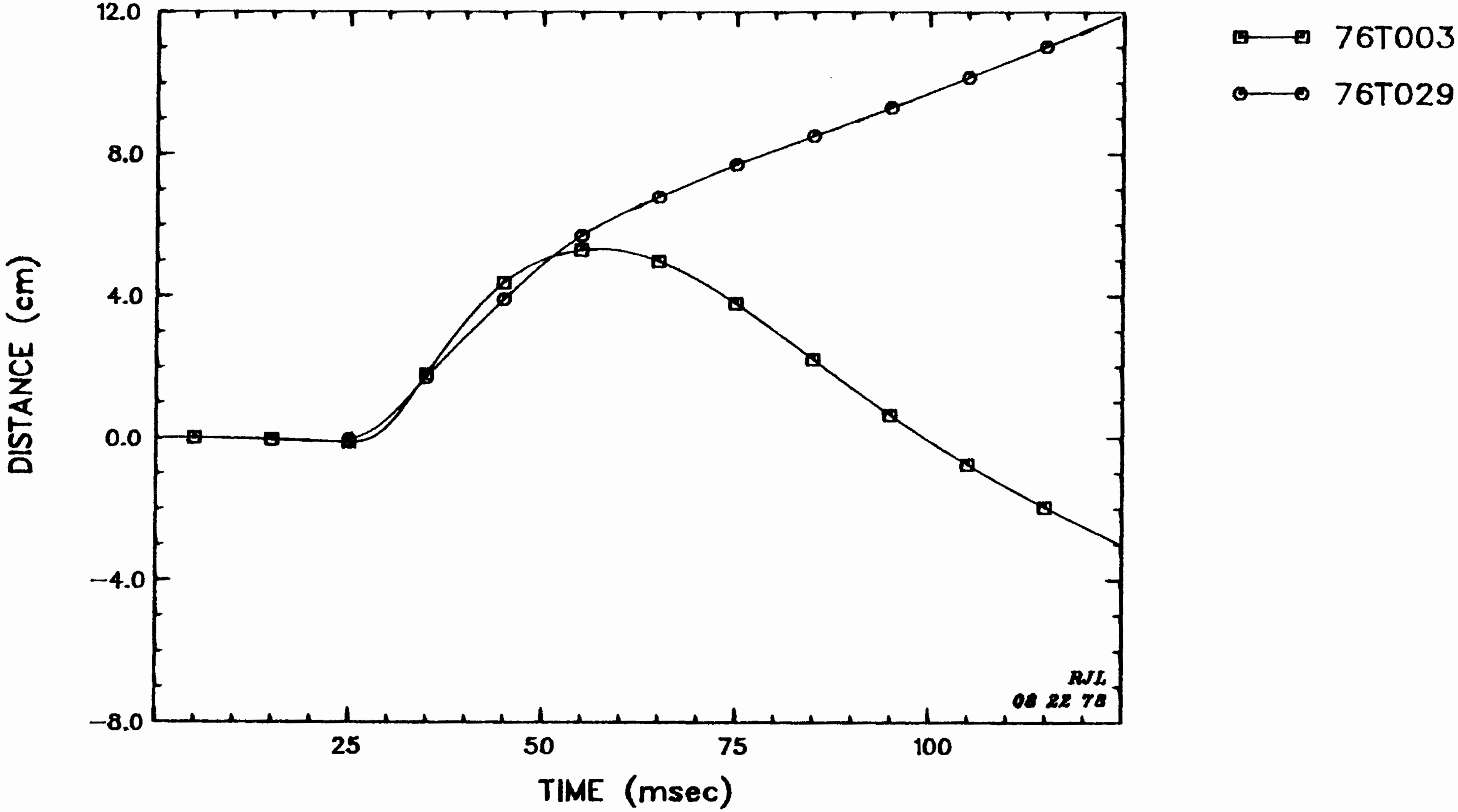
LOWER STERNALS -- SIDE TESTS (15-R,P)

Figure 7



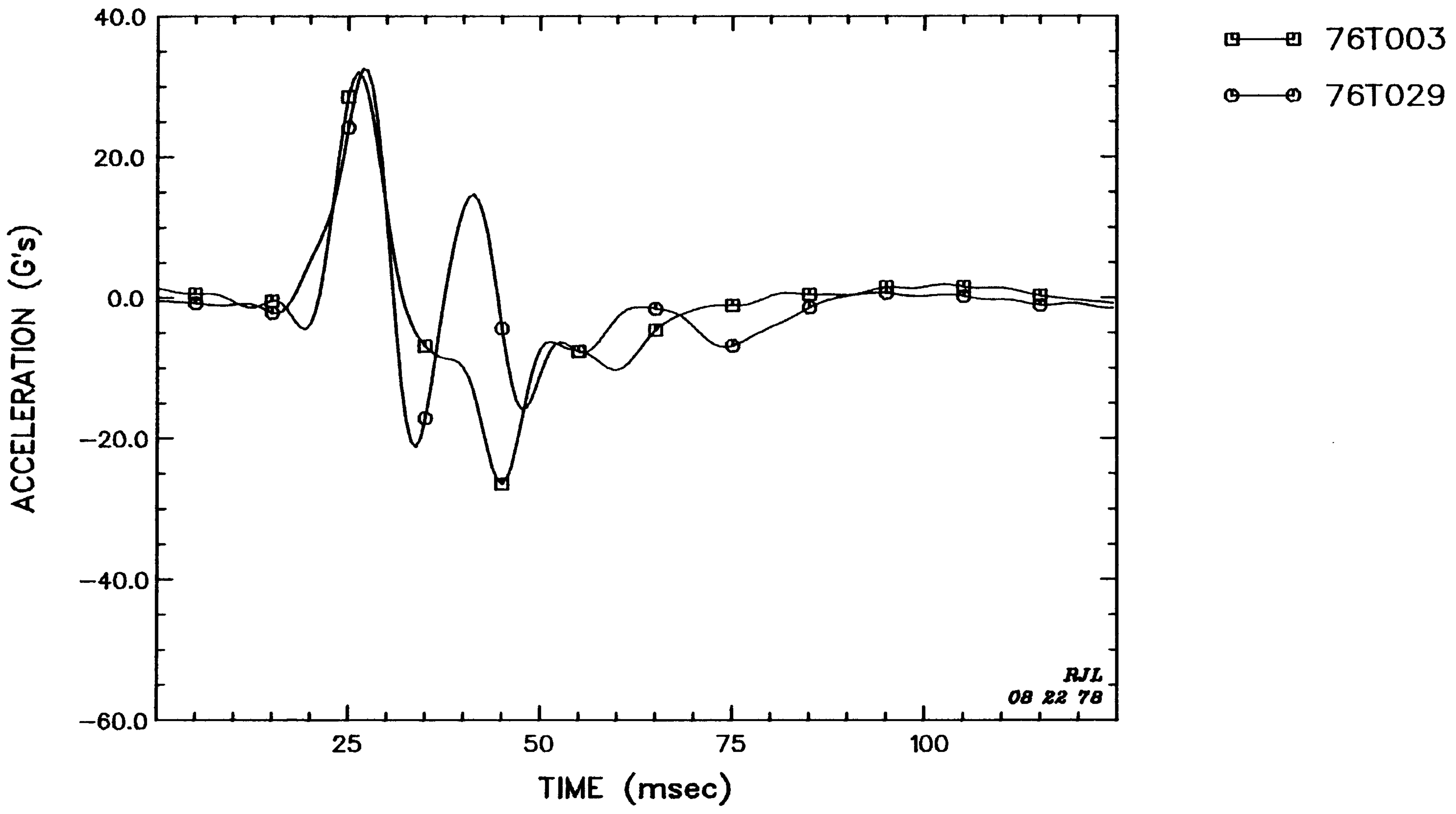
LOWER STERNALS -- SIDE TESTS (15-R,P)

Figure 8

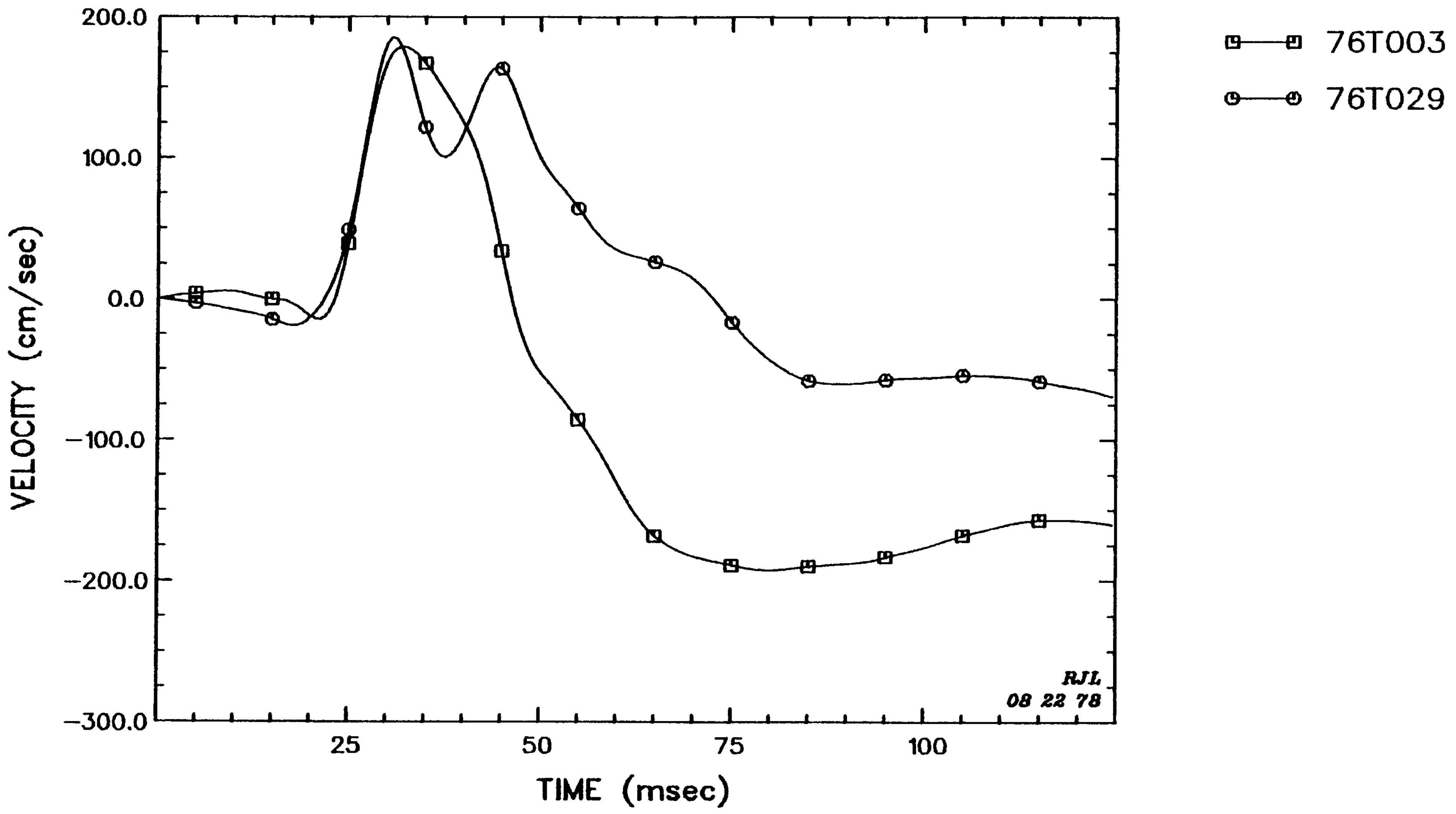


LOWER STERNALS -- SIDE TESTS (15-R,P)

Figure 9

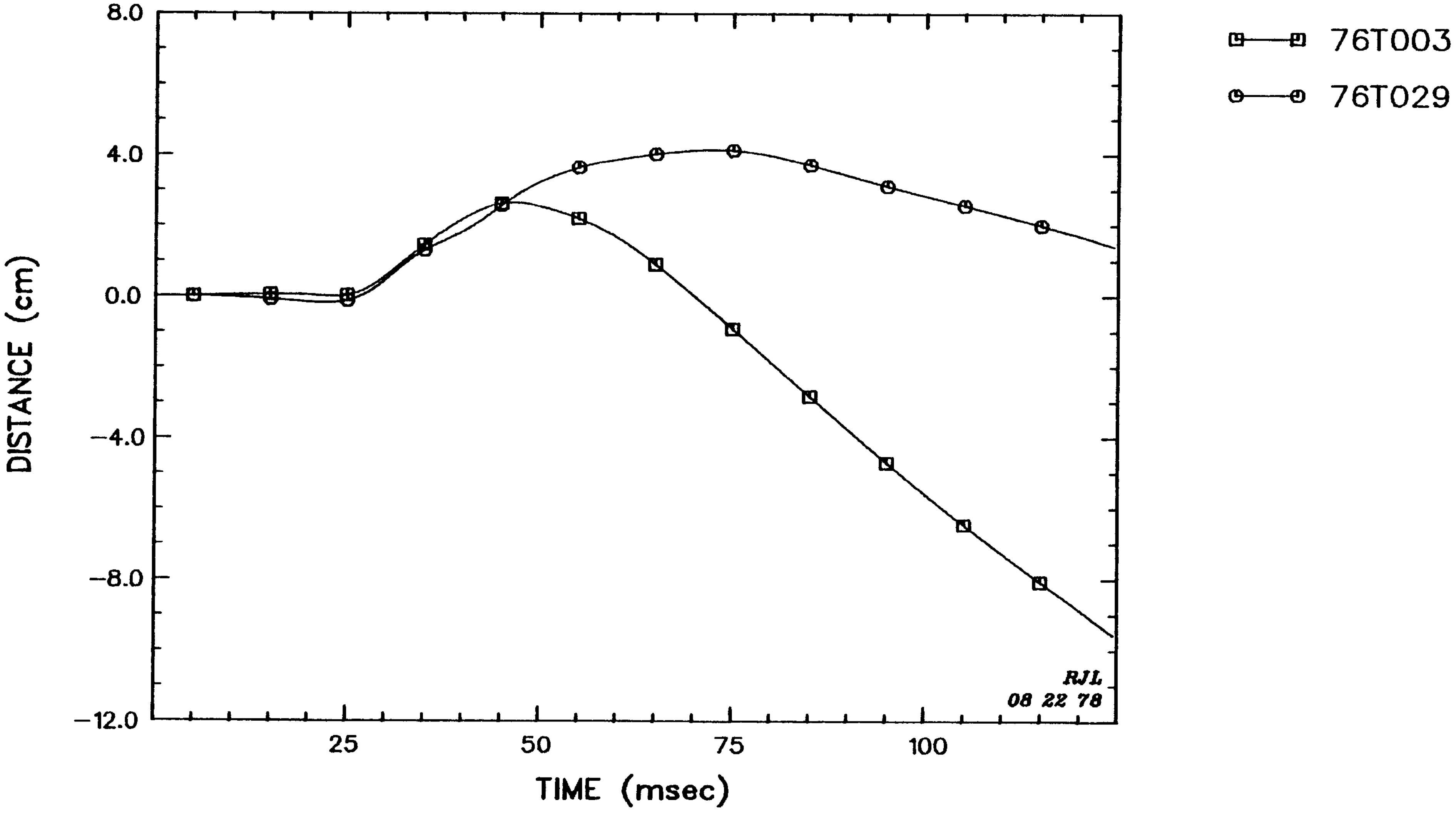


UPPER STERNALS -- SIDE TESTS (15-R,P)
Figure 10



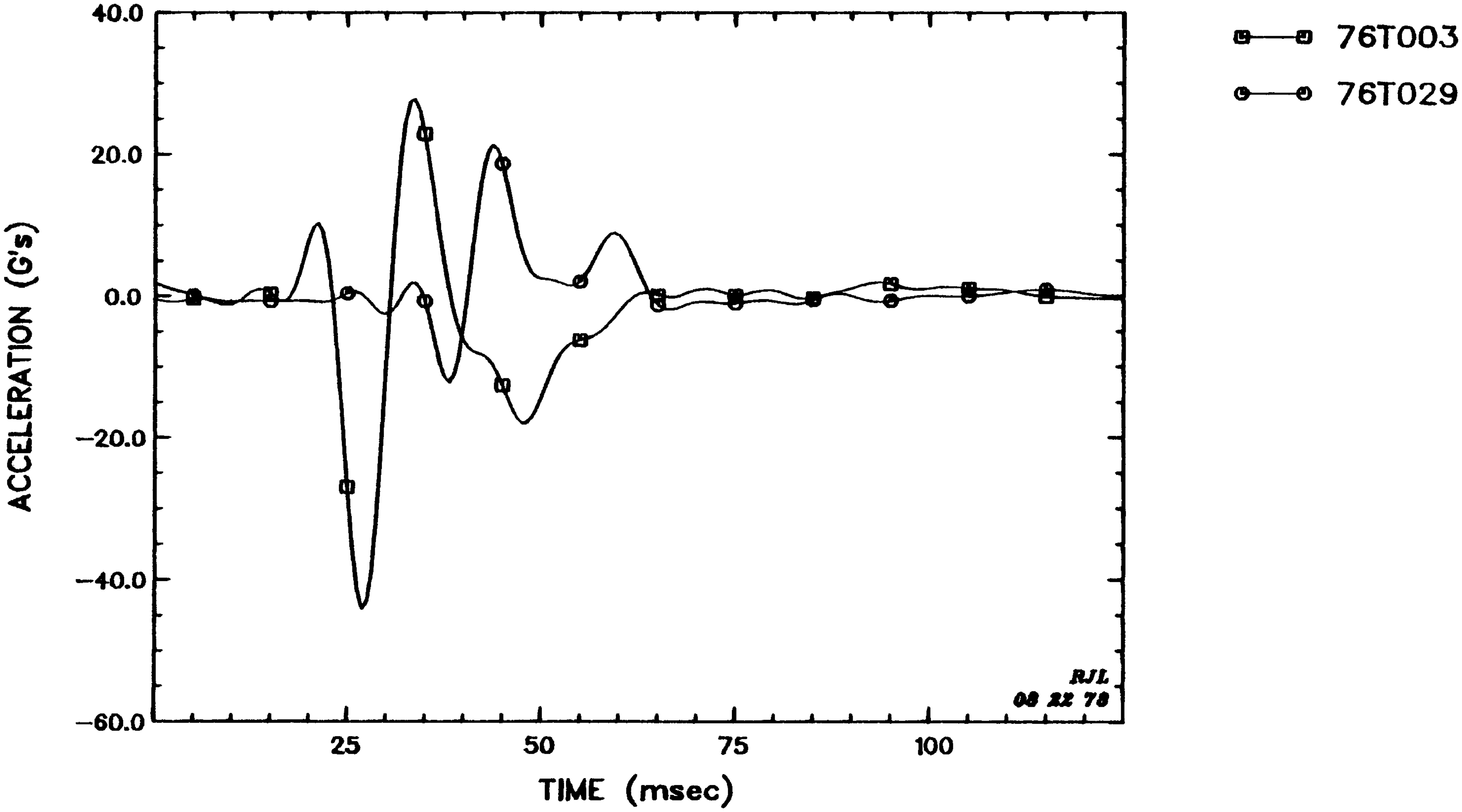
UPPER STERNALS -- SIDE TESTS (15-R,P)

Figure 11



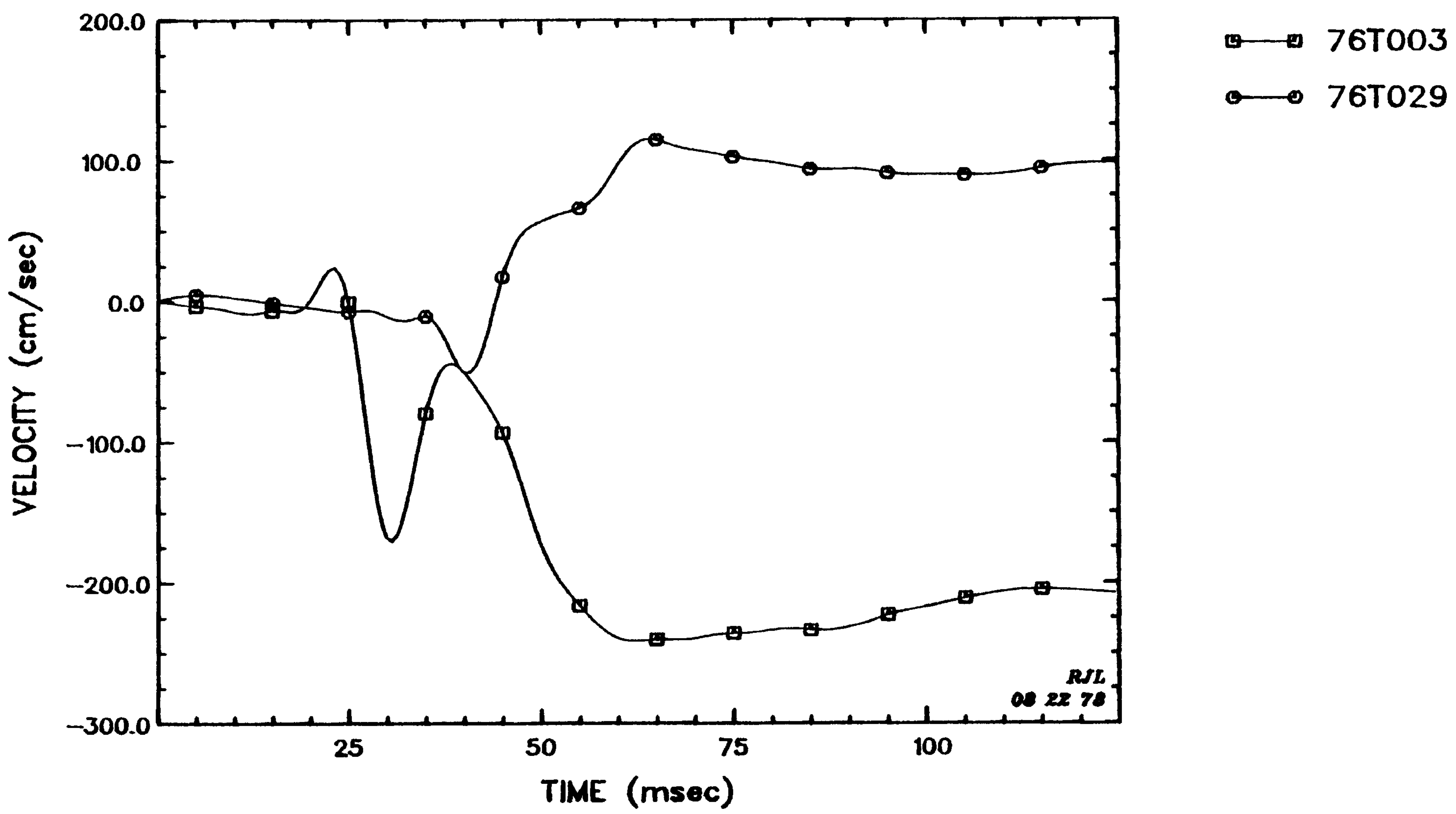
UPPER STERNALS -- SIDE TESTS (15-R,P)

Figure 12



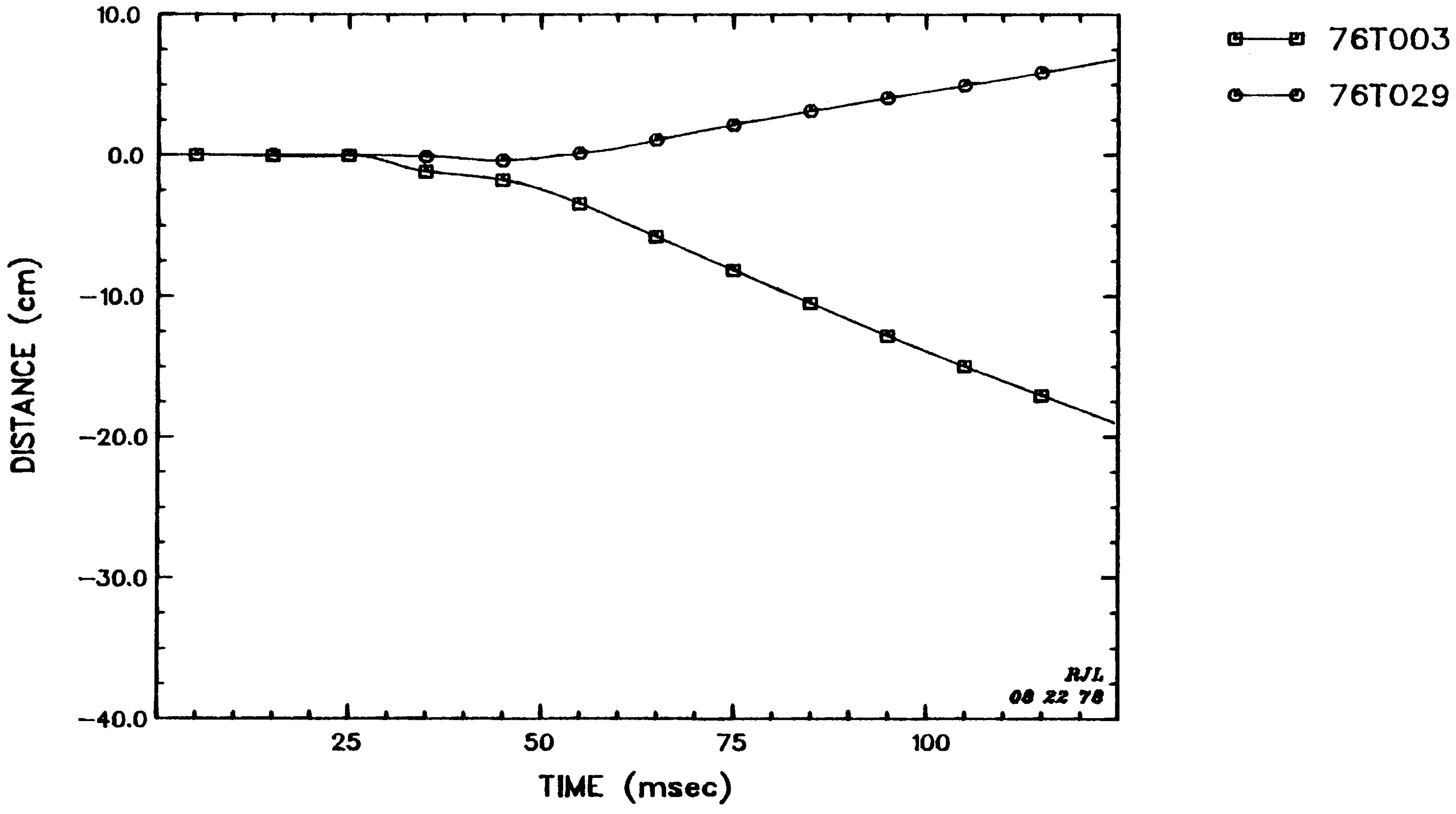
LEFT LOWER RIBS -- SIDE TESTS (15-R,P)

Figure 13



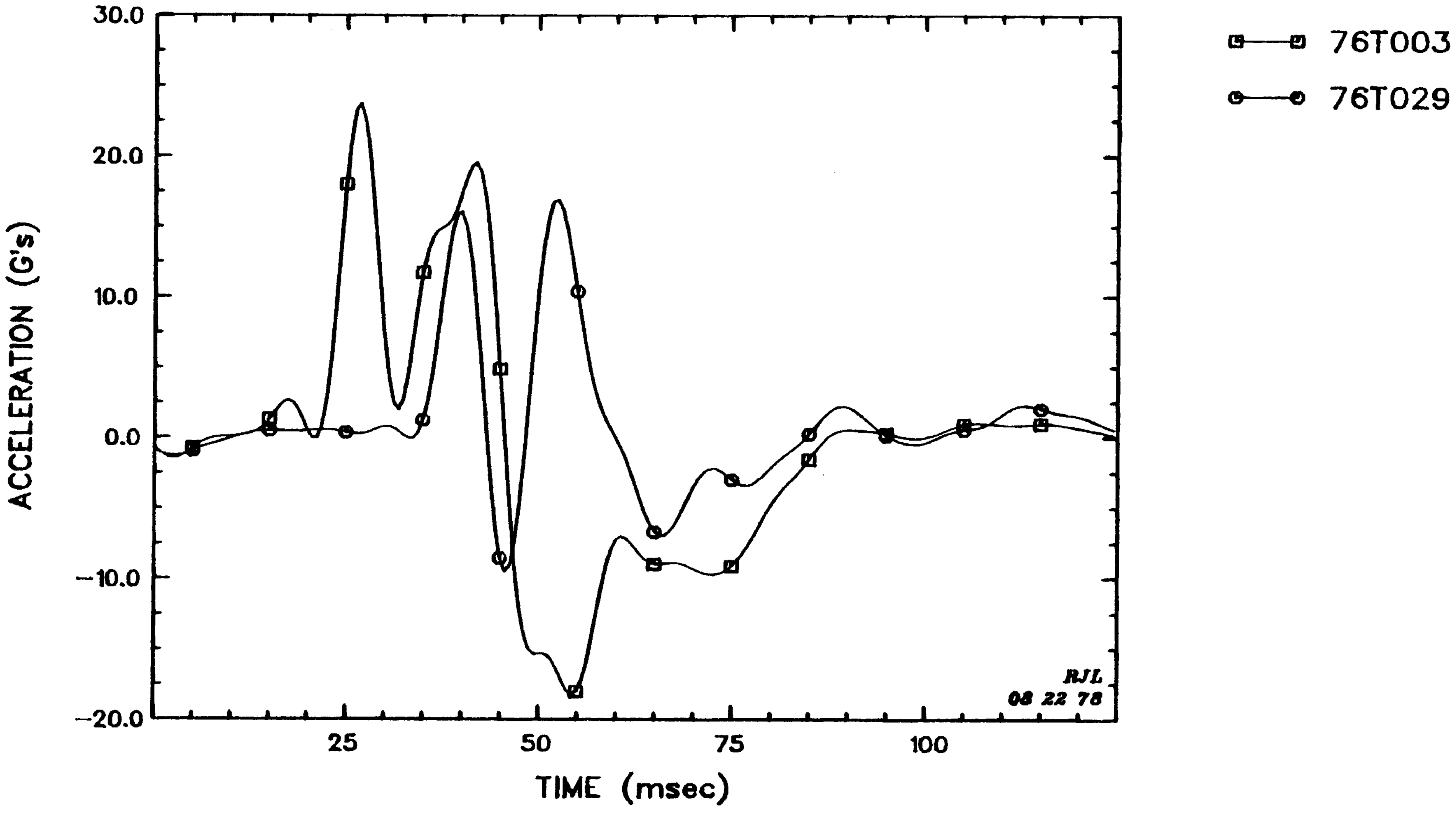
LEFT LOWER RIBS -- SIDE TESTS (15-R,P)

Figure 14



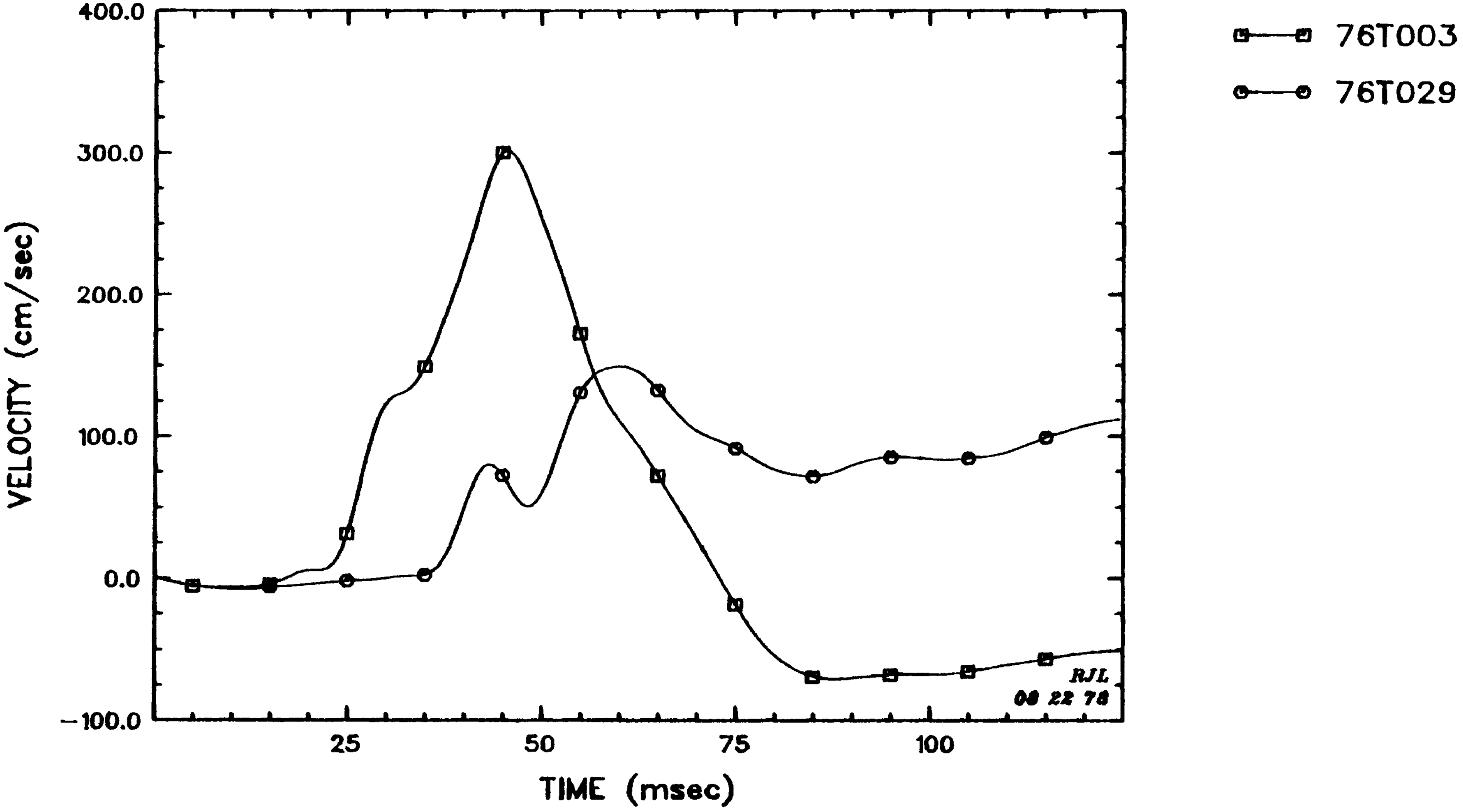
LEFT LOWER RIBS –– SIDE TESTS (15–R,P)

Figure 15



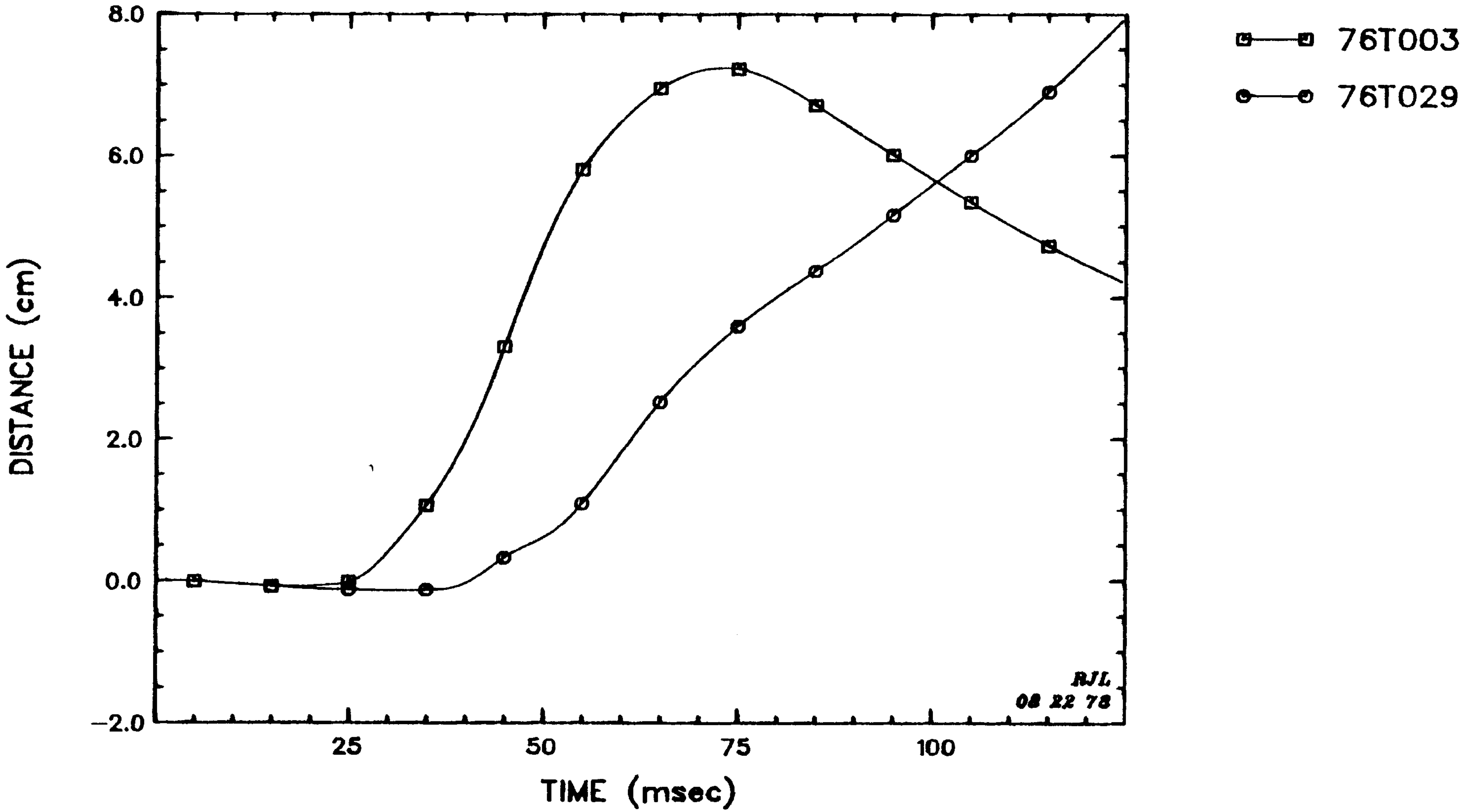
RIGHT LOWER RIBS -- SIDE TESTS (15-R,P)

Figure 16



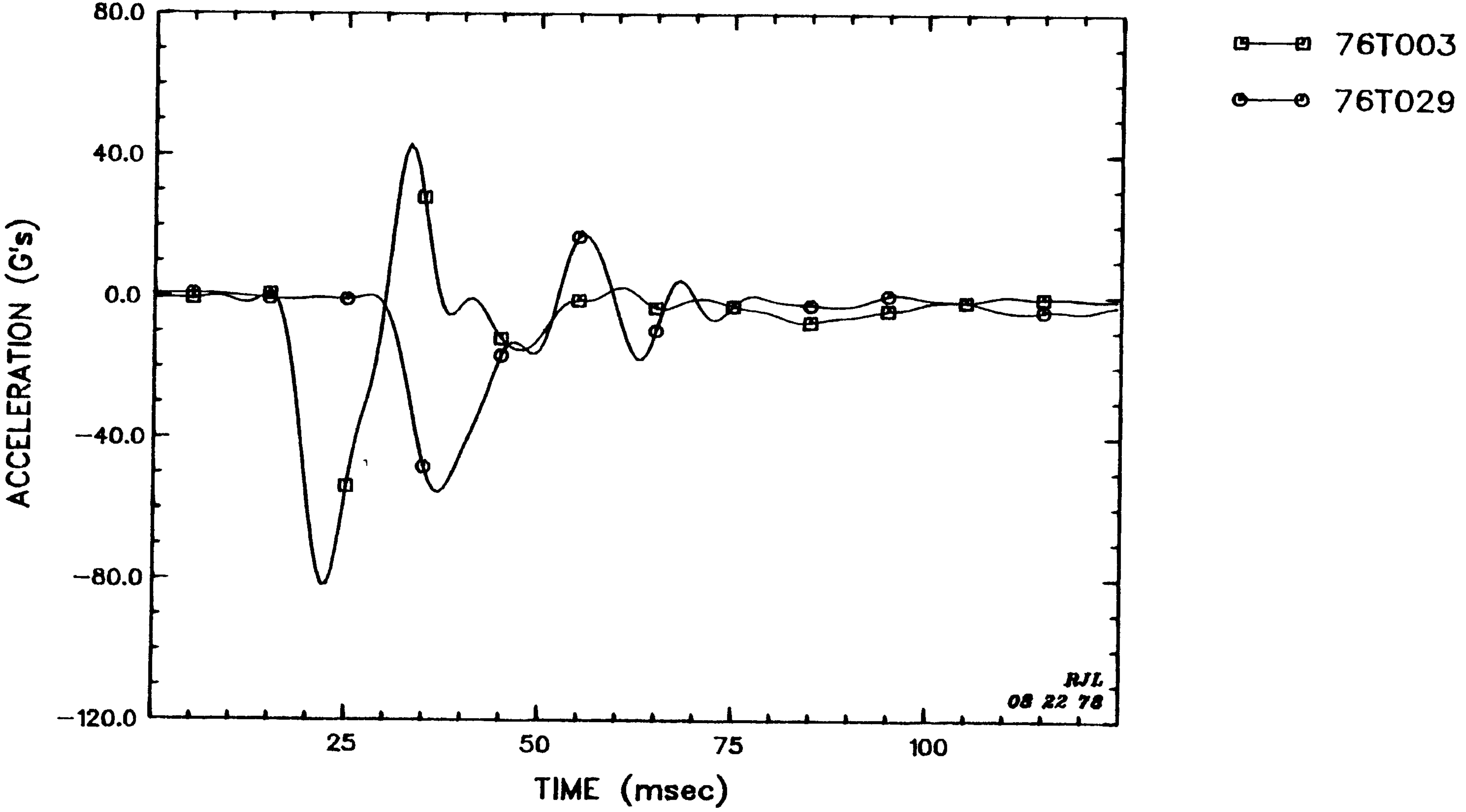
RIGHT LOWER RIBS -- SIDE TESTS (15-R,P)

Figure 17



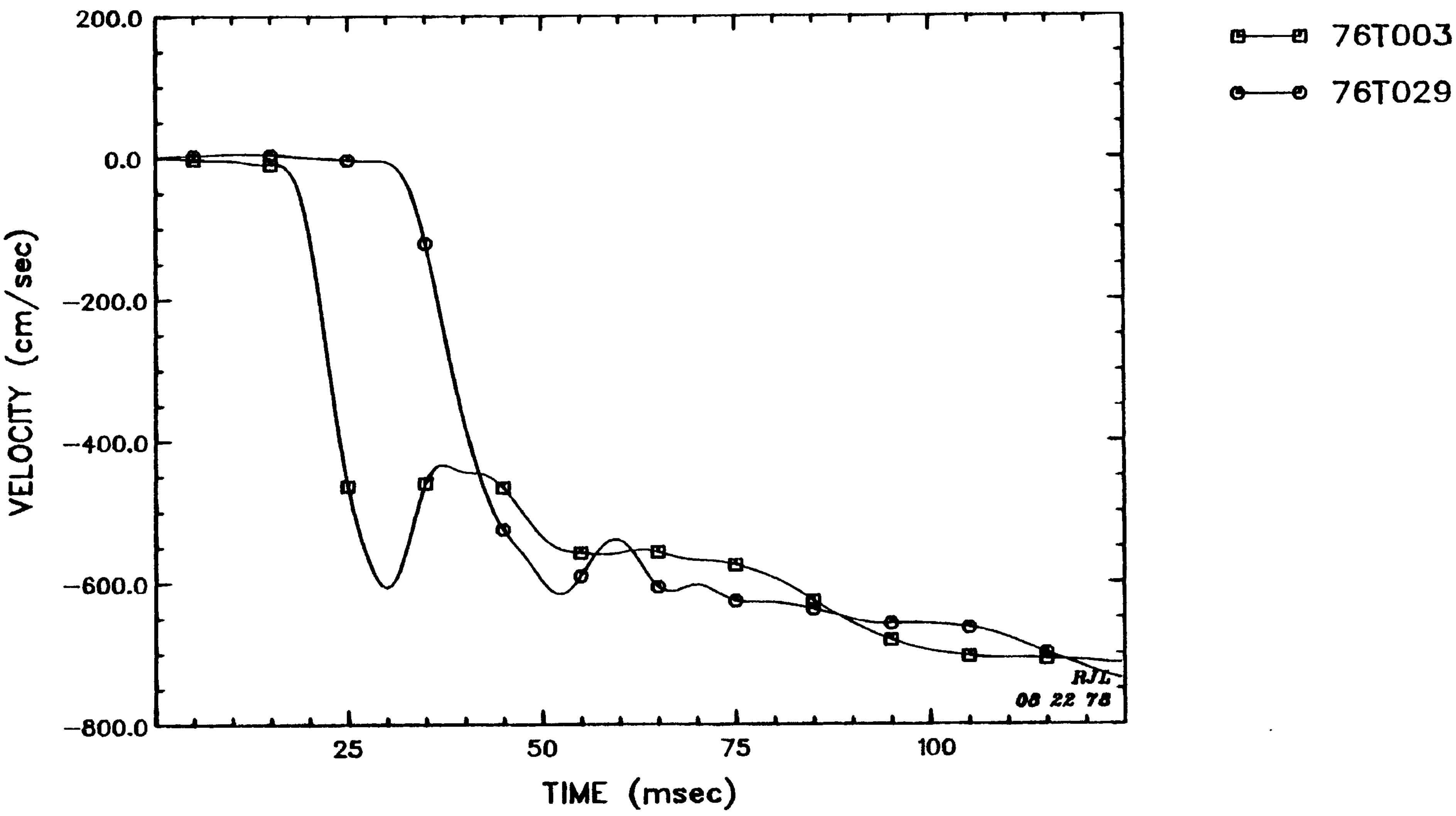
RIGHT LOWER RIBS -- SIDE TESTS (15-R,P)

Figure 18



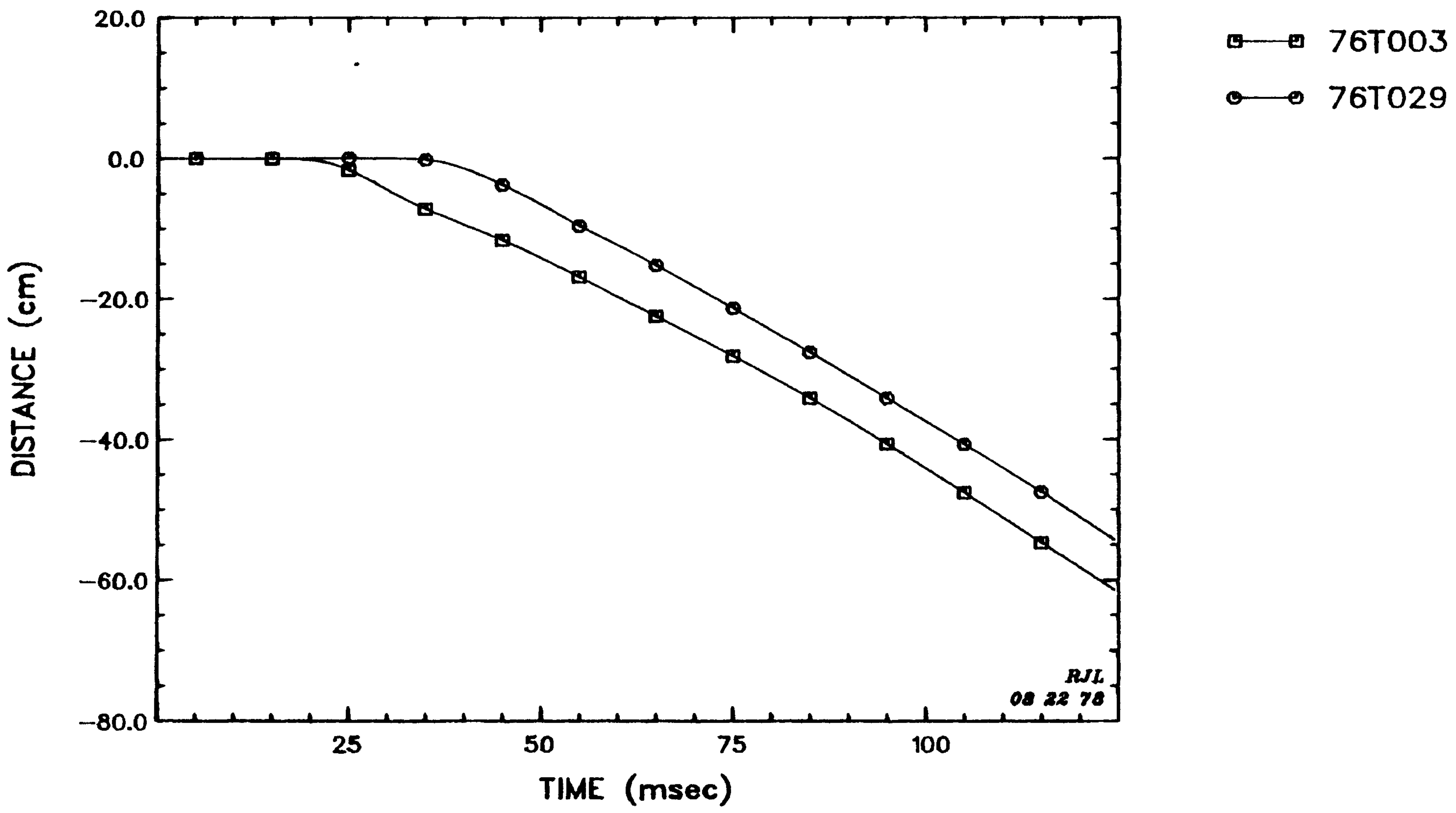
LEFT UPPER RIBS -- SIDE TESTS (15-R,P)

Figure 19



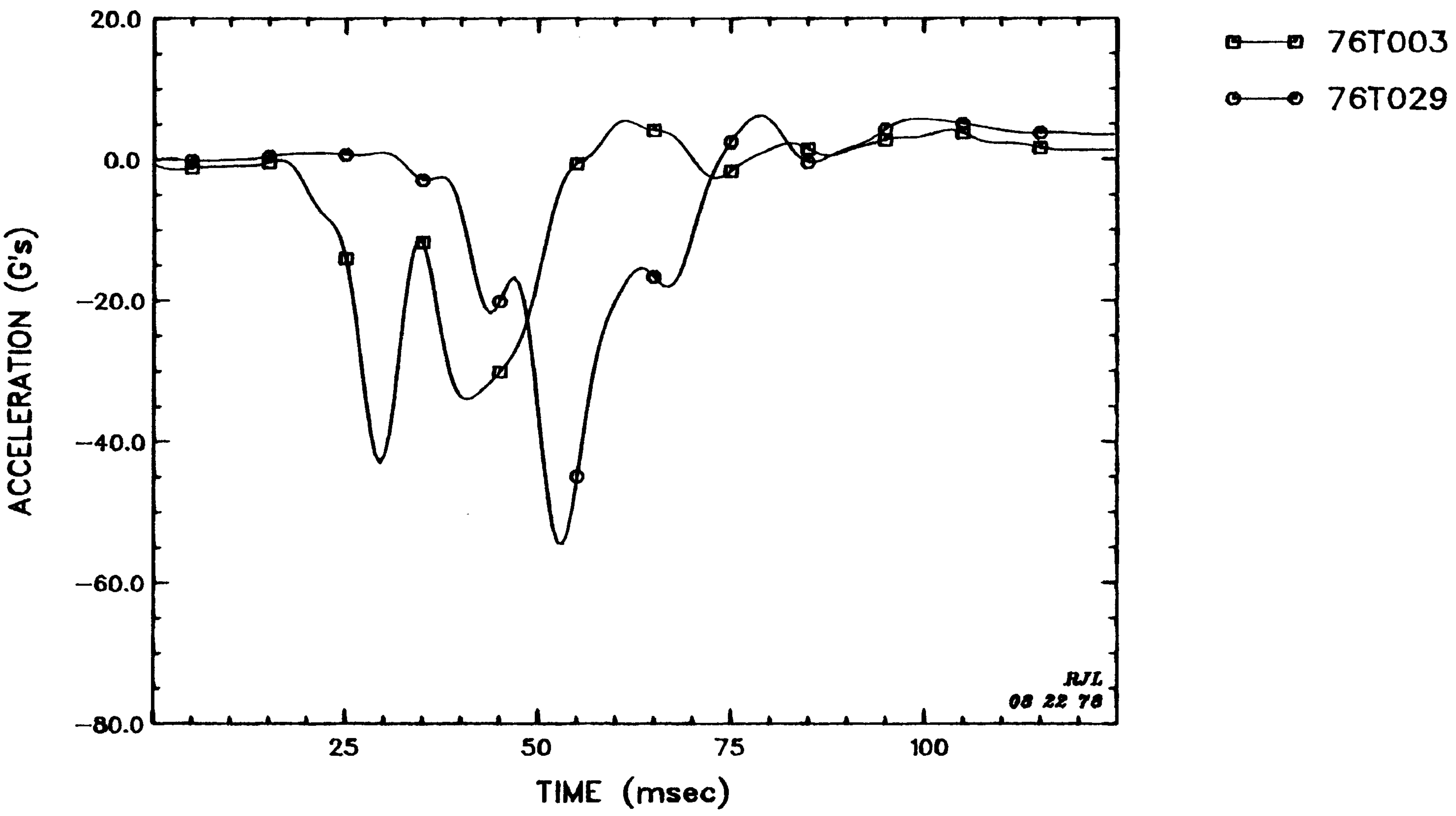
LEFT UPPER RIBS -- SIDE TESTS (15-R,P)

Figure 20



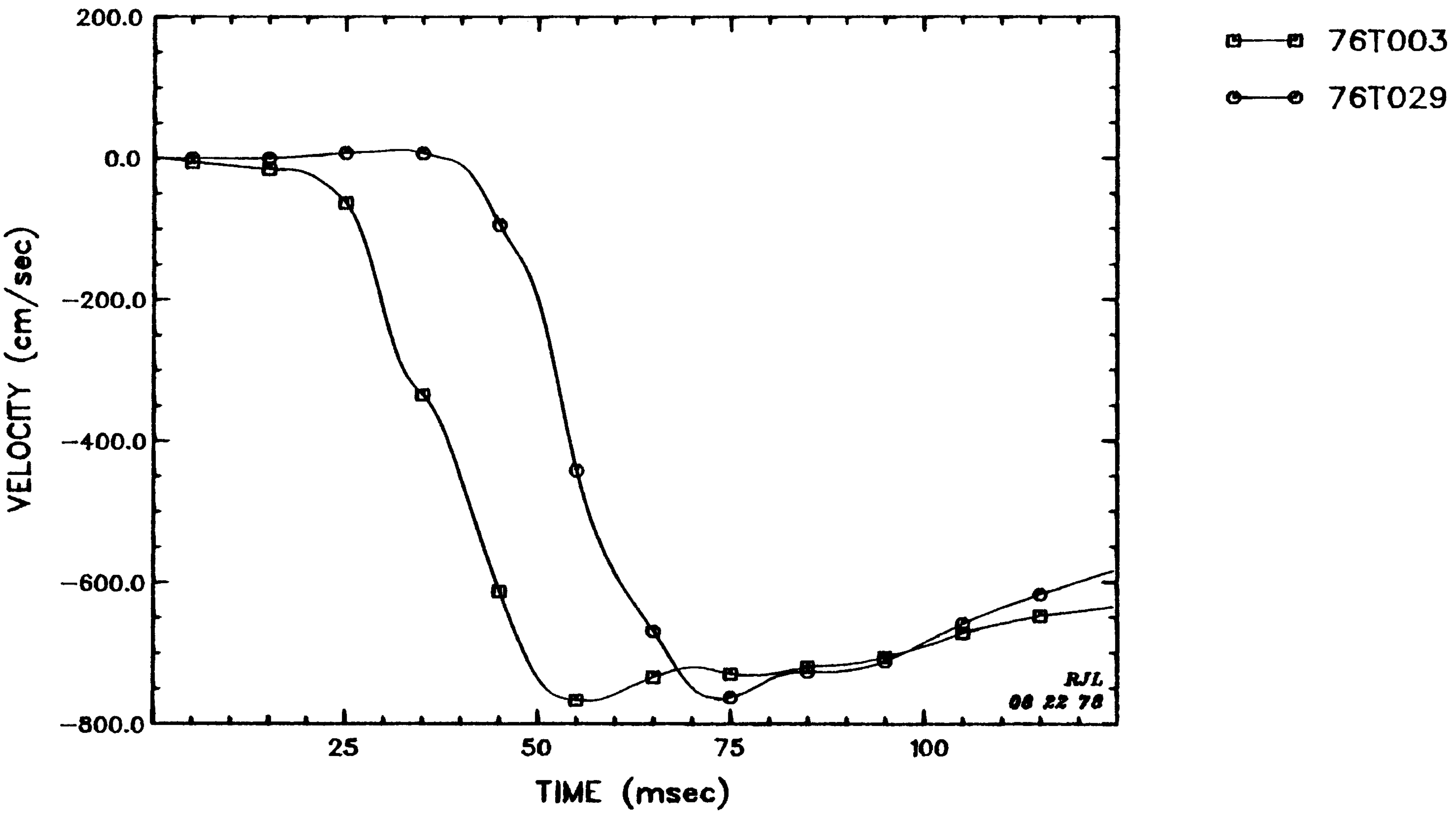
LEFT UPPER RIBS -- SIDE TESTS (15-R,P)

Figure 21



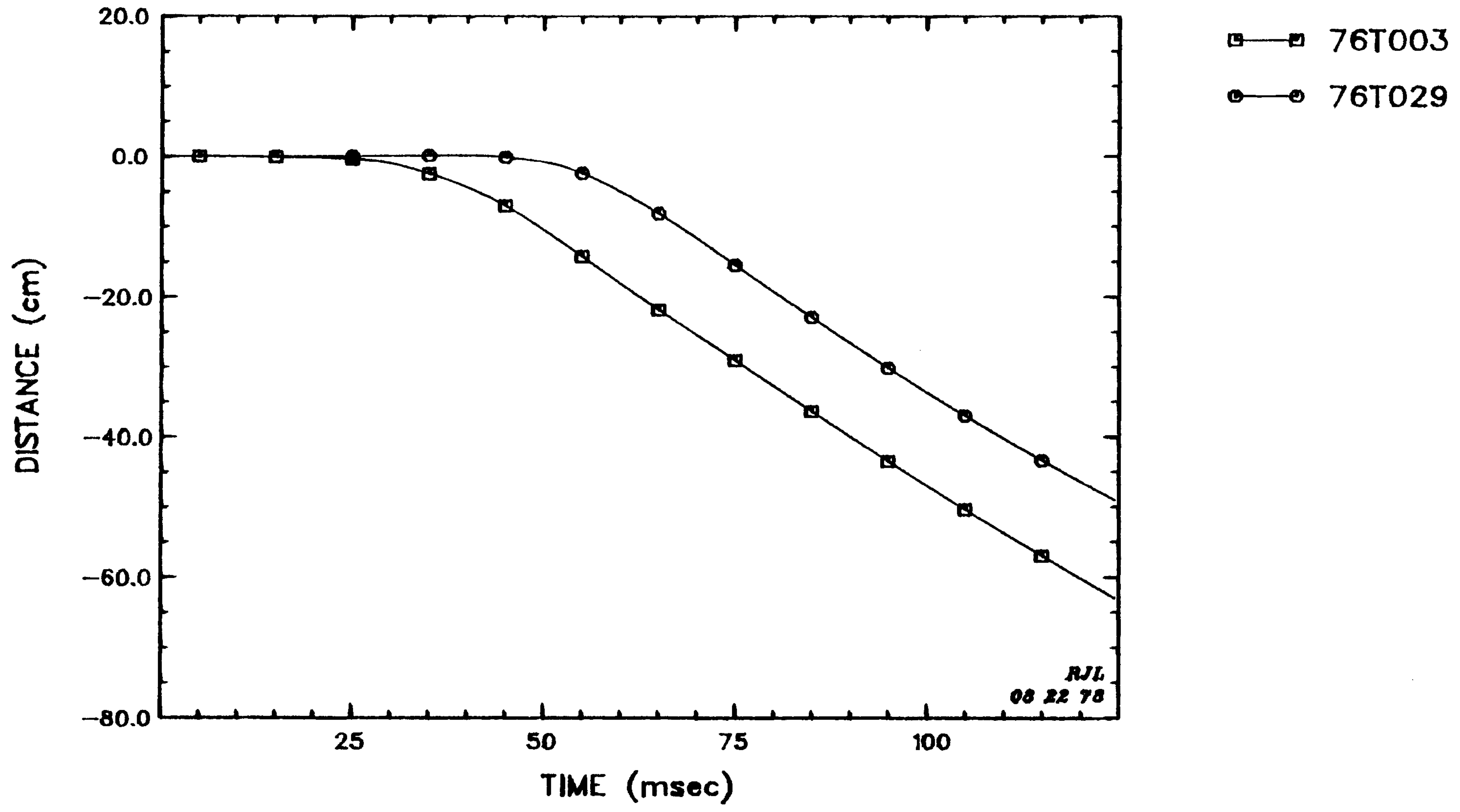
RIGHT UPPER RIBS -- SIDE TESTS (15-R,P)

Figure 22



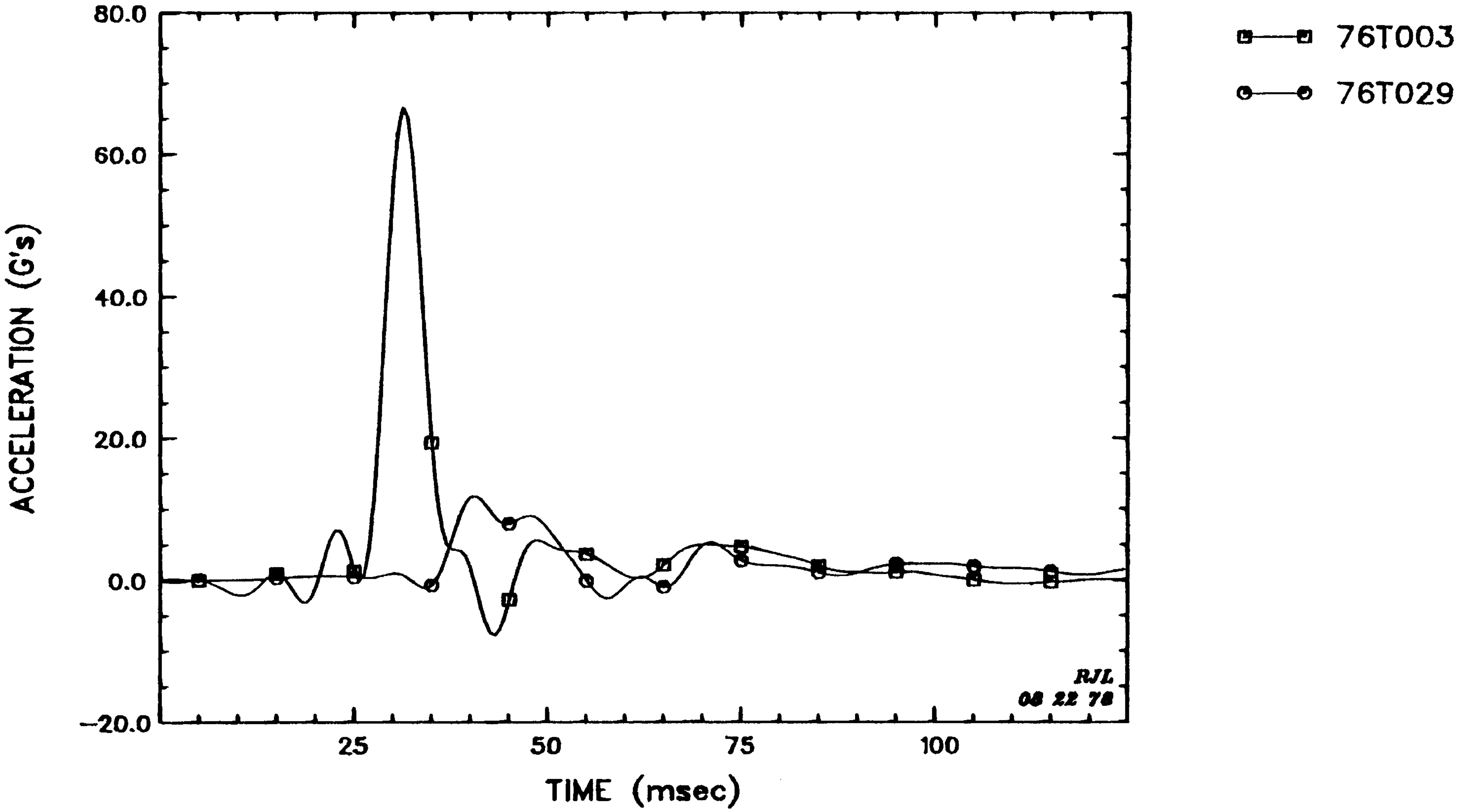
RIGHT UPPER RIBS -- SIDE TESTS (15-R,P)

Figure 23



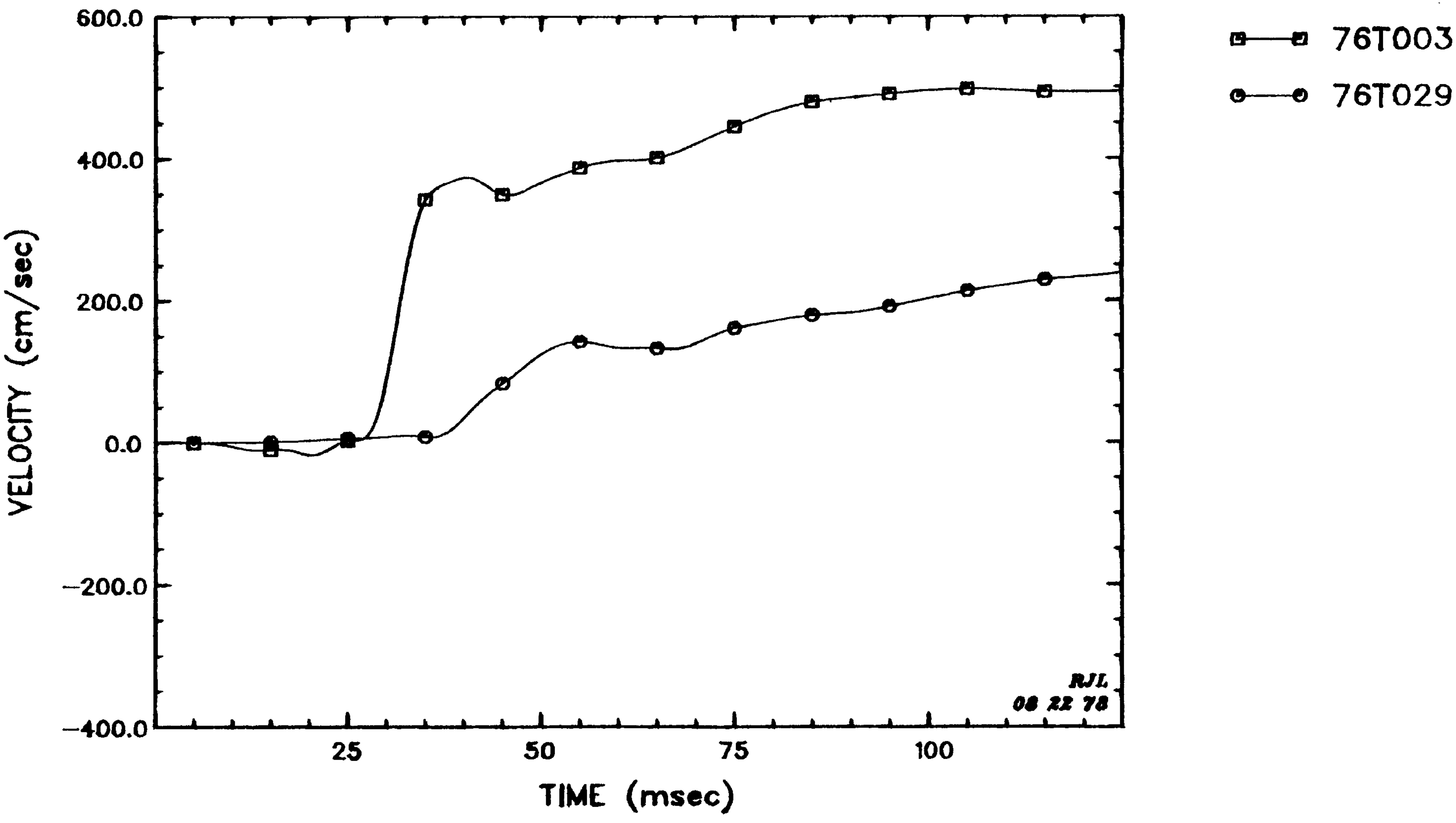
RIGHT UPPER RIBS -- SIDE TESTS (15-R,P)

Figure 24



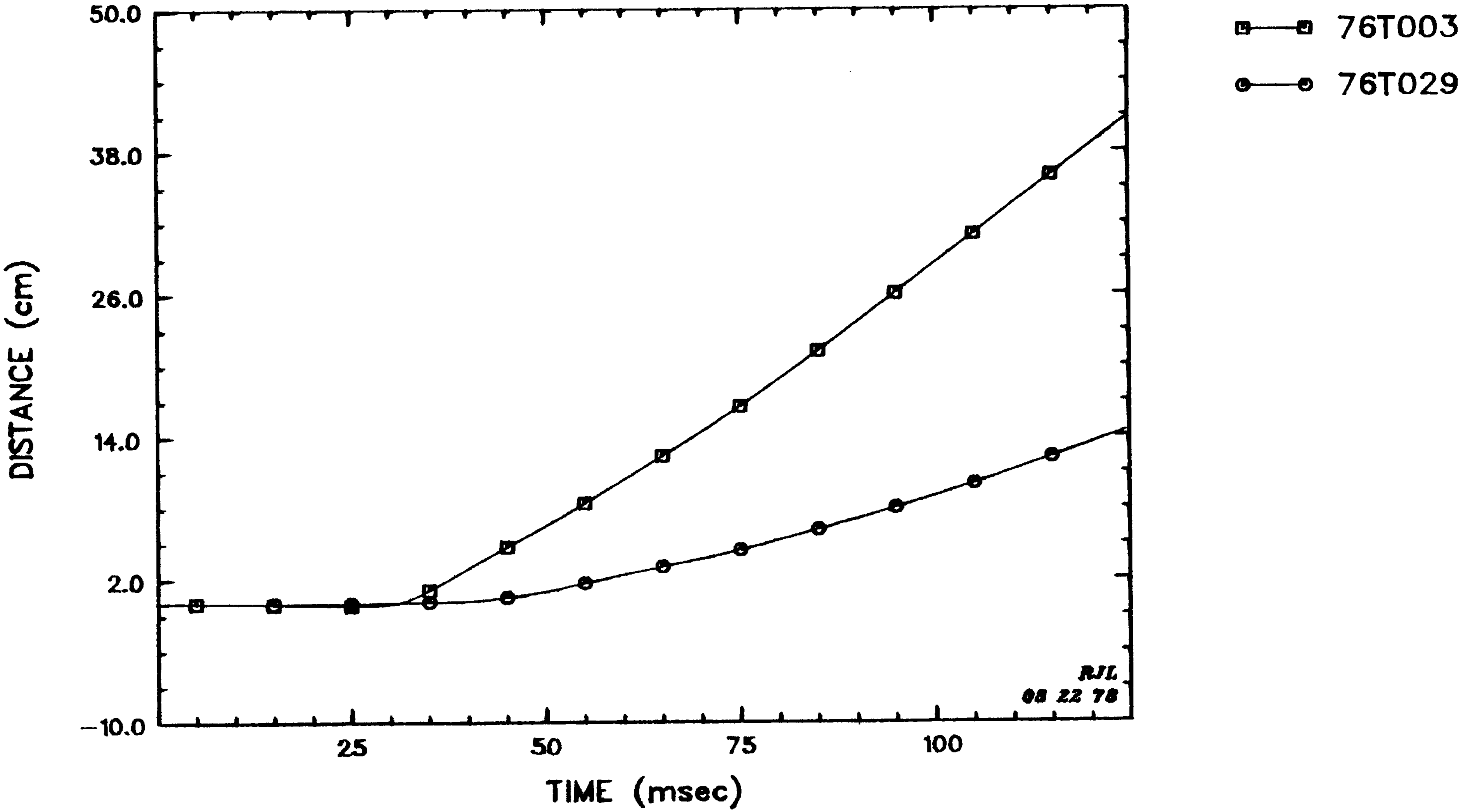
T-1 P-A -- SIDE TESTS (15-R,P)

Figure 25



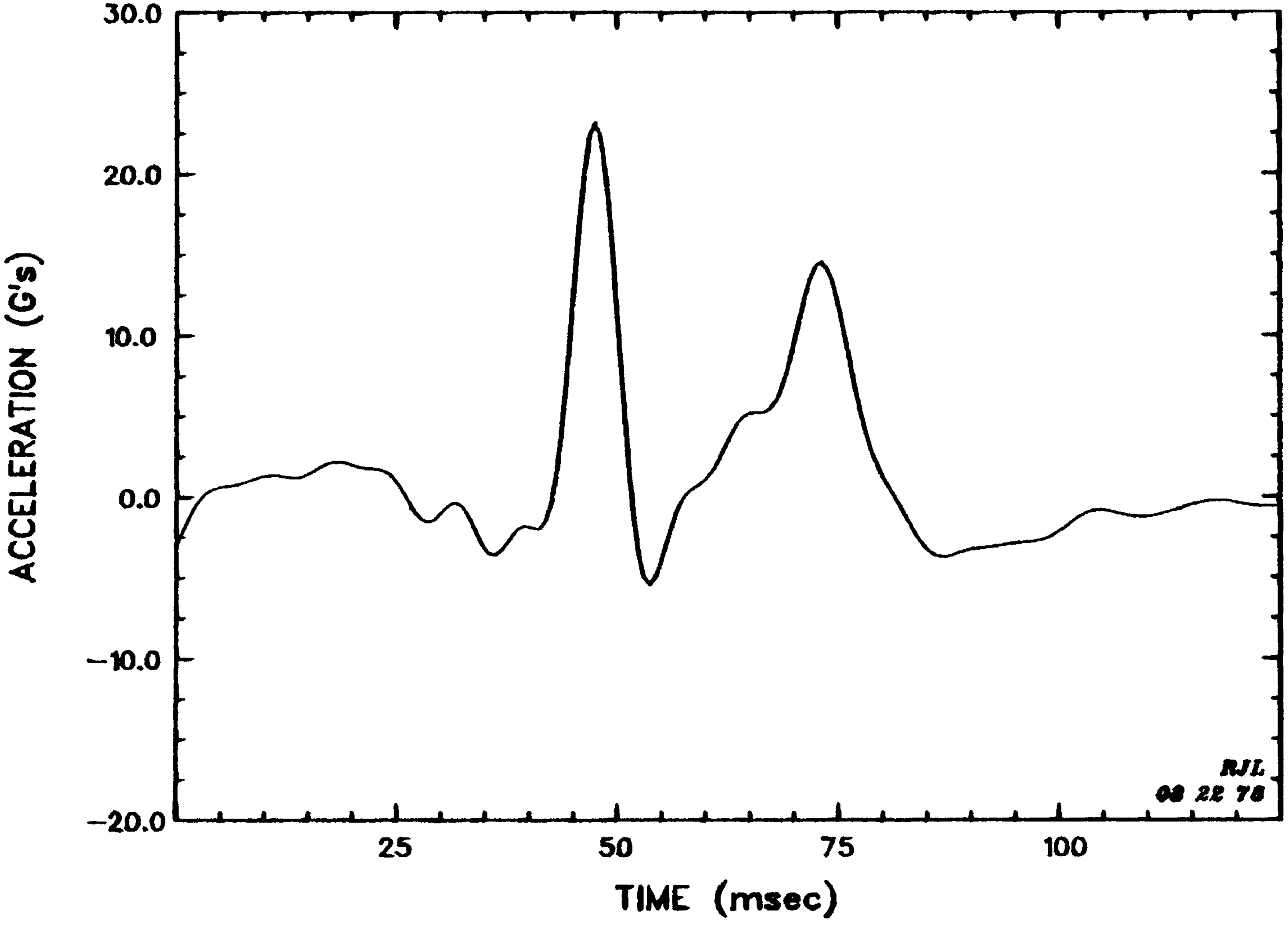
T-1 P-A -- SIDE TESTS (15-R,P)

Figure 26



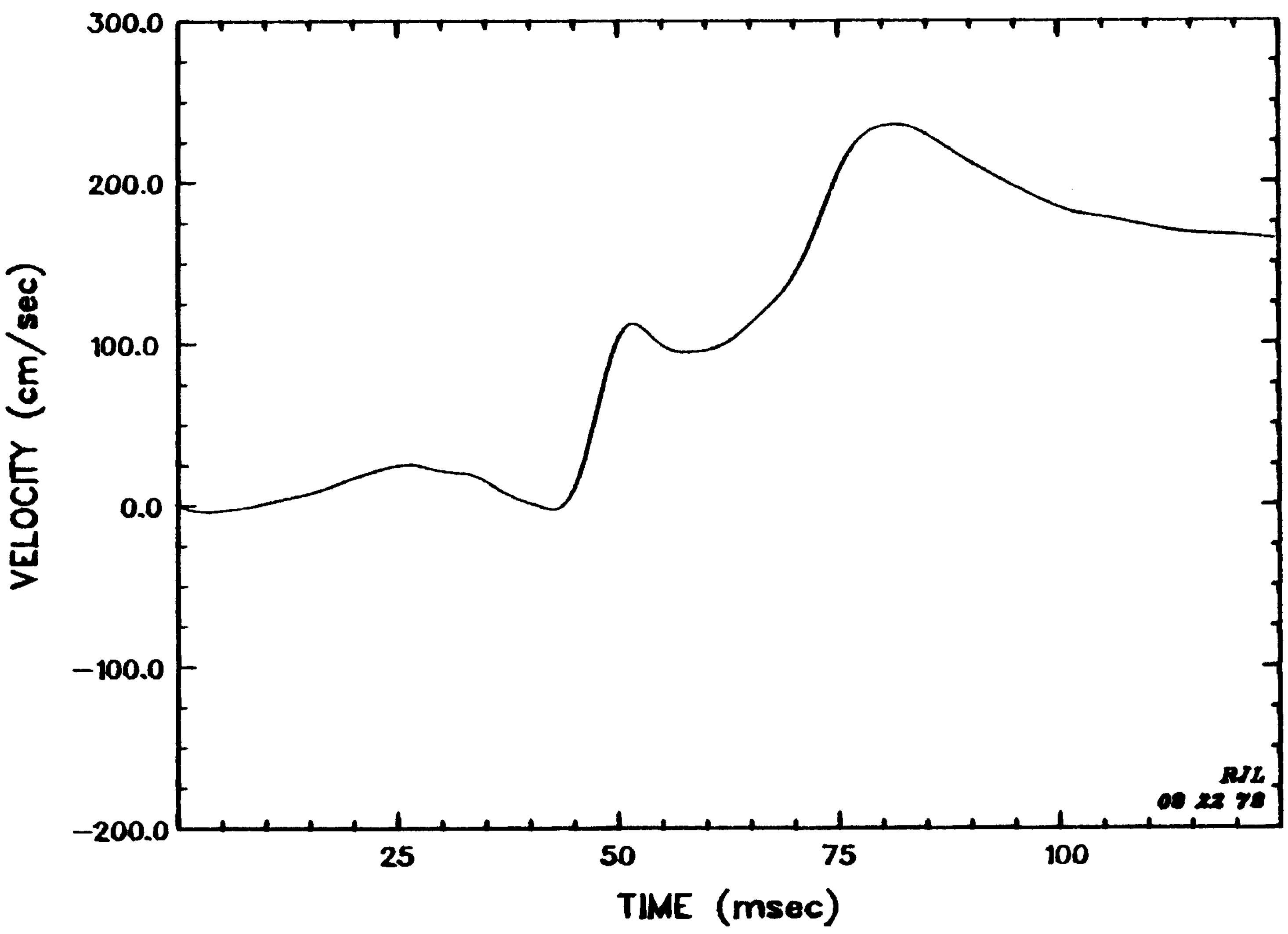
T-1 P-A -- SIDE TESTS (15-R,P)

Figure 27



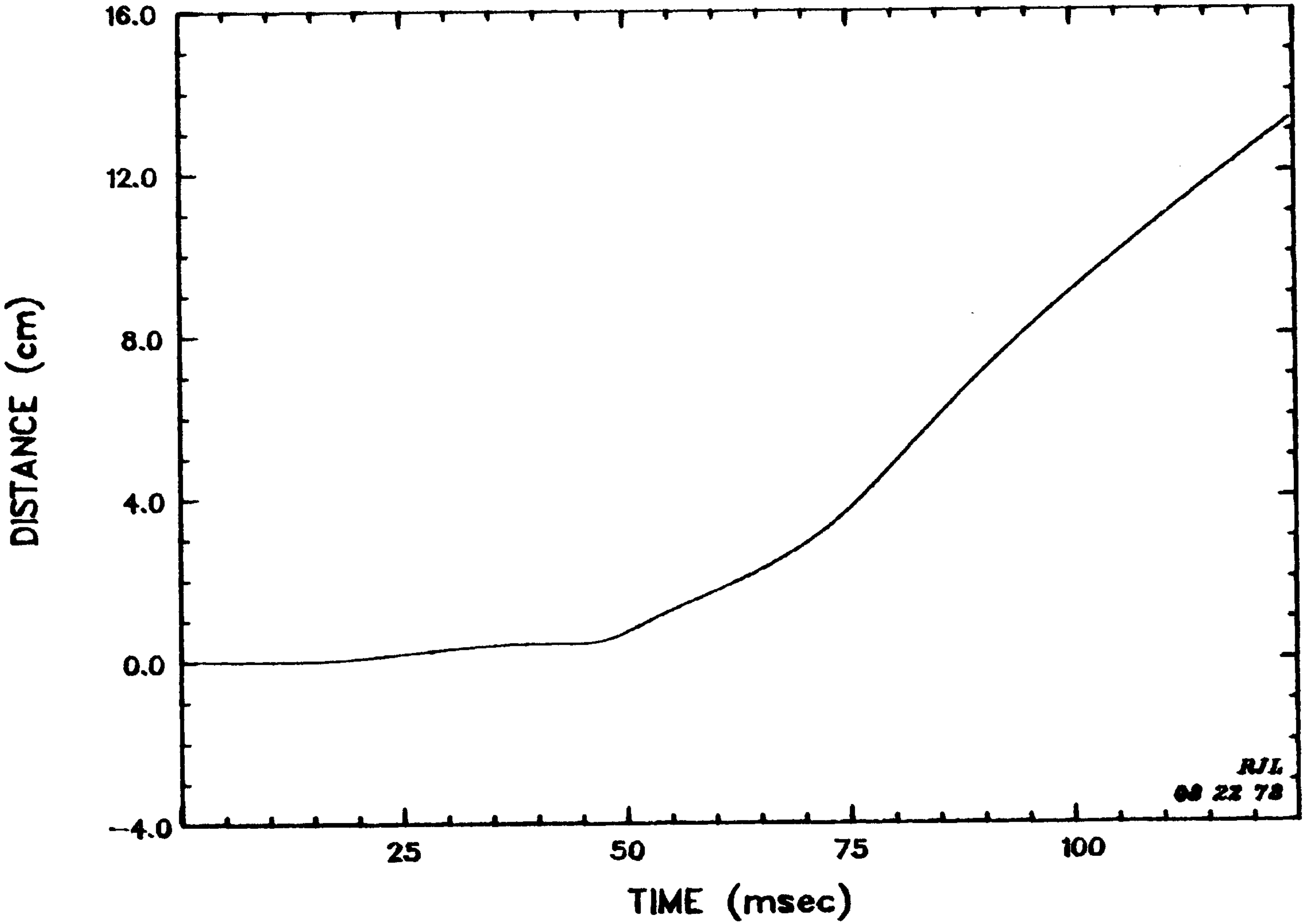
T−12 P−A -- 76T029 -- SIDE TESTS (15R,P)

Figure 28



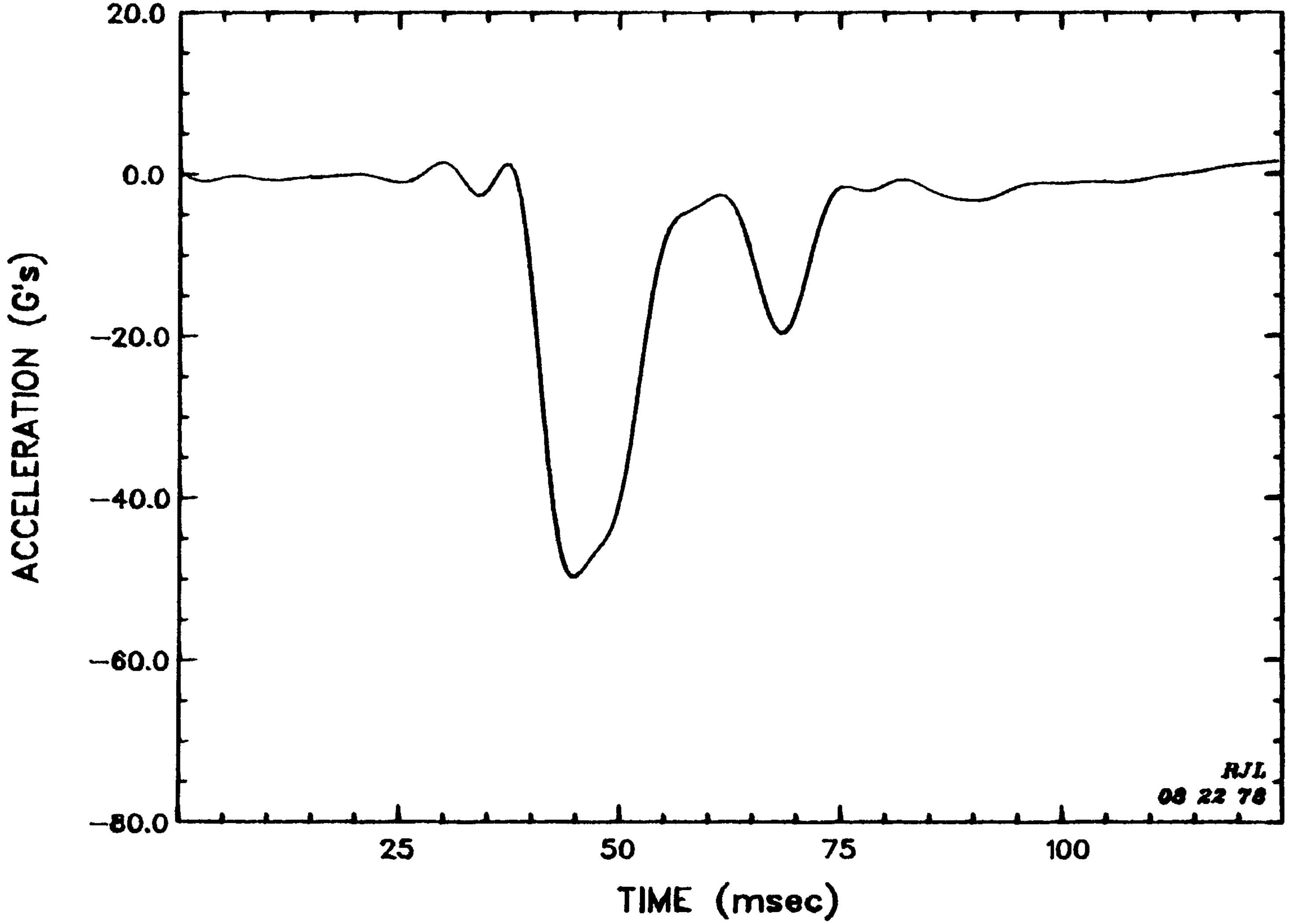
T-12 P-A -- 76T029 -- SIDE TESTS (15R,P)

Figure 29



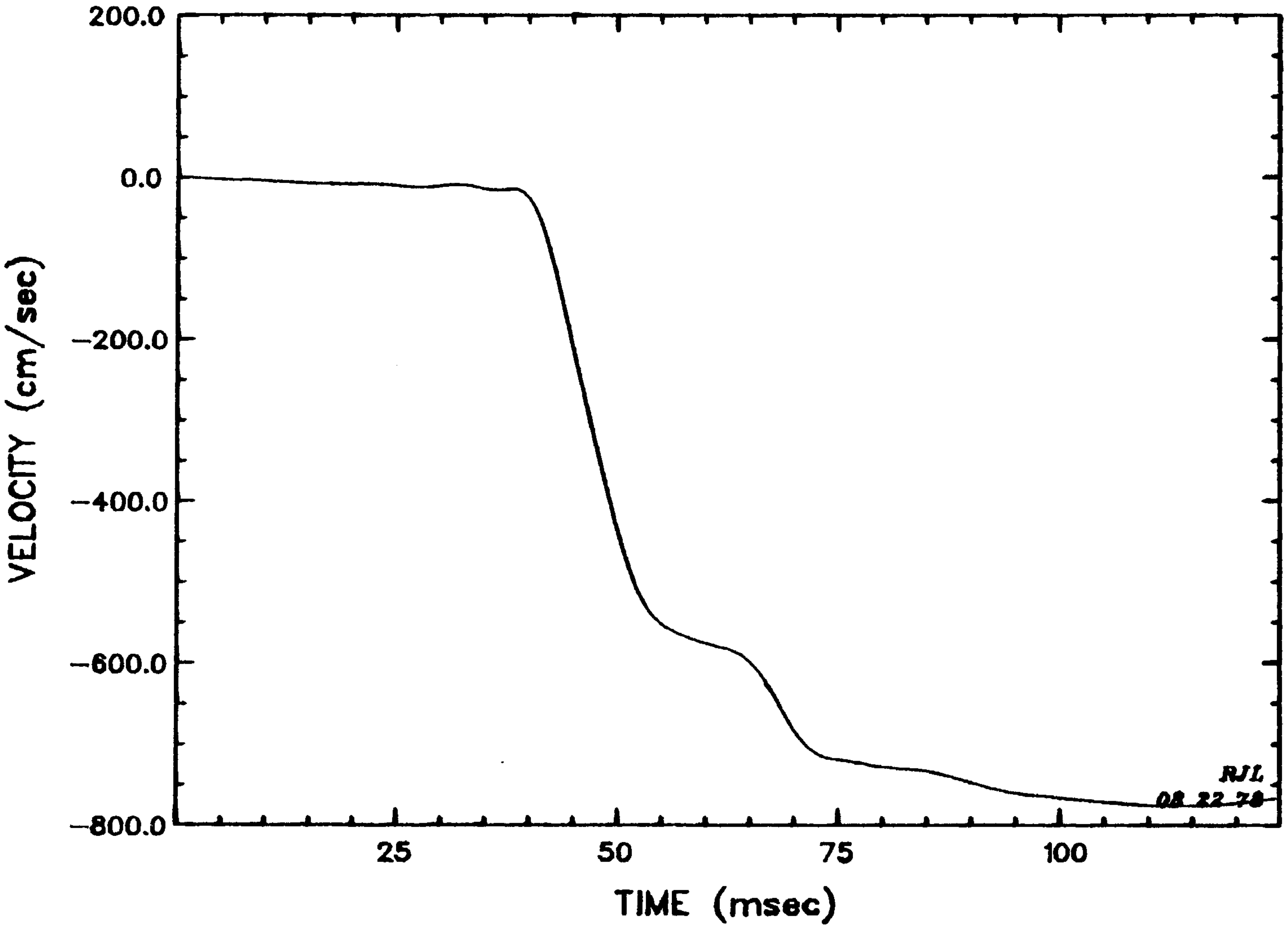
T-12 P-A -- 76T029 -- SIDE TESTS (15R,P)

Figure 30



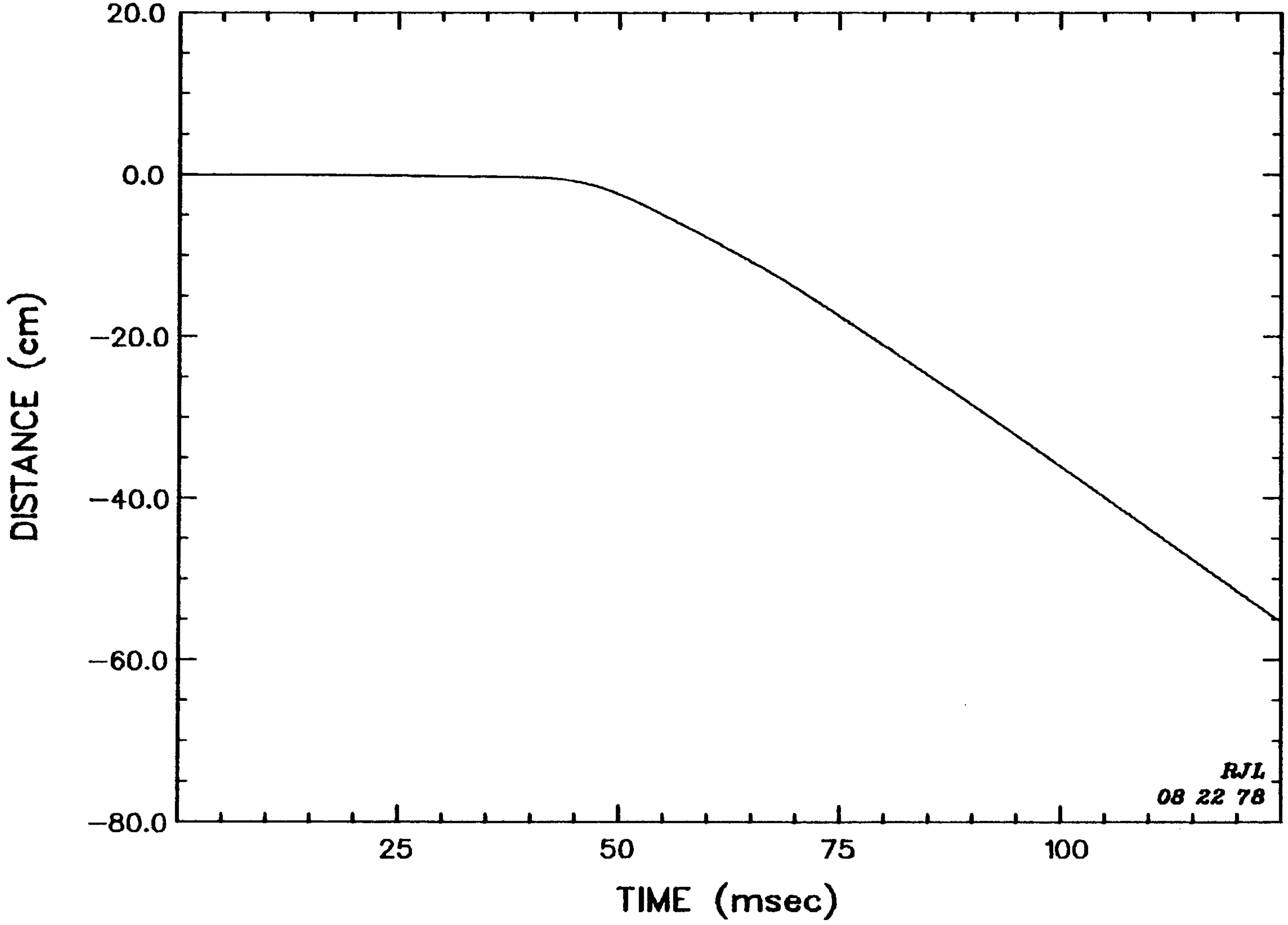
T-12 R-L -- 76T029 -- SIDE TESTS (15R,P)

Figure 31



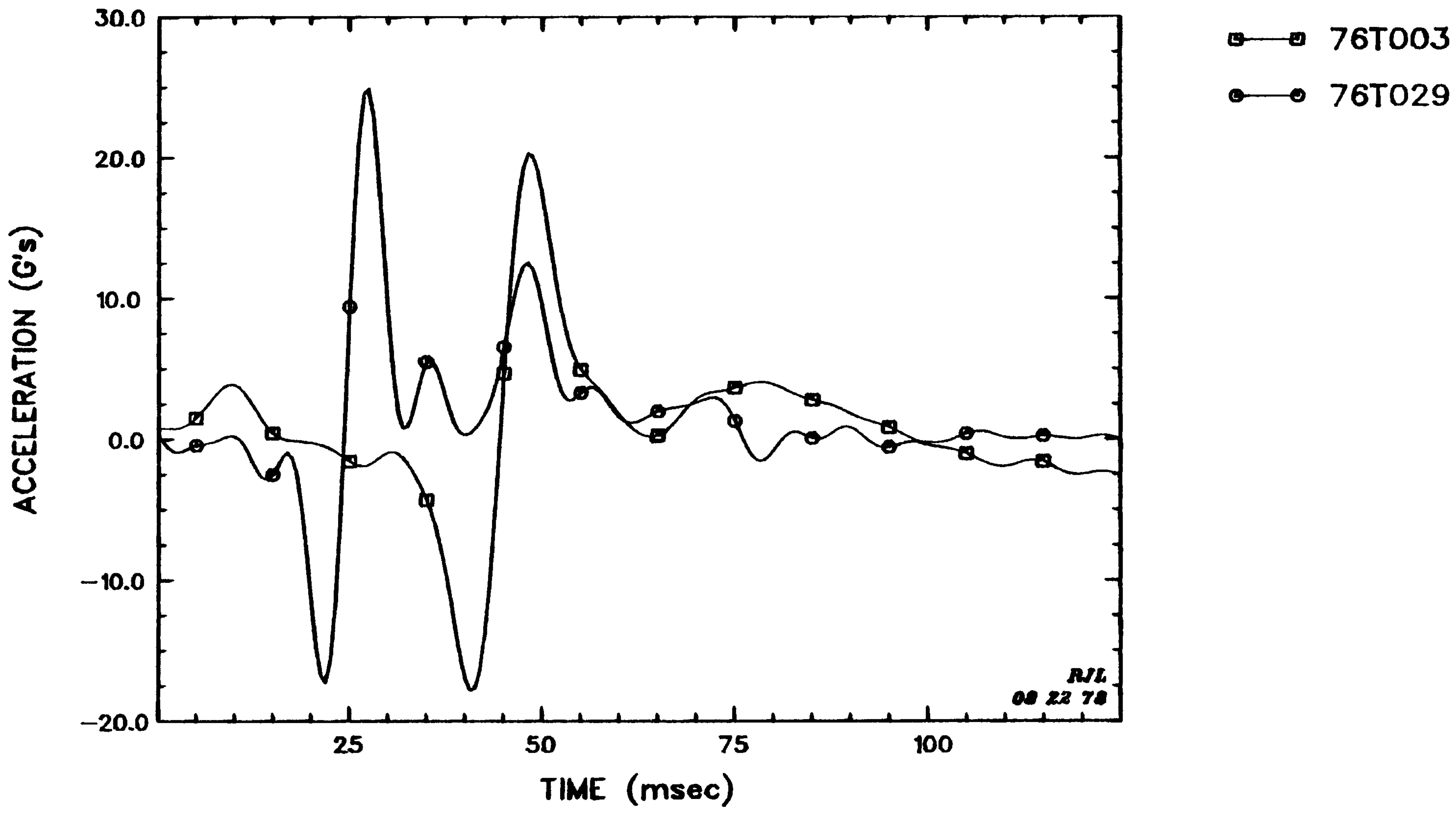
T-12 R-L -- 76T029 -- SIDE TESTS (15R,P)

Figure 32



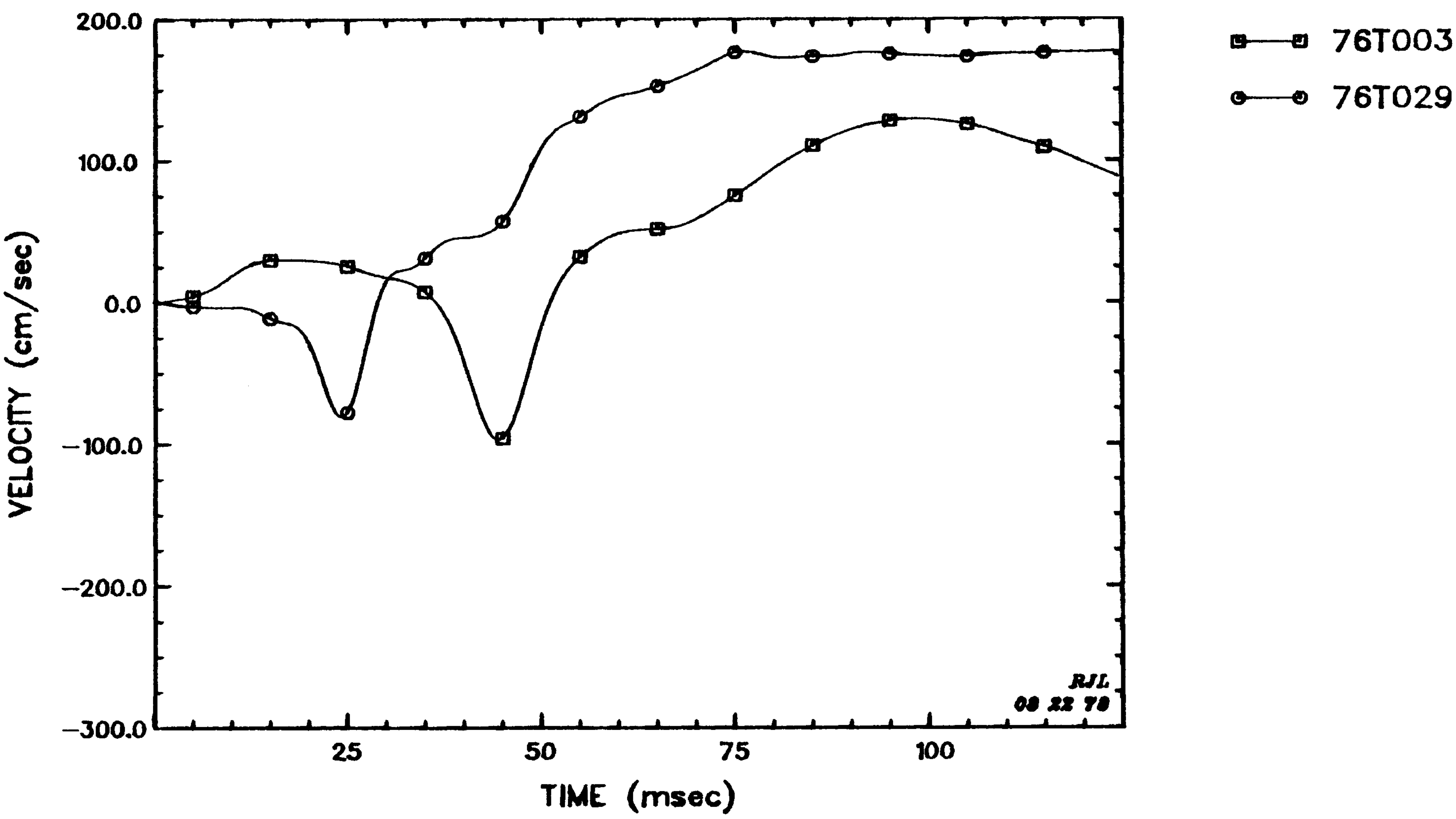
T-12 R-L -- 76T029 -- SIDE TESTS (15R,P)

Figure 33



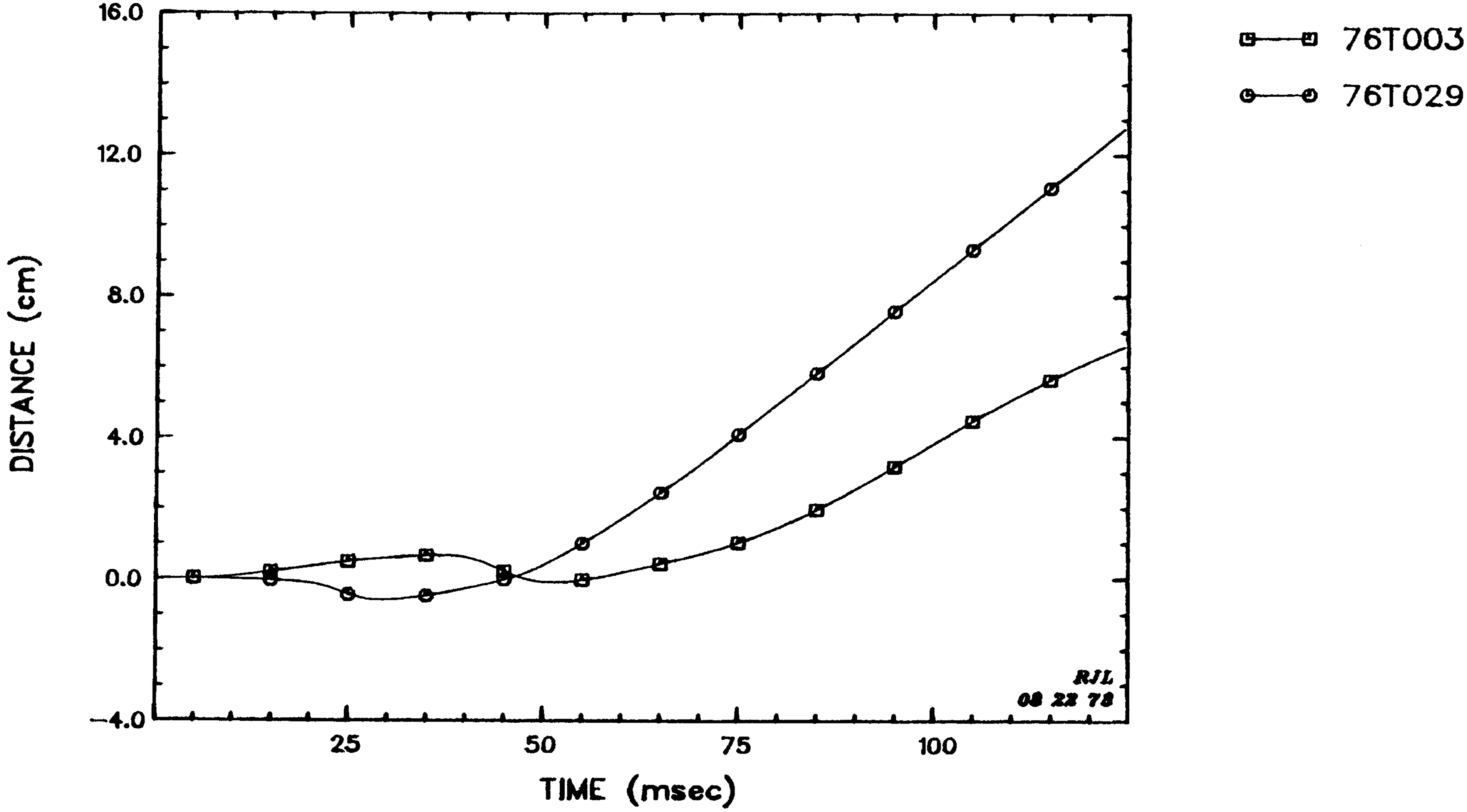
PELVIS P–A –– SIDE TESTS (15–R,P)

Figure 34



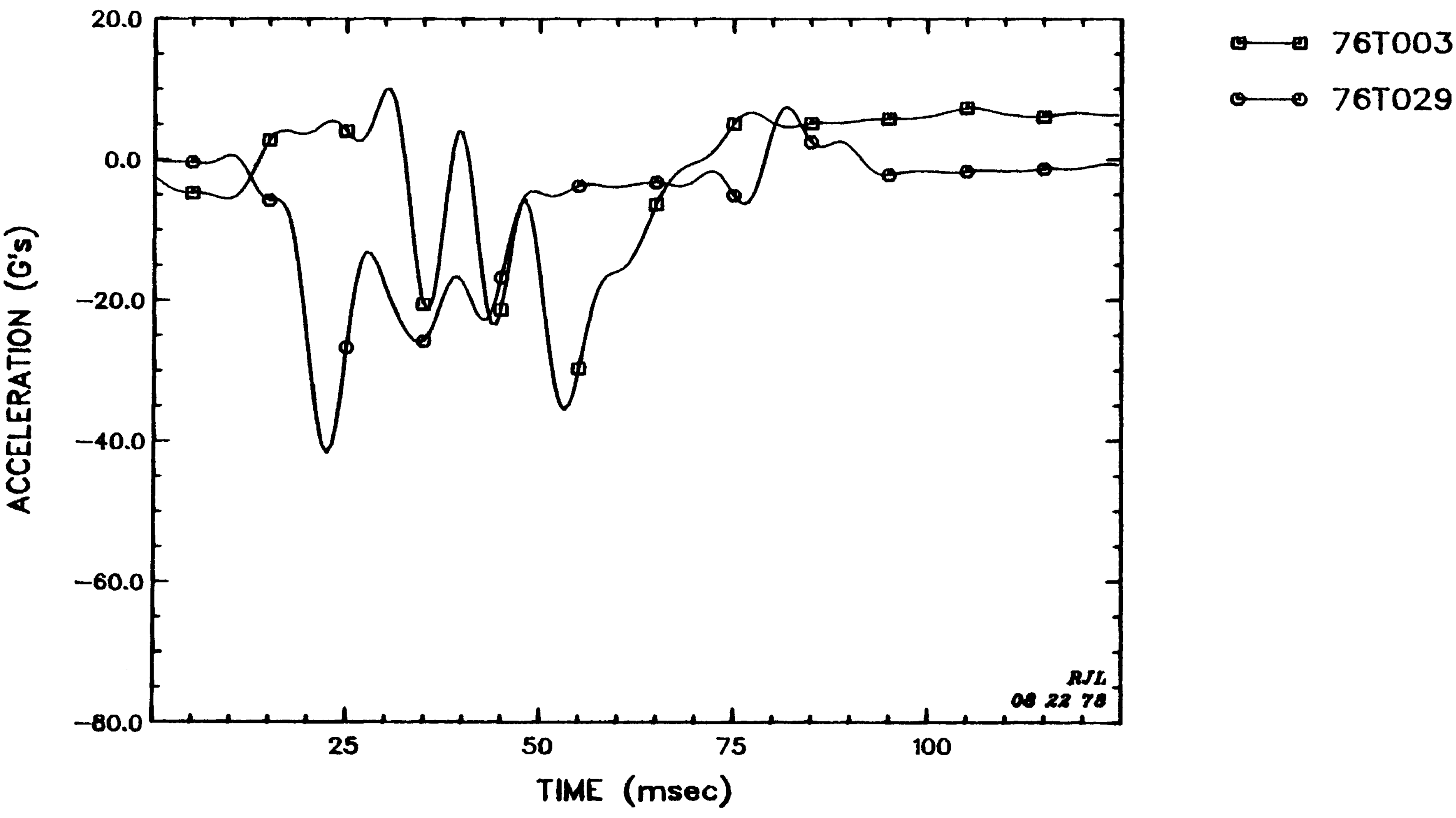
PELVIS P–A –– SIDE TESTS (15–R,P)

Figure 35



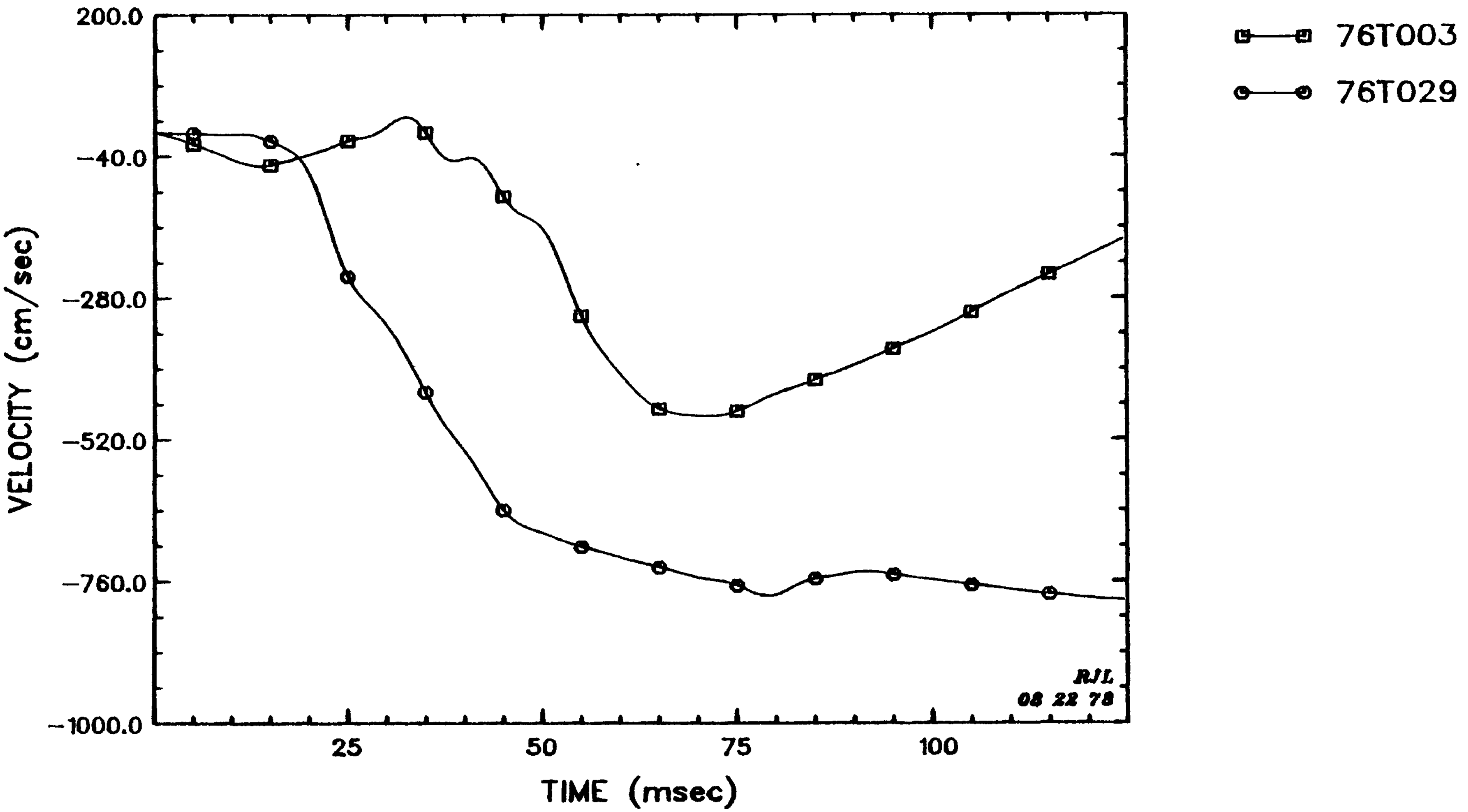
PELVIS P—A — SIDE TESTS (15—R,P)

Figure 36



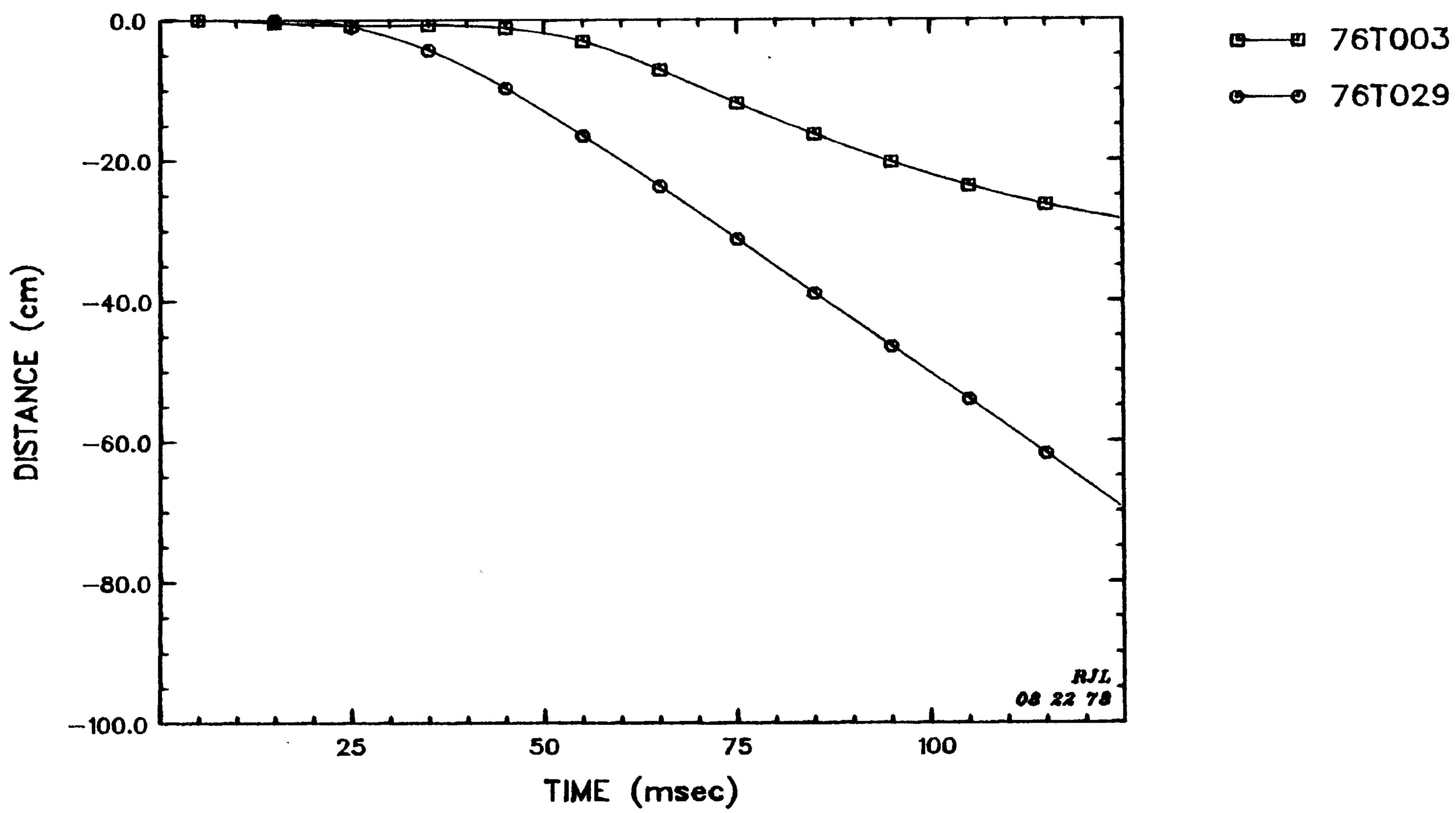
PELVIS R-L -- SIDE TESTS (15-R,P)

Figure 37



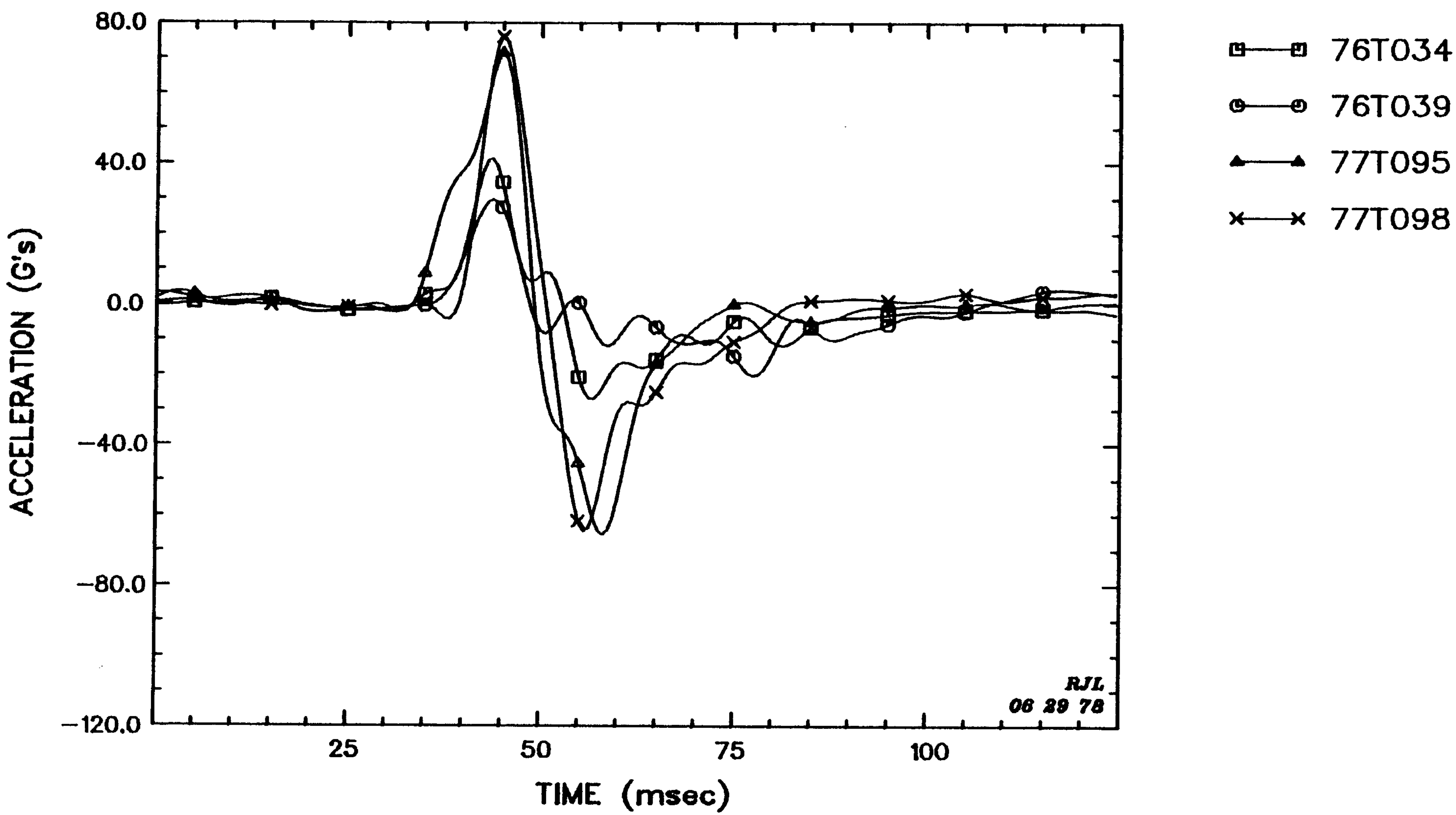
PELVIS R–L –– SIDE TESTS (15–R,P)

Figure 38



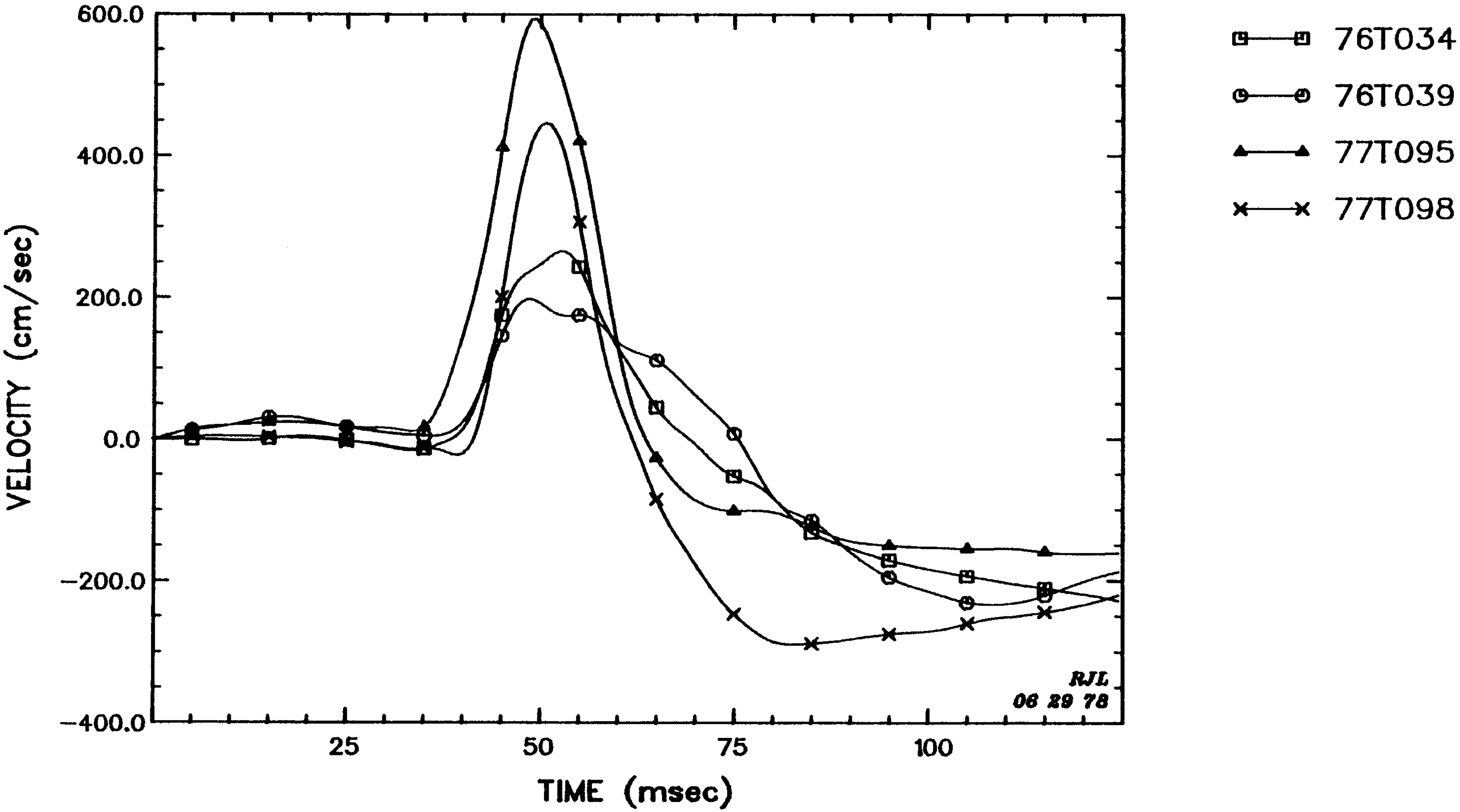
PELVIS R-L -- SIDE TESTS (15-R,P)

Figure 39



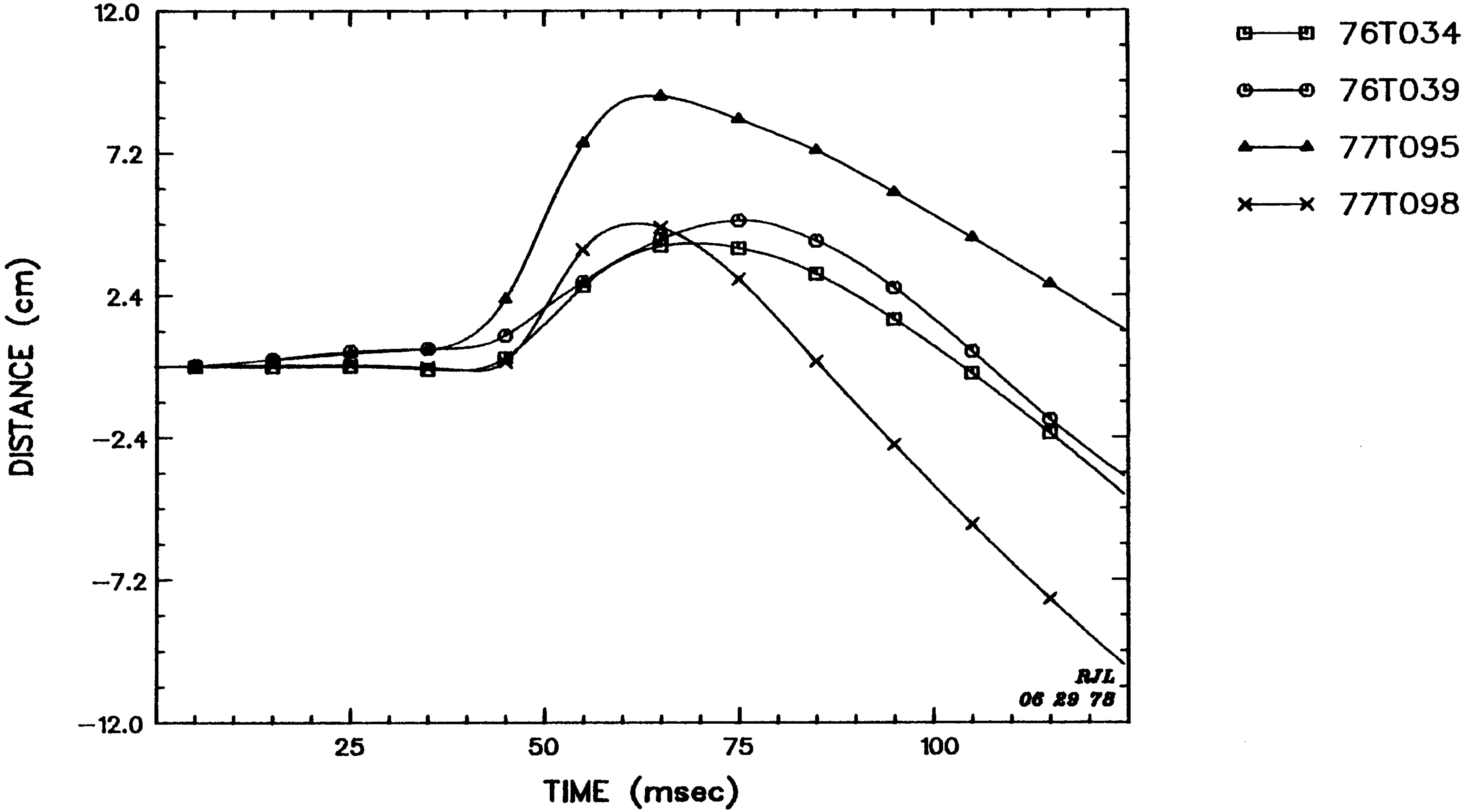
LOWER STERNALS -- PADDED SIDE TESTS

Figure 40



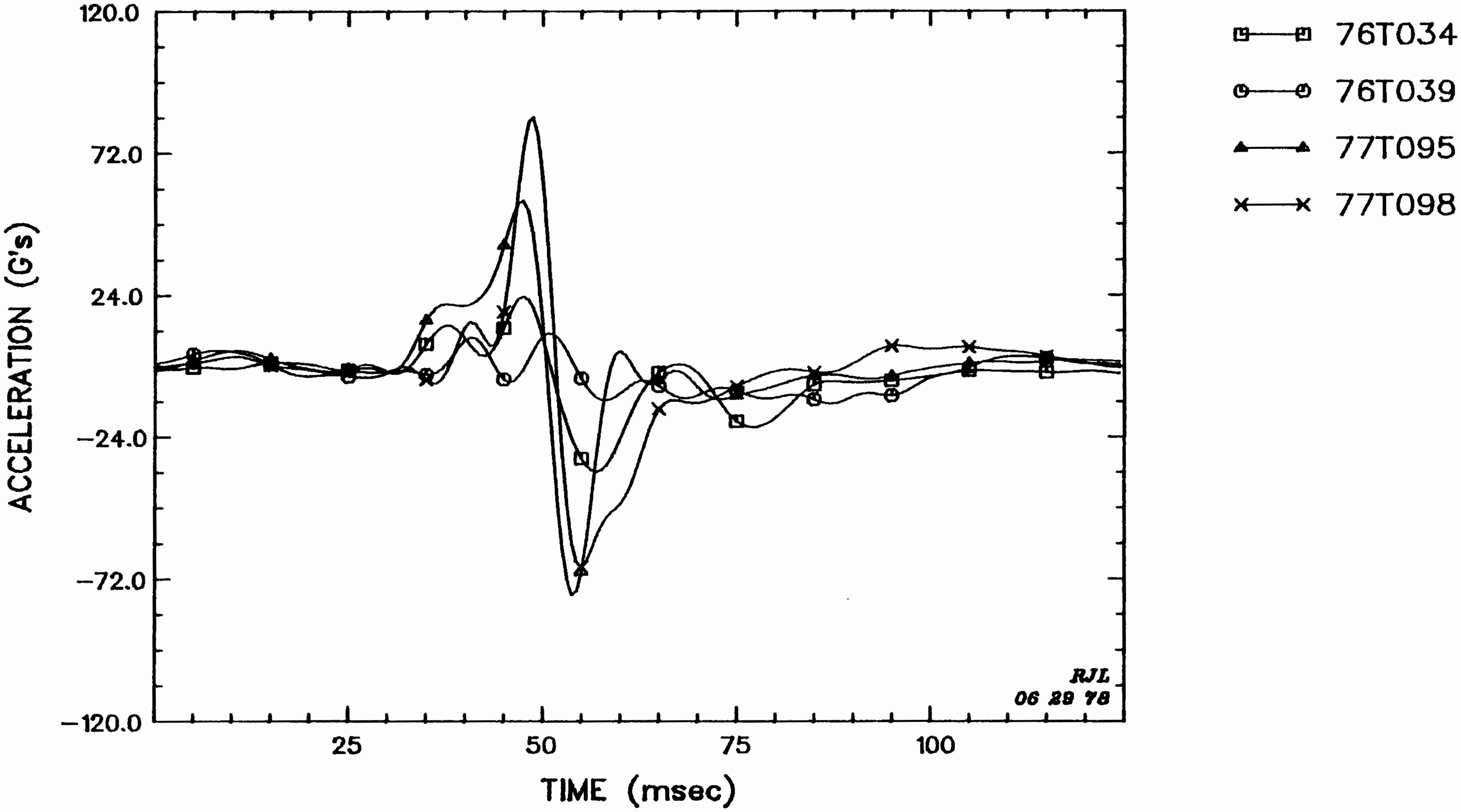
LOWER STERNALS -- PADDED SIDE TESTS

Figure 41



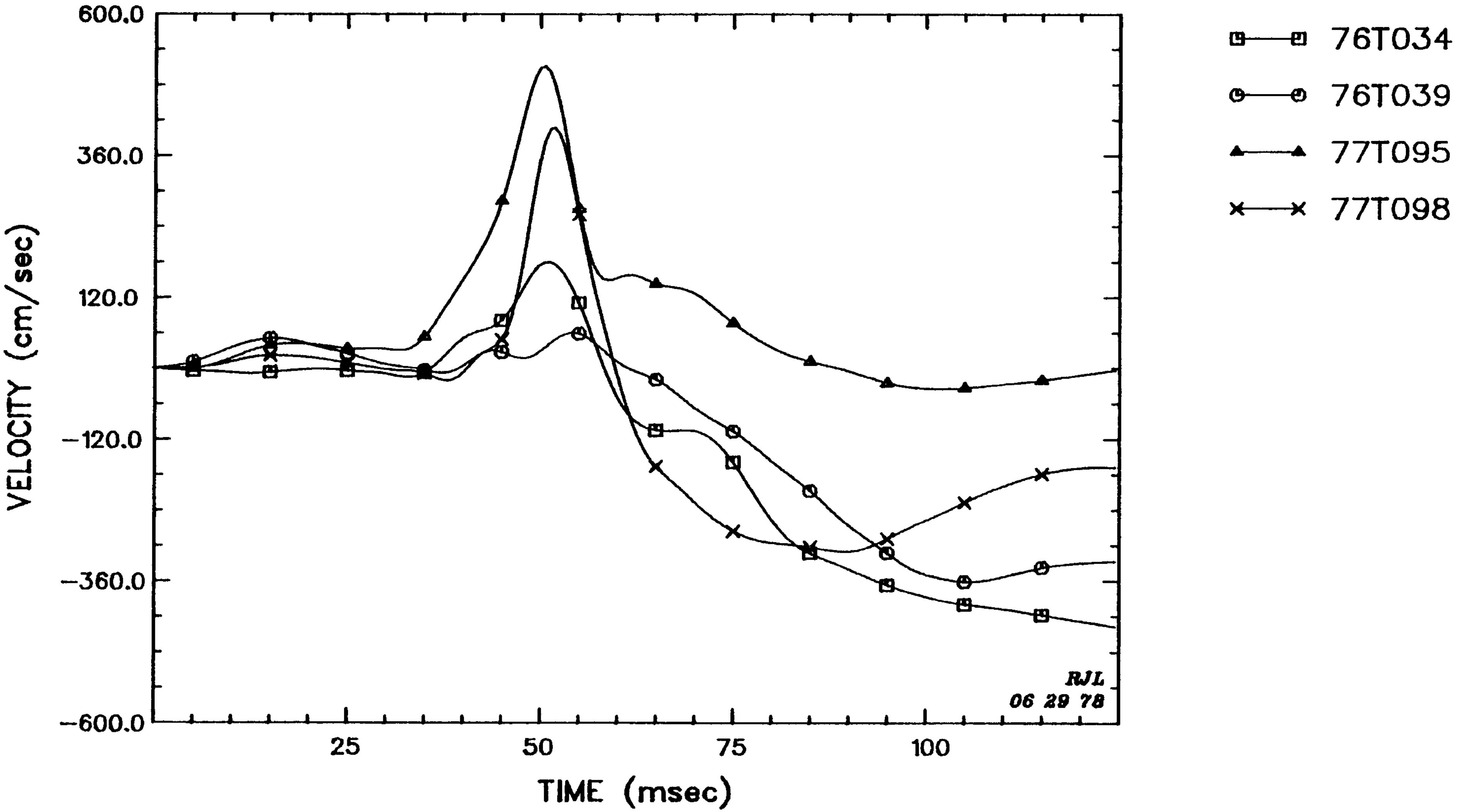
LOWER STERNALS -- PADDED SIDE TESTS

Figure 42



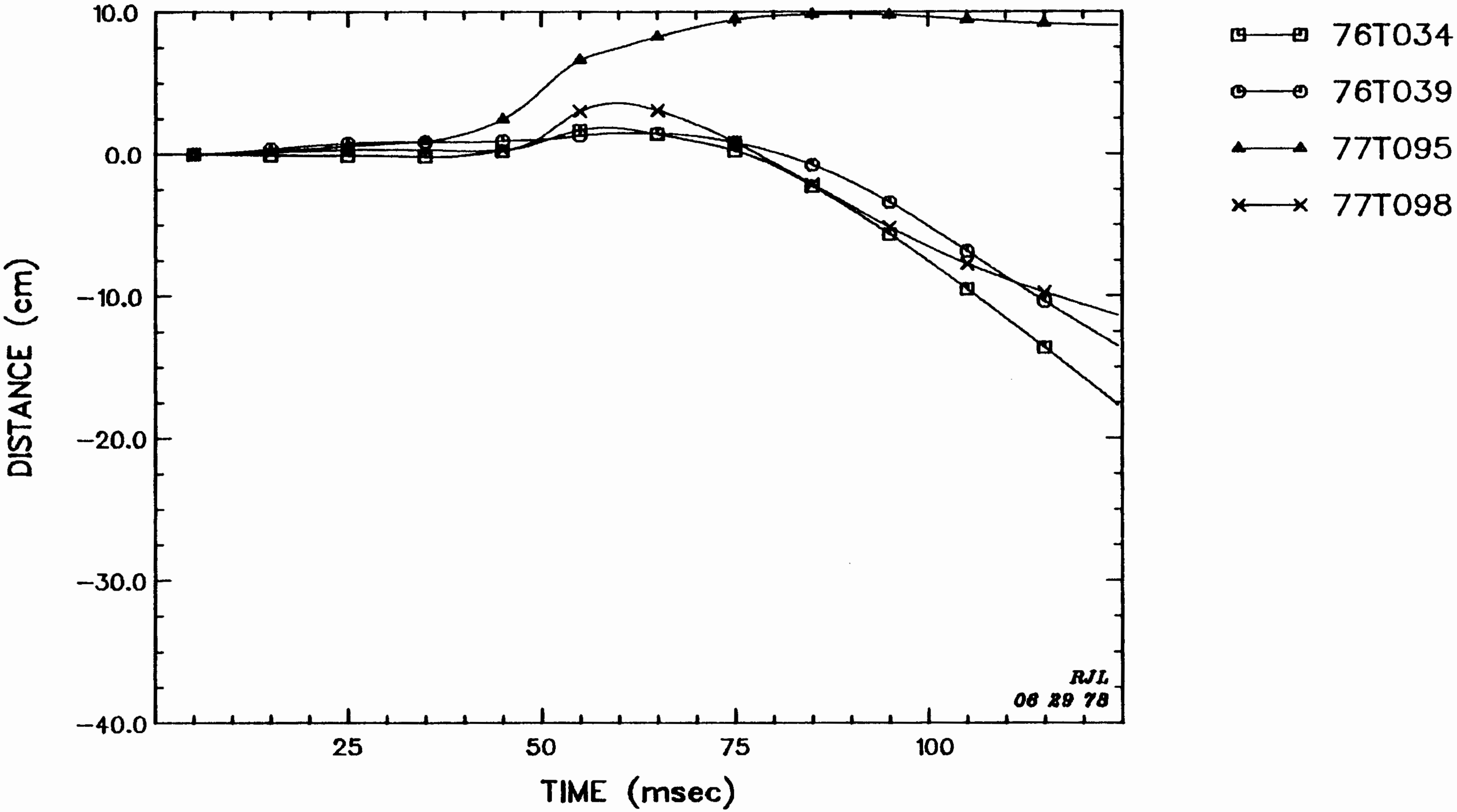
UPPER STERNALS -- PADDED SIDE TESTS

Figure 43



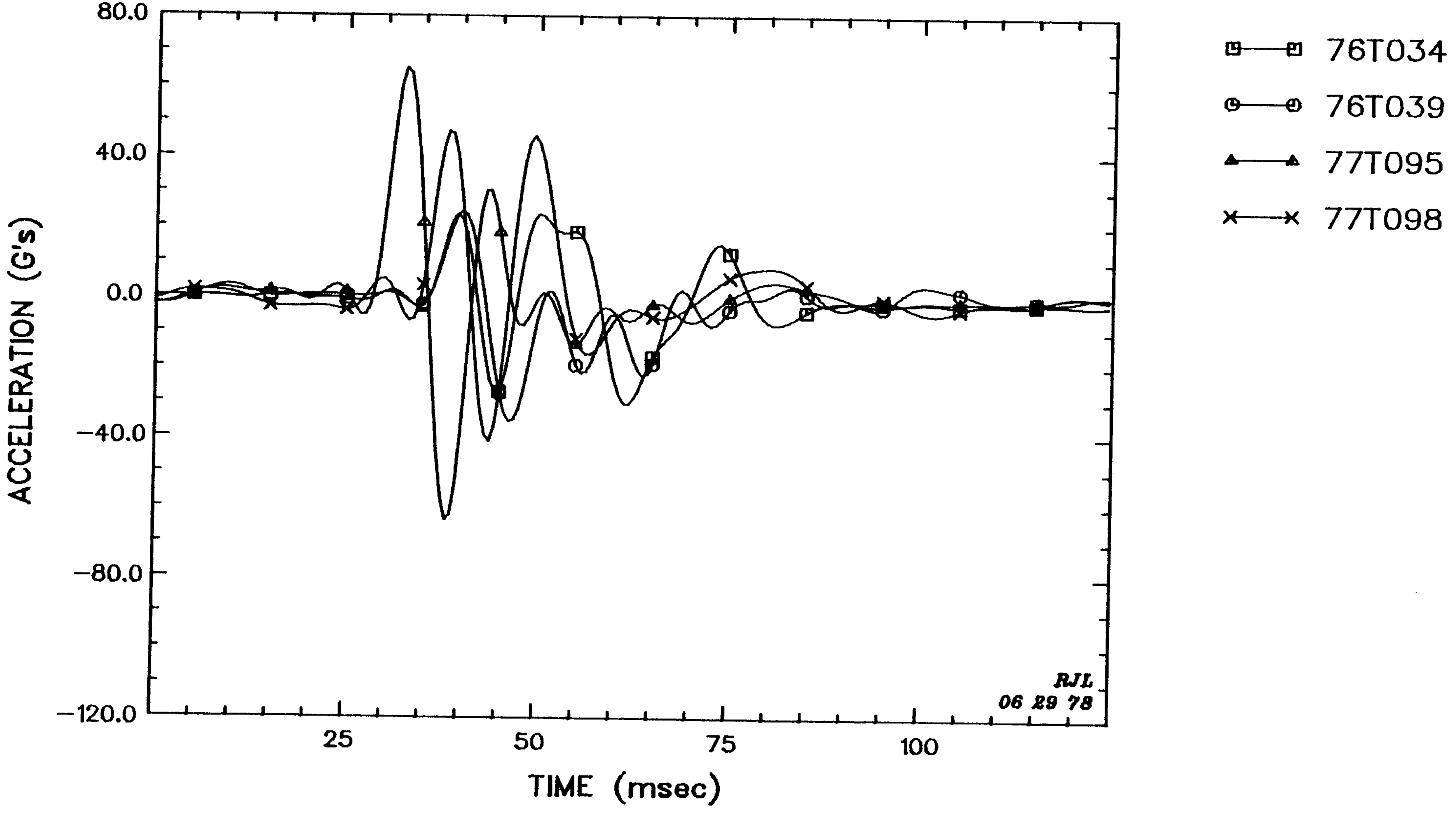
UPPER STERNALS -- PADDED SIDE TESTS

Figure 44



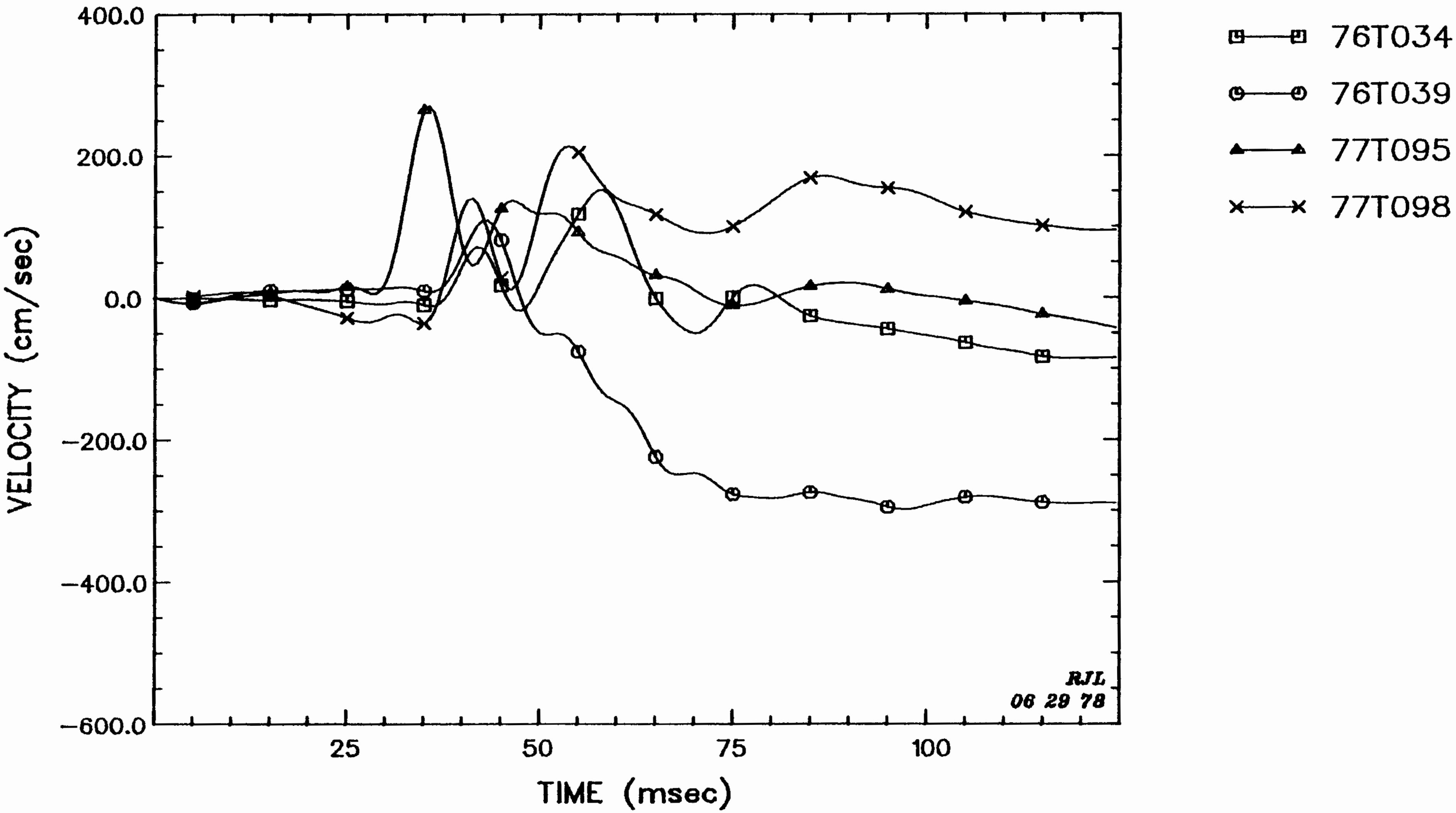
UPPER STERNALS -- PADDED SIDE TESTS

Figure 45



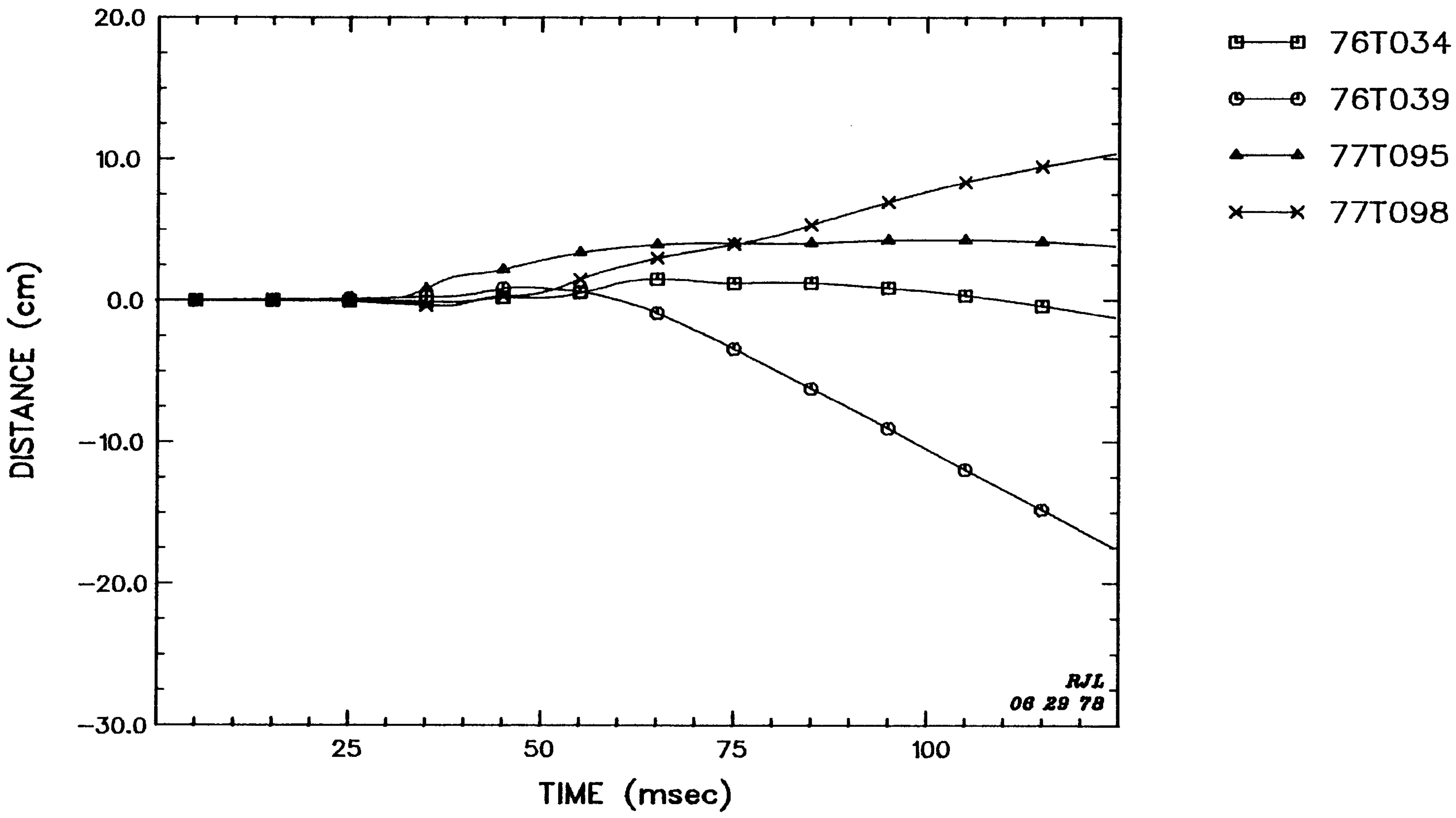
LEFT LOWER RIBS -- PADDED SIDE TESTS

Figure 46



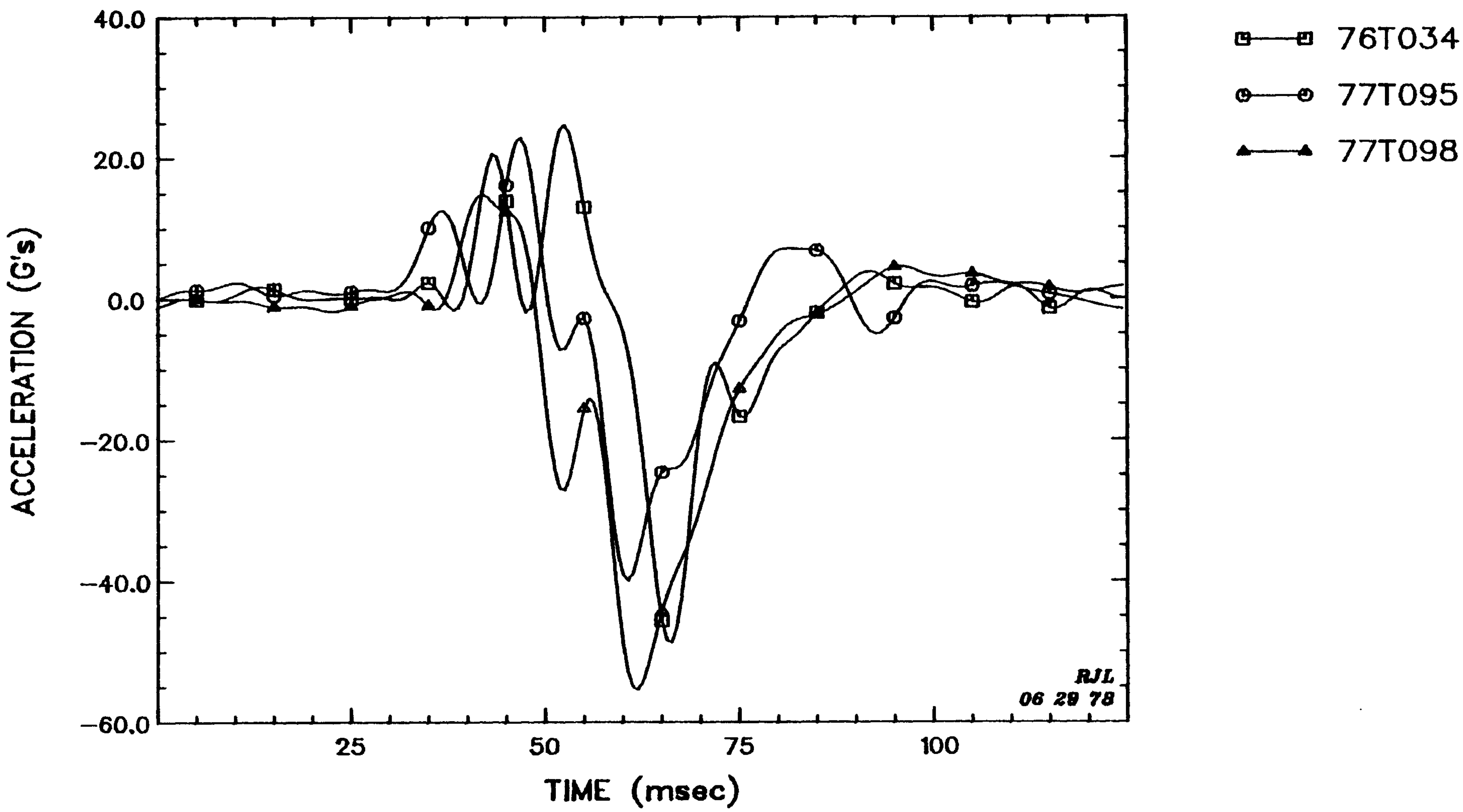
LEFT LOWER RIBS -- PADDED SIDE TESTS

Figure 47



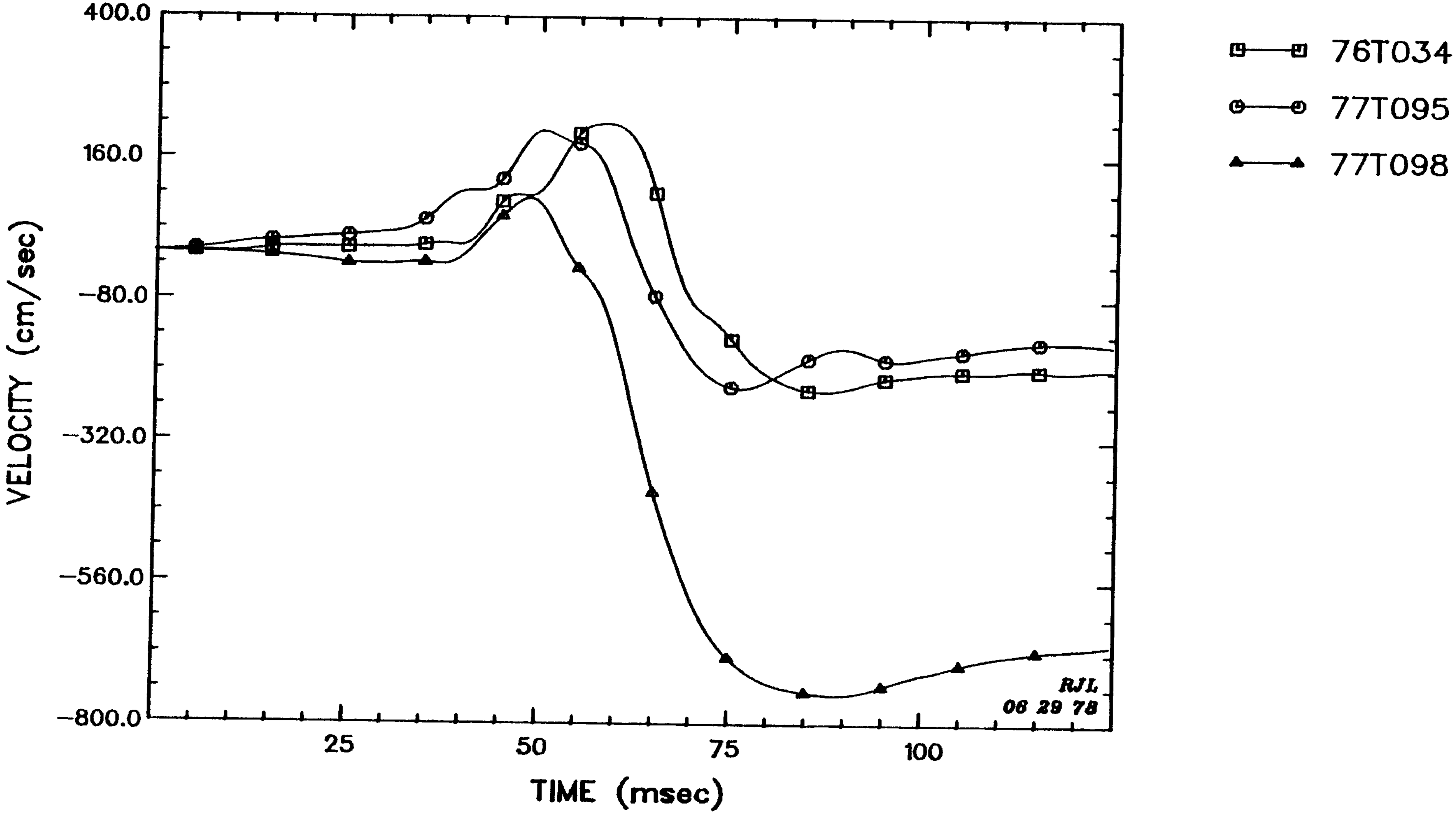
LEFT LOWER RIBS -- PADDED SIDE TESTS

Figure 48



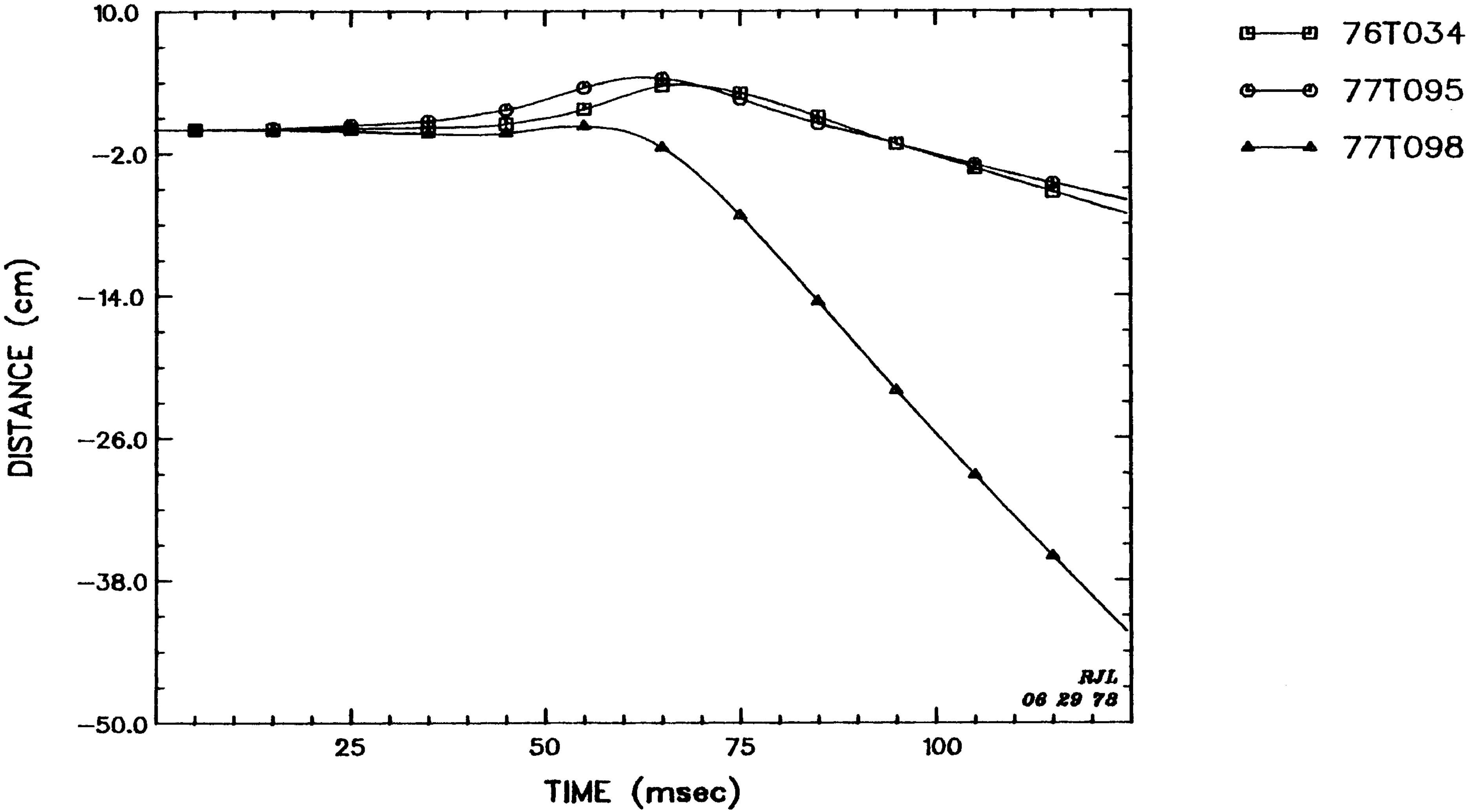
RIGHT LOWER RIBS –– PADDED SIDE TESTS

Figure 49



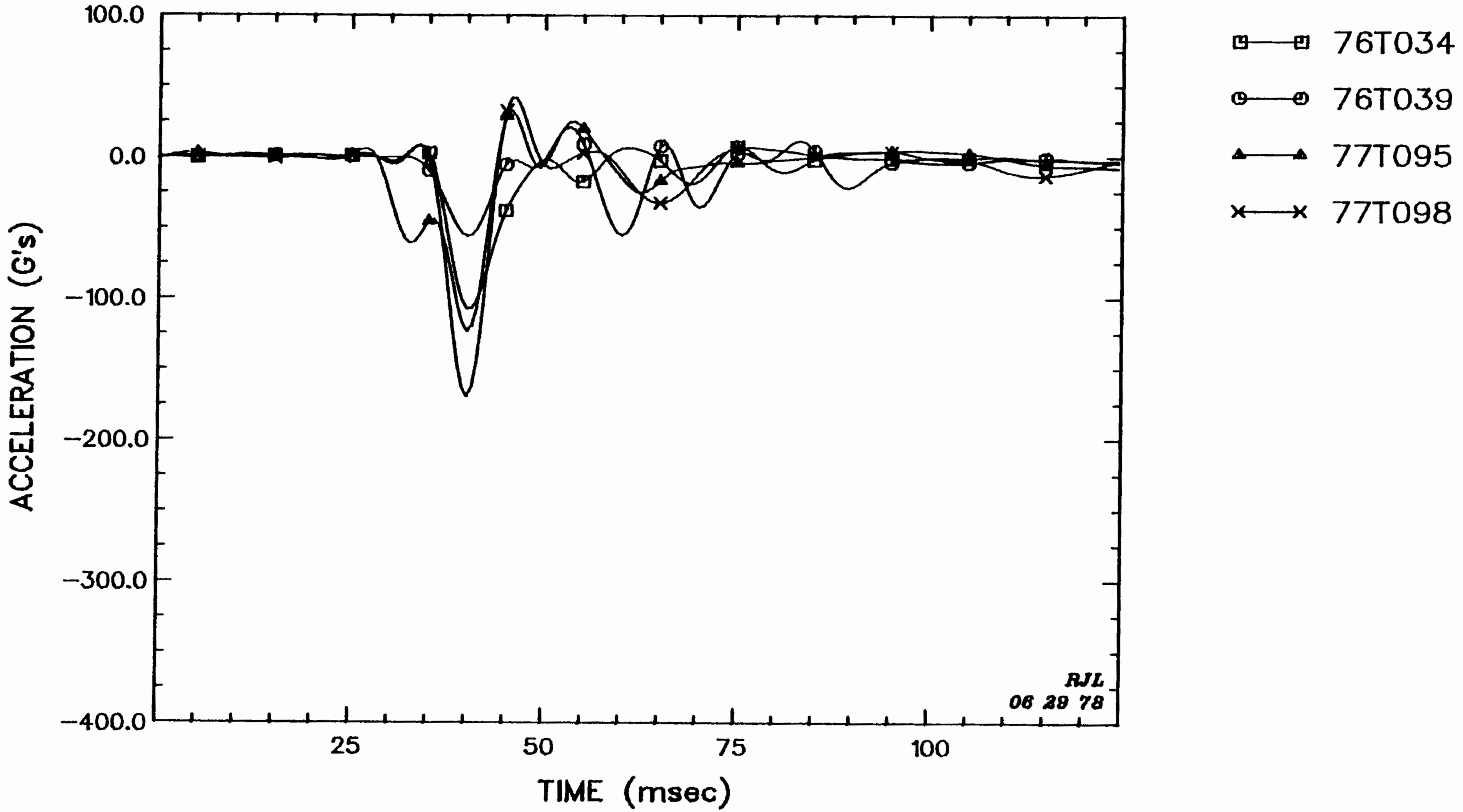
RIGHT LOWER RIBS -- PADDED SIDE TESTS

Figure 50



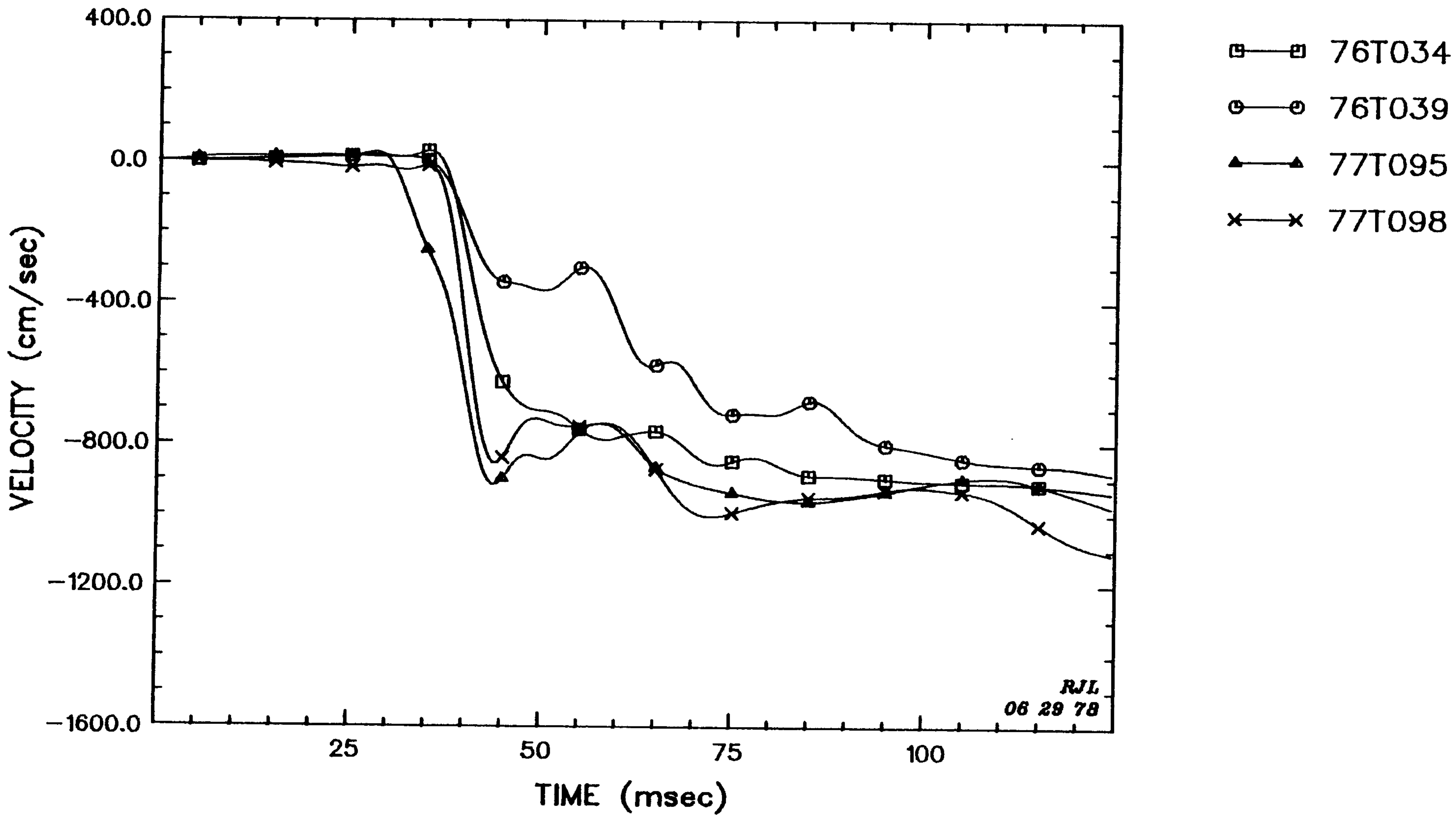
RIGHT LOWER RIBS -- PADDED SIDE TESTS

Figure 51



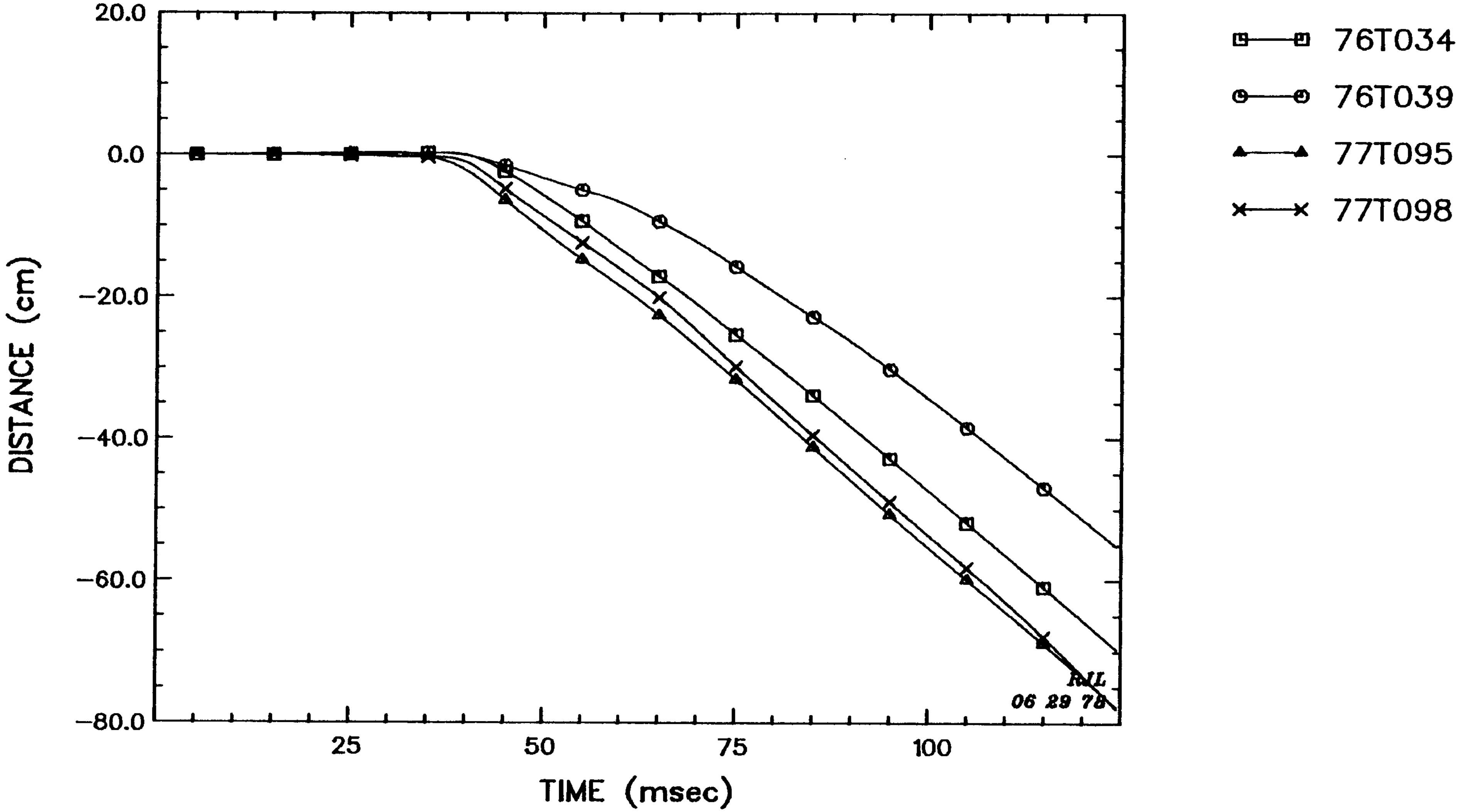
LEFT UPPER RIBS -- PADDED SIDE TESTS

Figure 52



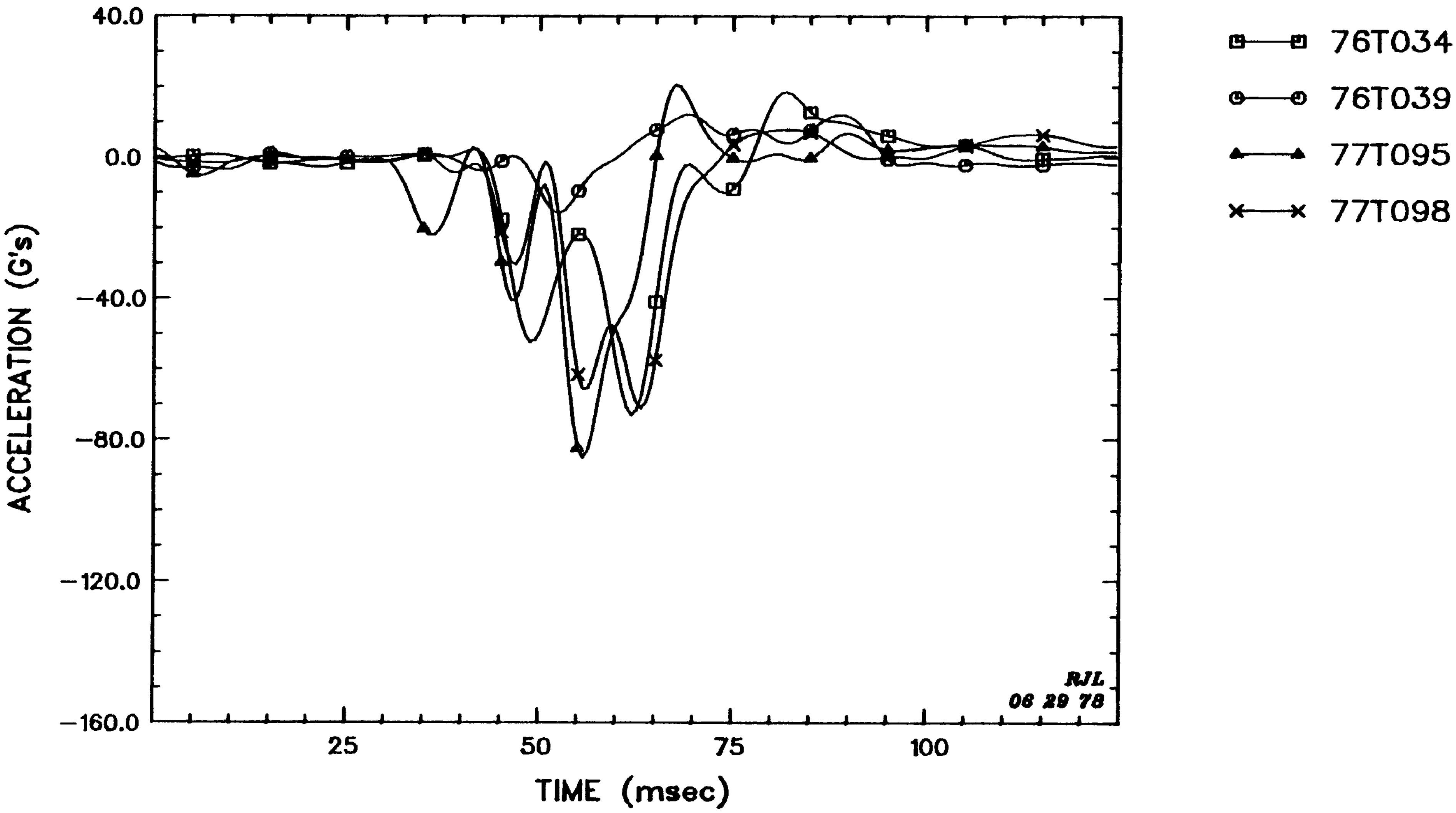
LEFT UPPER RIBS -- PADDED SIDE TESTS

Figure 53



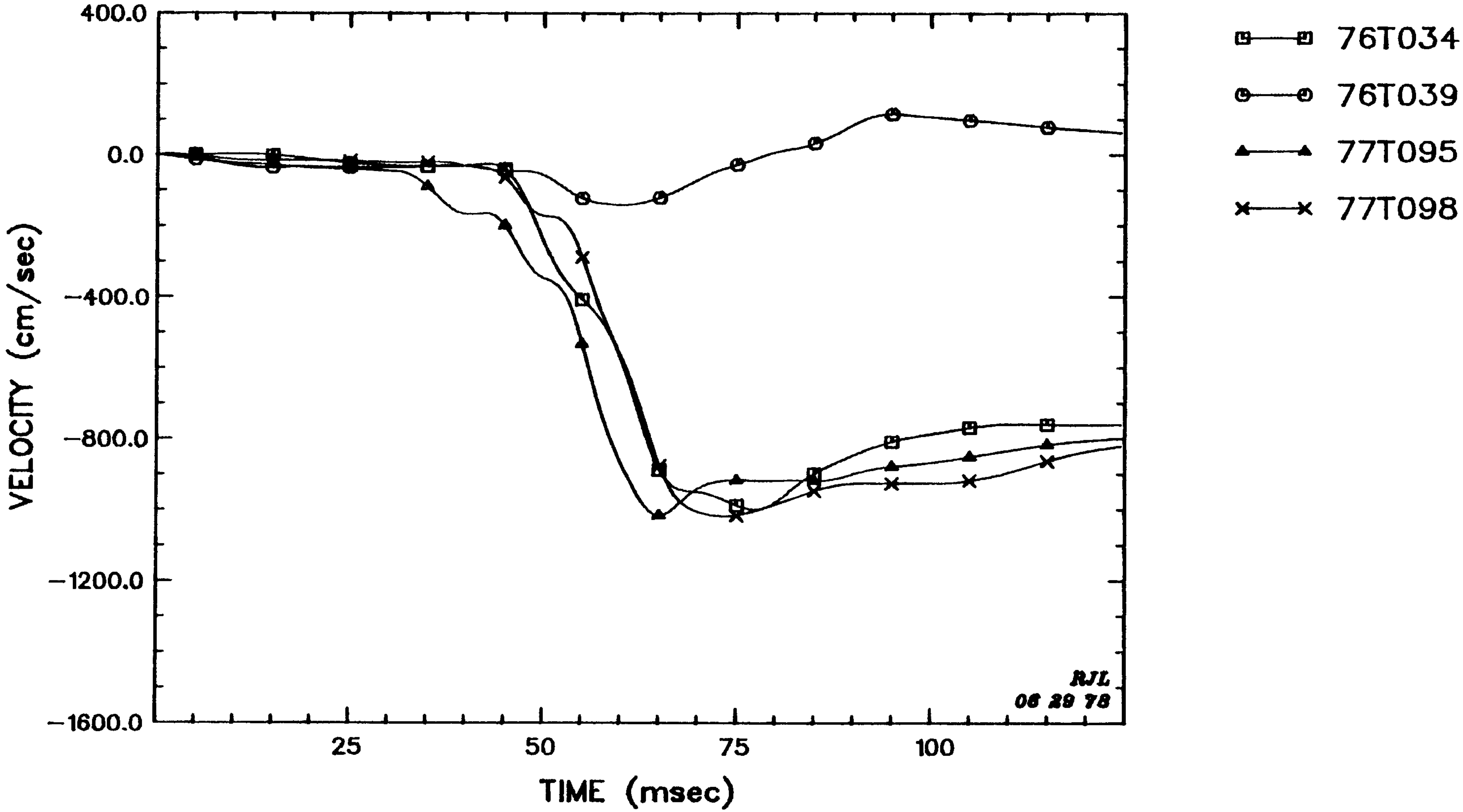
LEFT UPPER RIBS -- PADDED SIDE TESTS

Figure 54



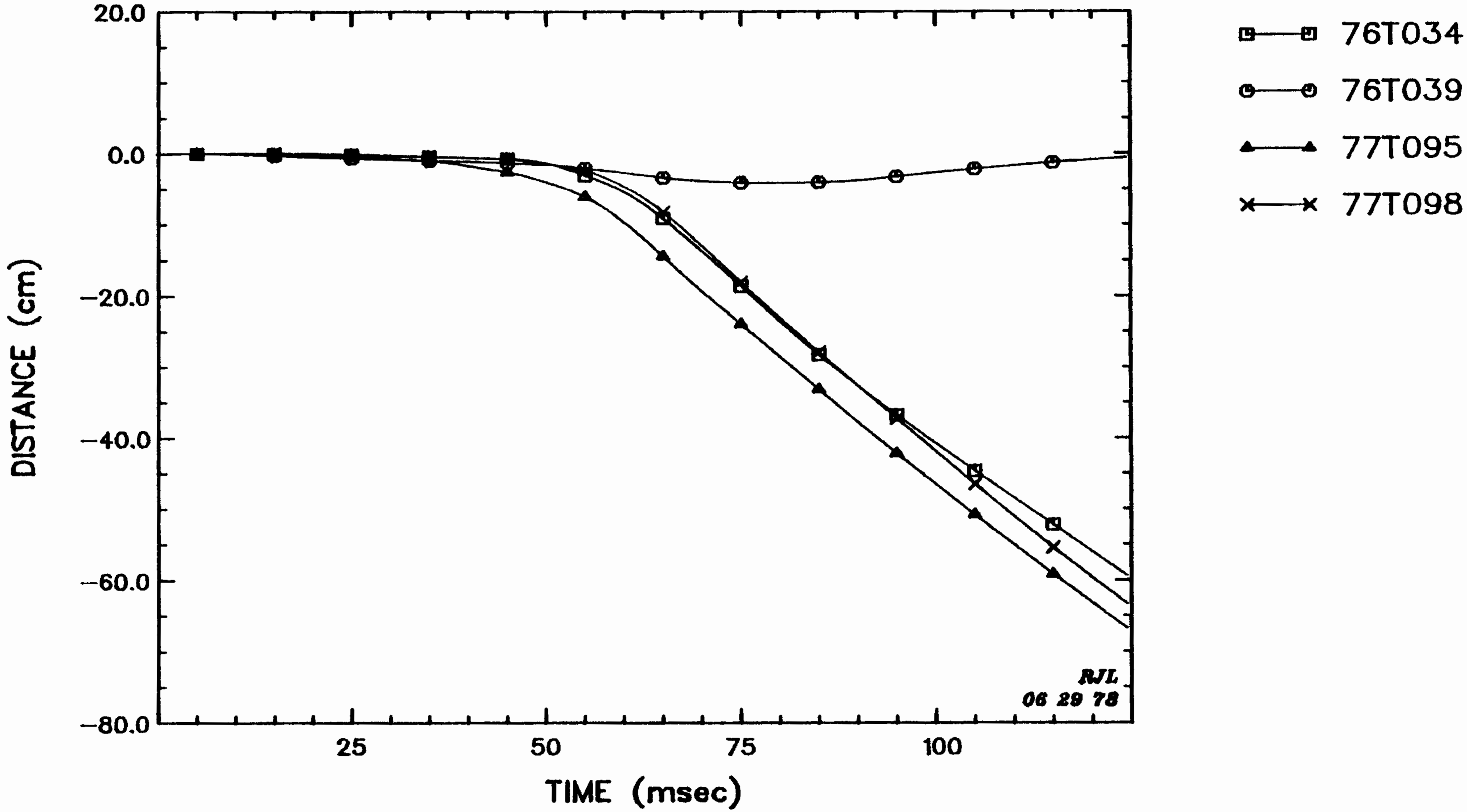
RIGHT UPPER RIBS -- PADDED SIDE TESTS

Figure 55



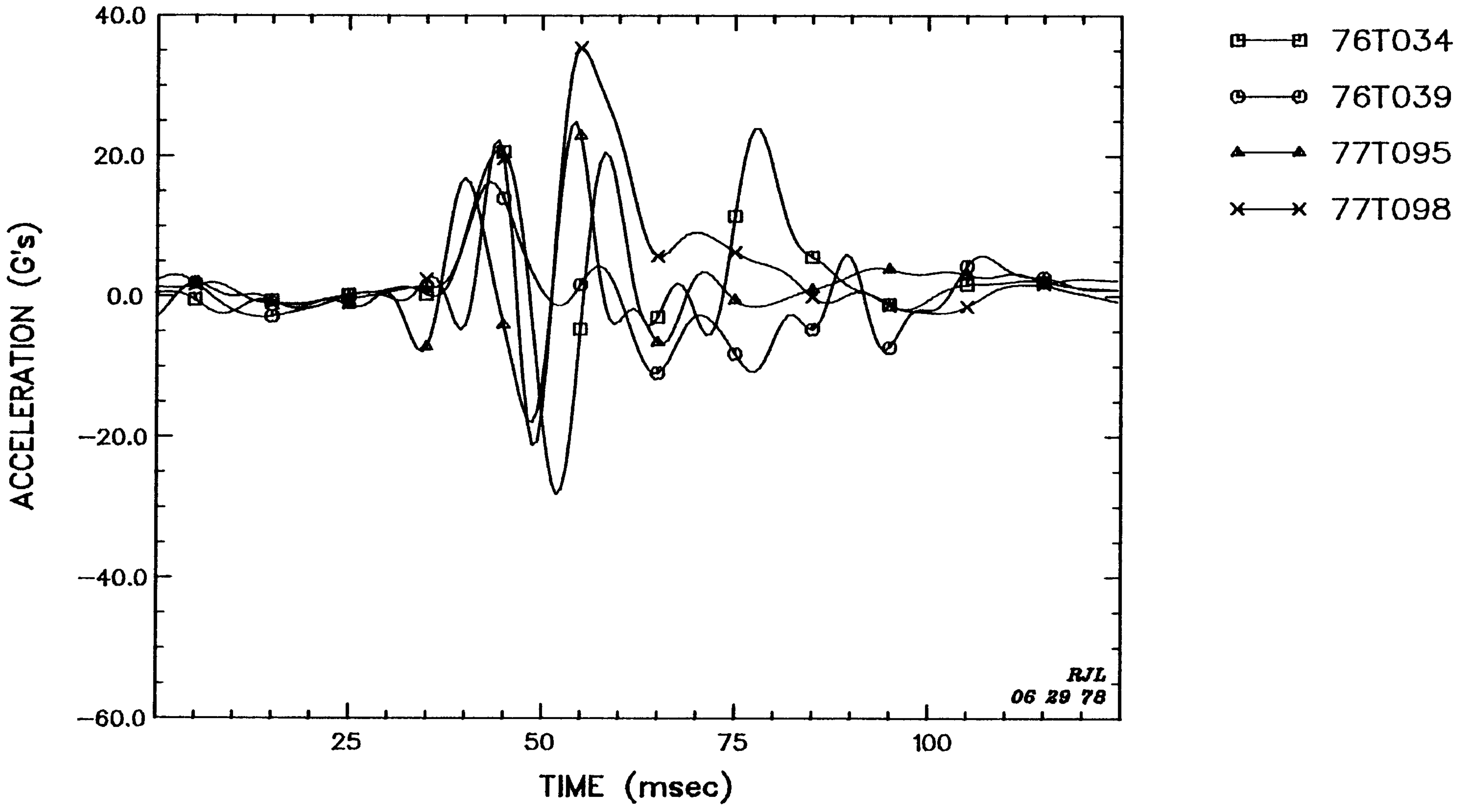
RIGHT UPPER RIBS -- PADDED SIDE TESTS

Figure 56



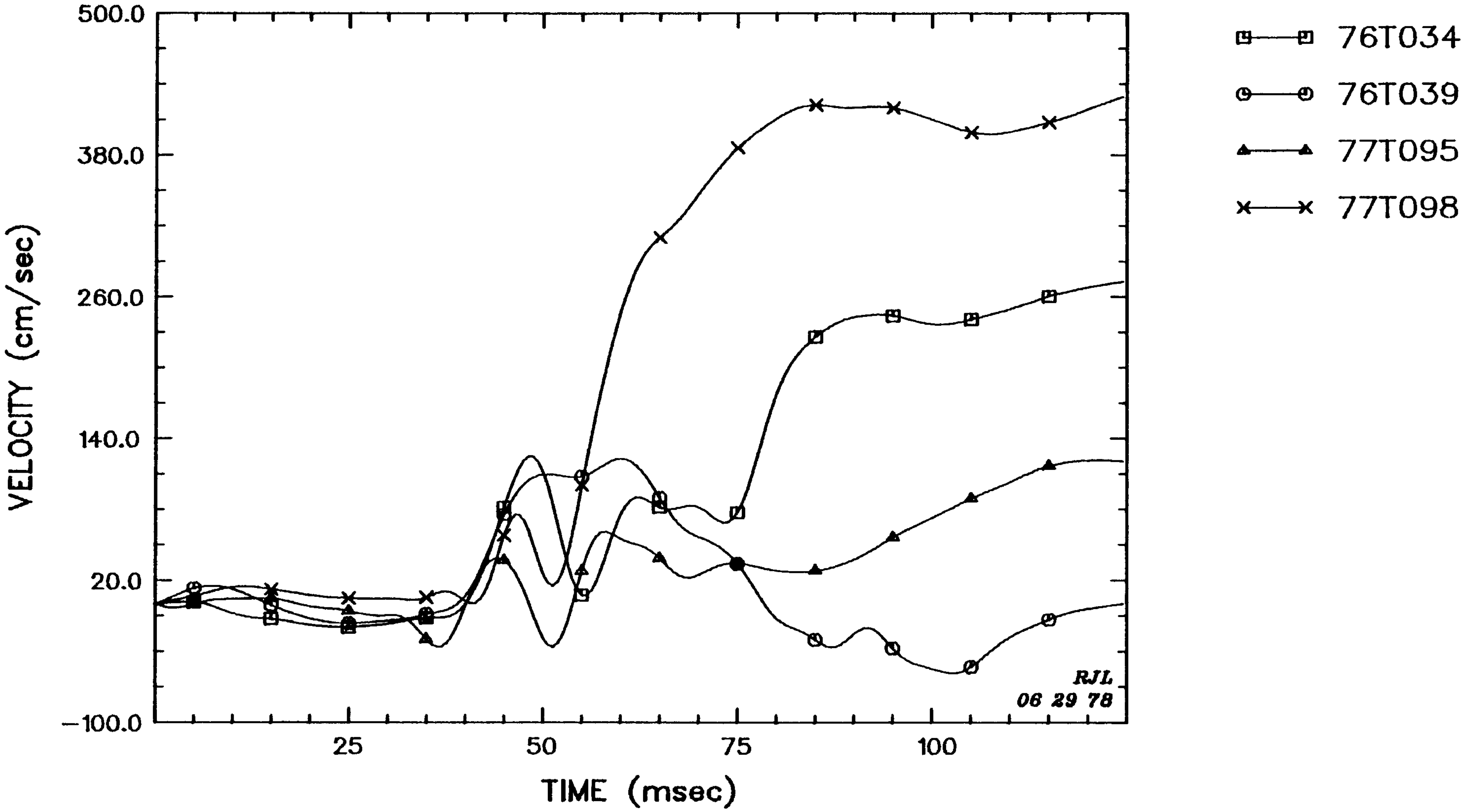
RIGHT UPPER RIBS -- PADDED SIDE TESTS

Figure 57



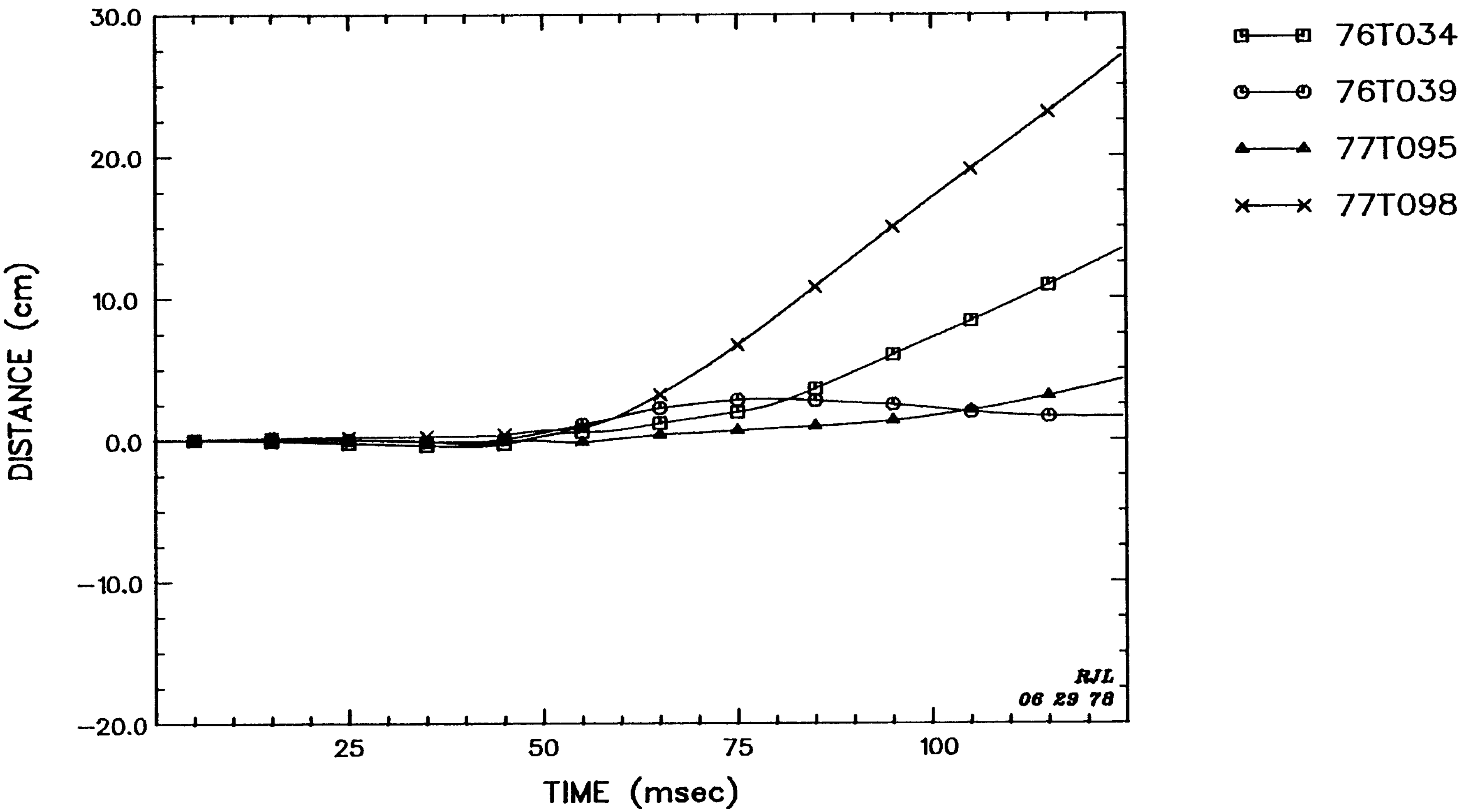
T-1 P-A -- PADDED SIDE TESTS

Figure 58



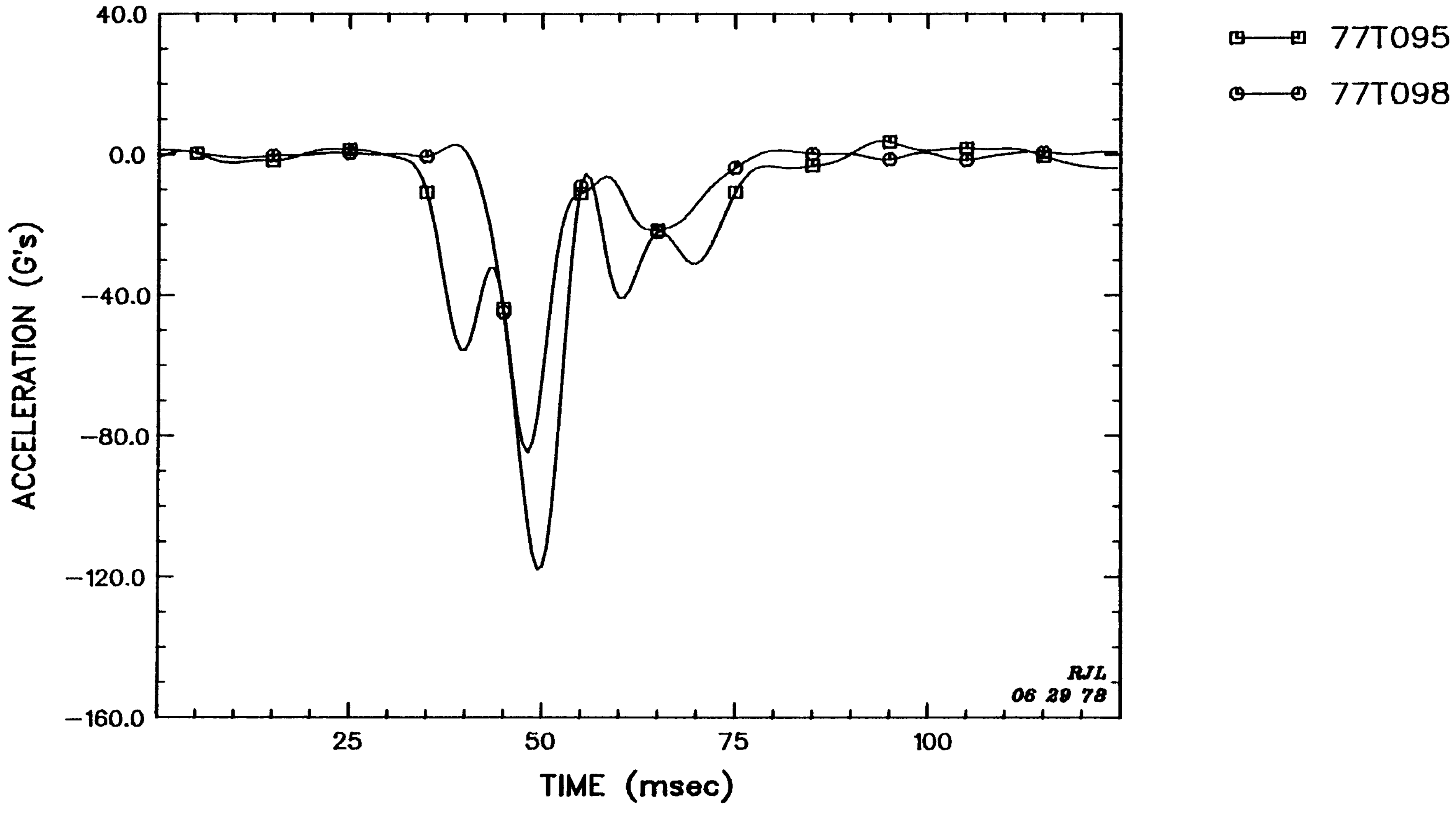
T−1 P−A −− PADDED SIDE TESTS

Figure 59



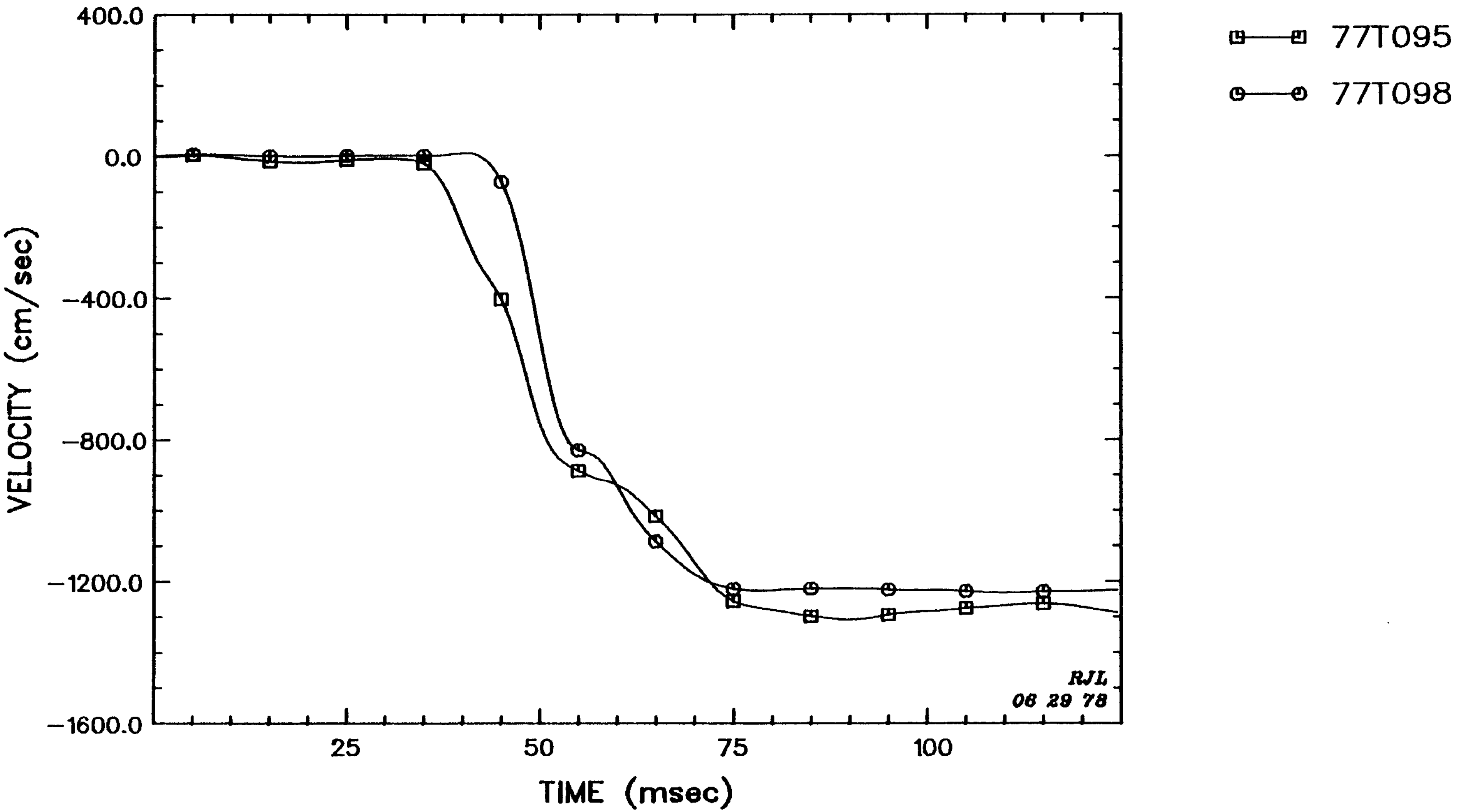
T−1 P−A −− PADDED SIDE TESTS

Figure 60



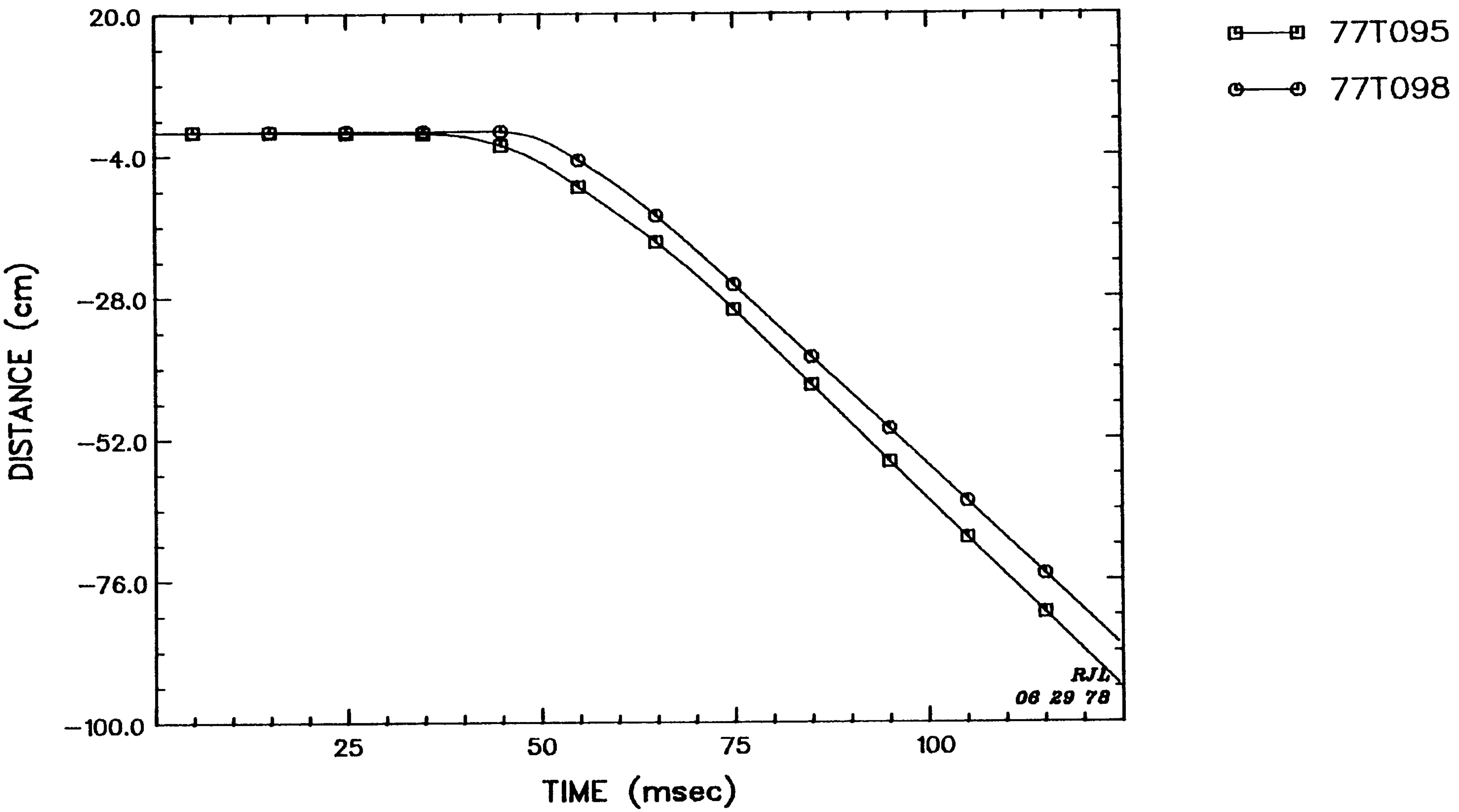
T-1 R-L -- PADDED SIDE TESTS

Figure 61



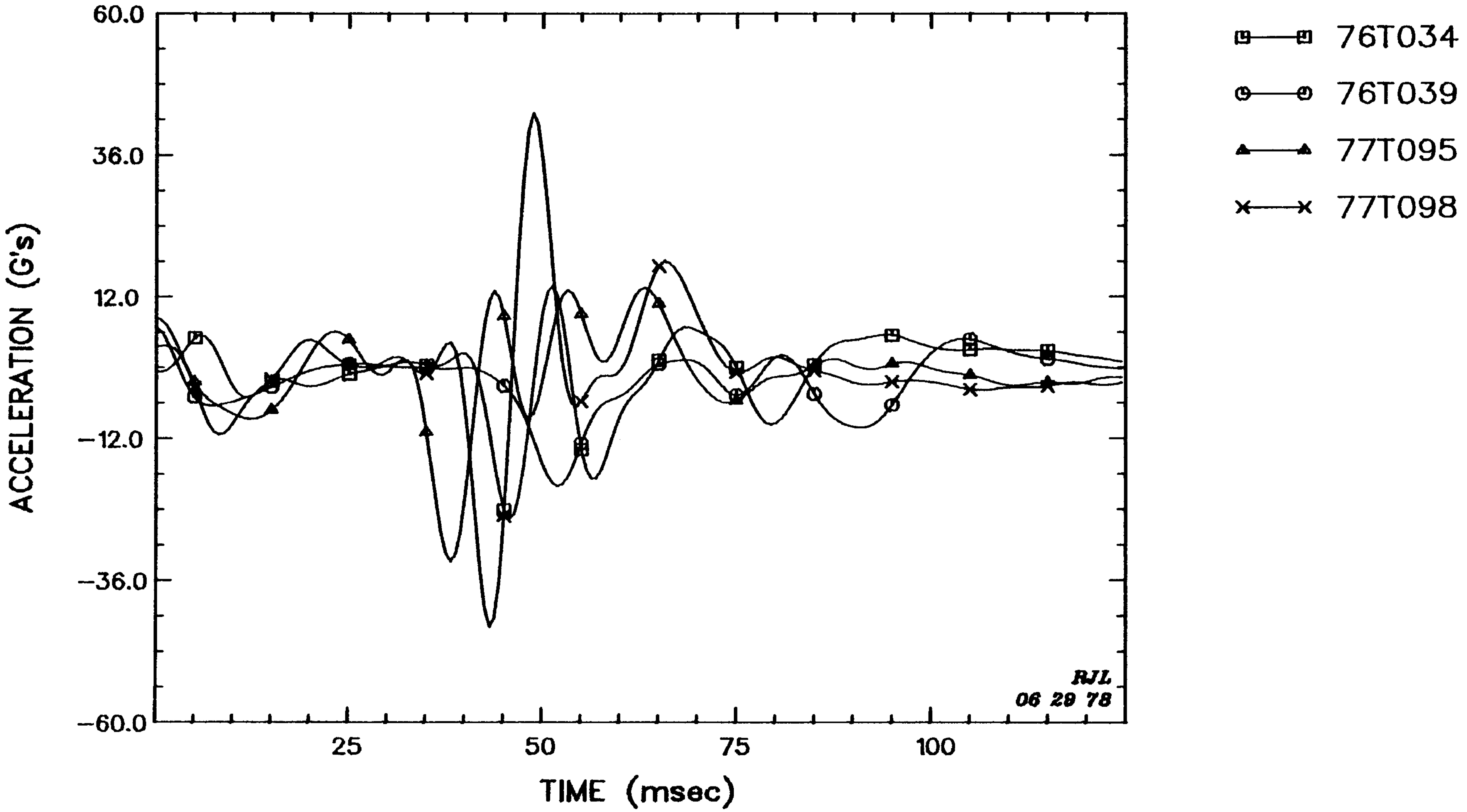
T-1 R-L -- PADDED SIDE TESTS

Figure 62



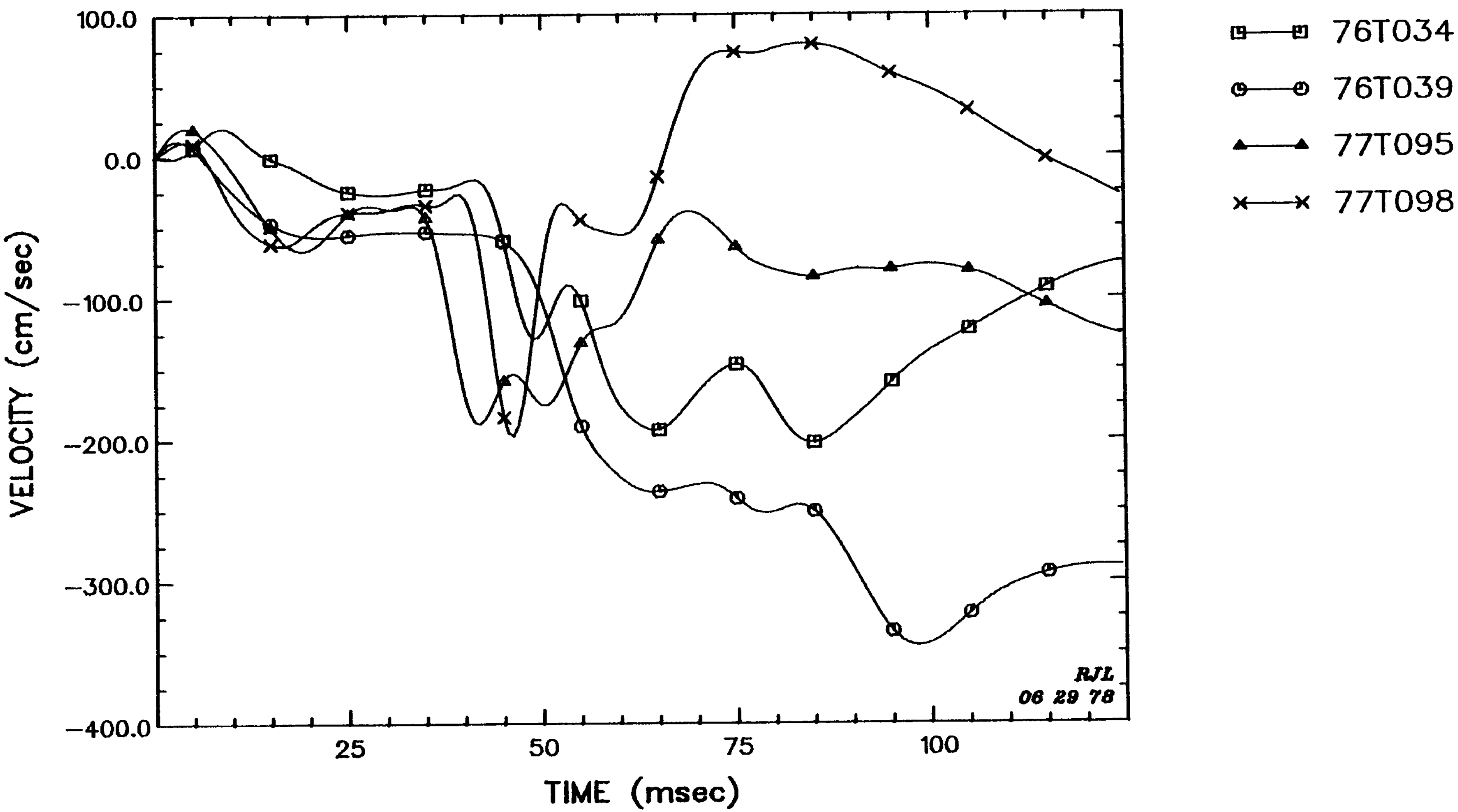
T-1 R-L -- PADDED SIDE TESTS

Figure 63



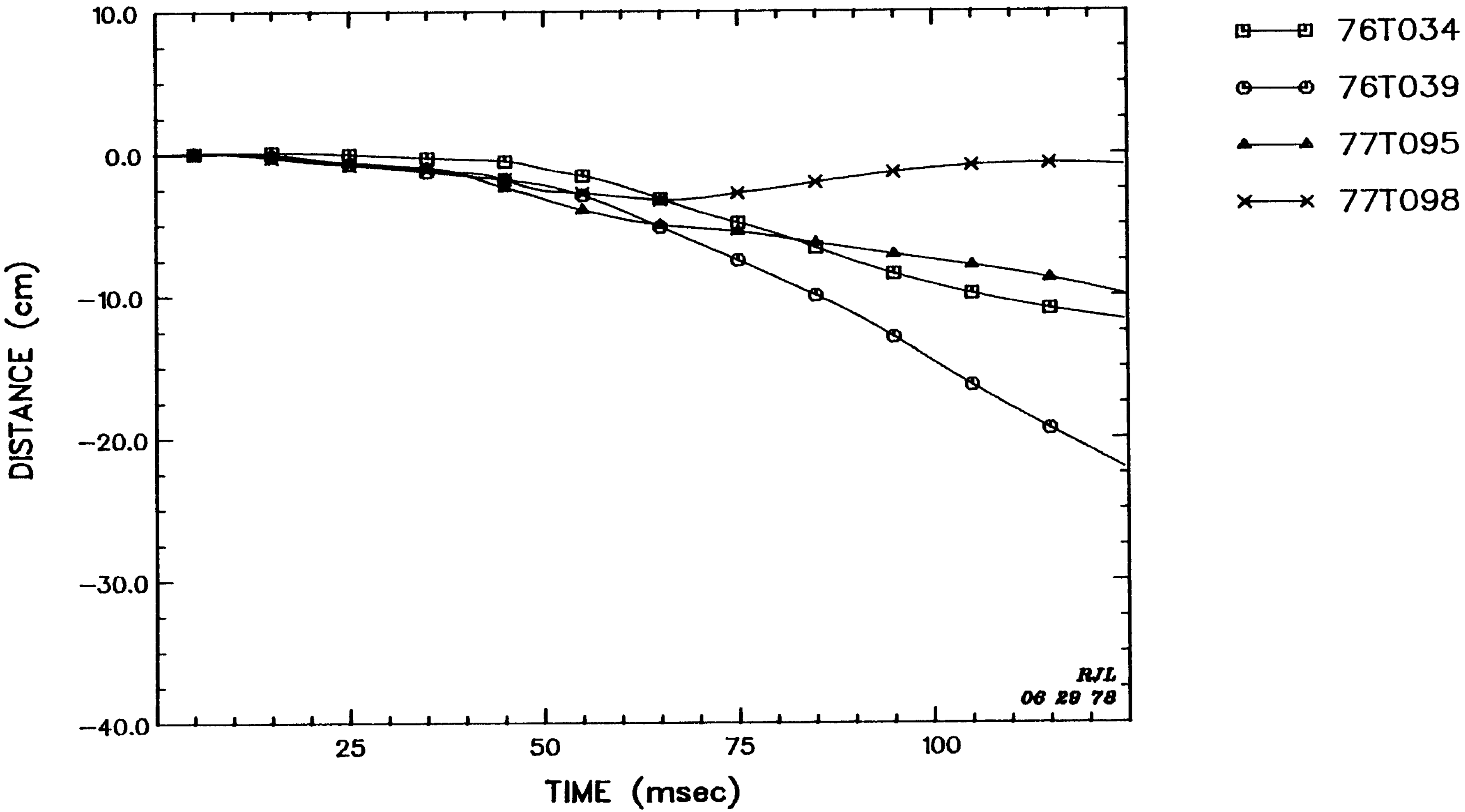
T-12 P-A -- PADDED SIDE TESTS

Figure 64



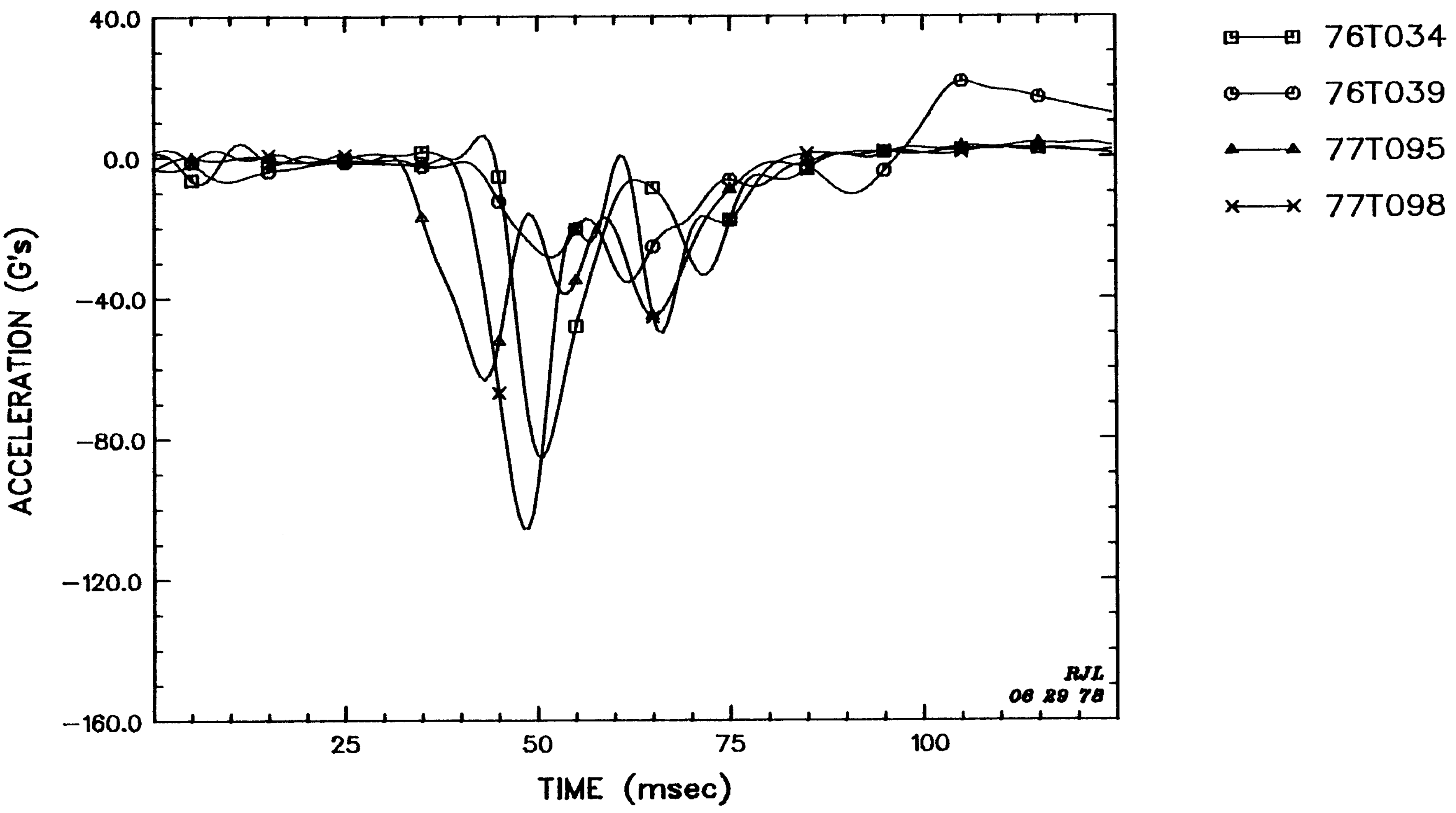
T-12 P-A -- PADDED SIDE TESTS

Figure 65



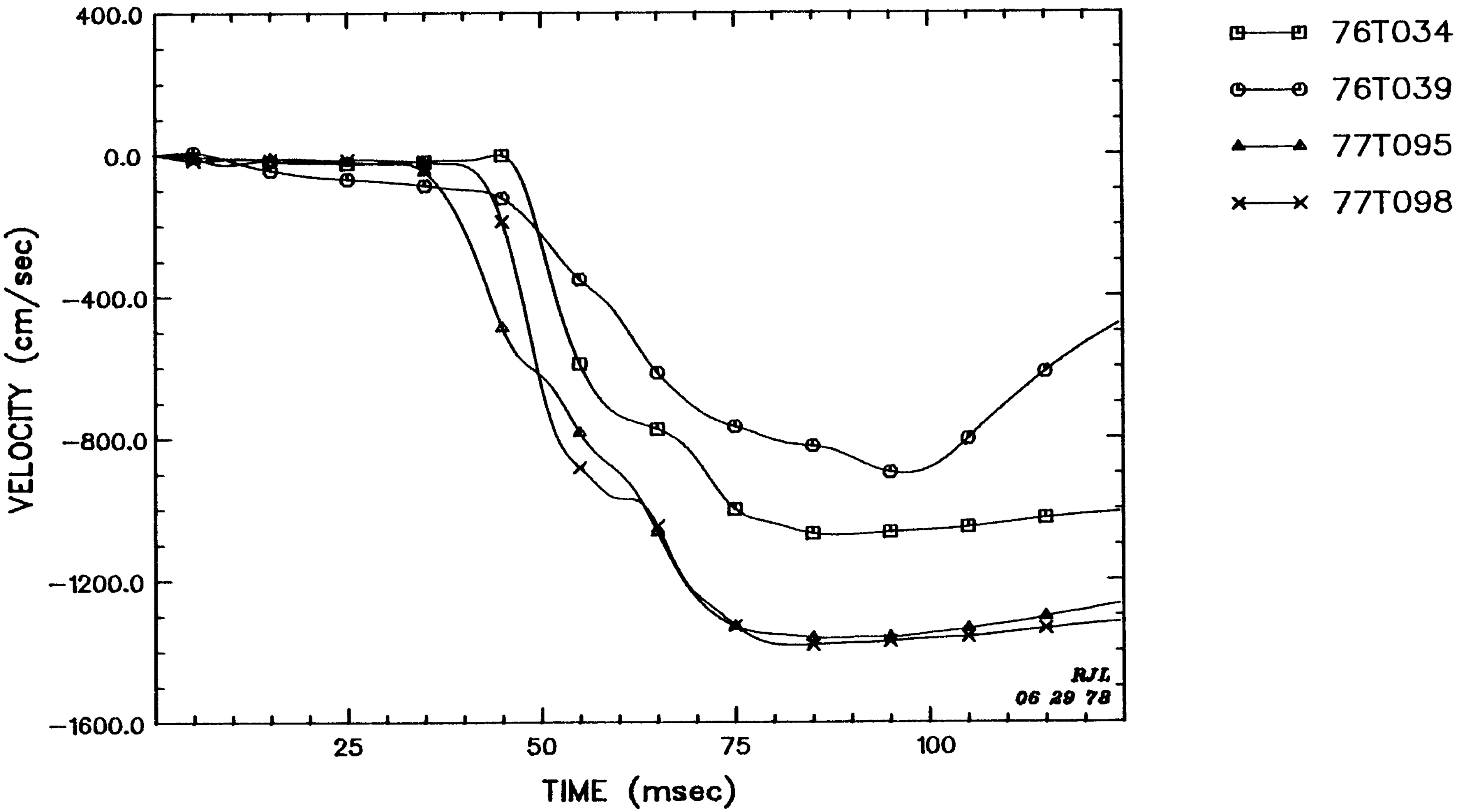
T−12 P−A −− PADDED SIDE TESTS

Figure 66



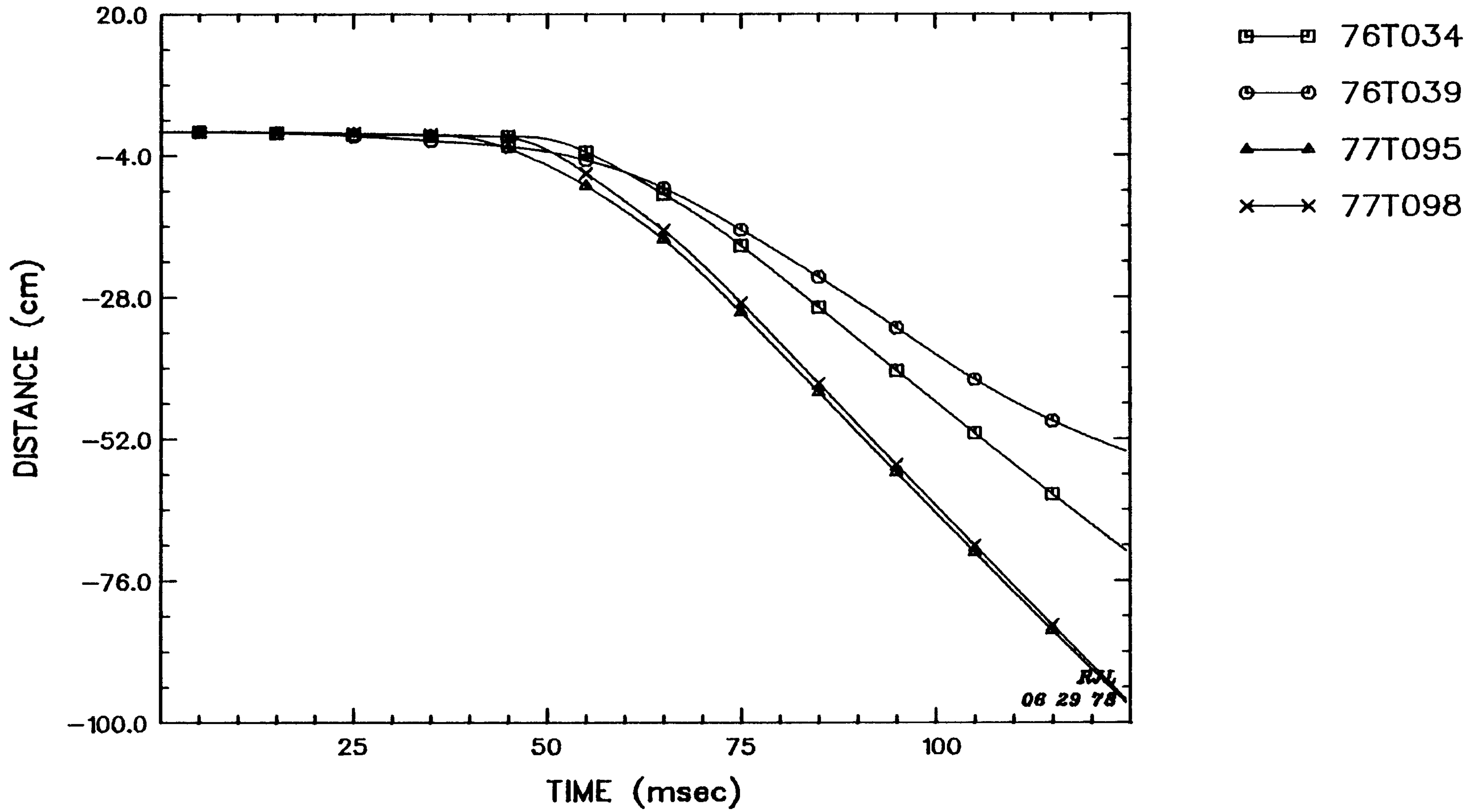
T-12 R-L -- PADDED SIDE TESTS

Figure 67



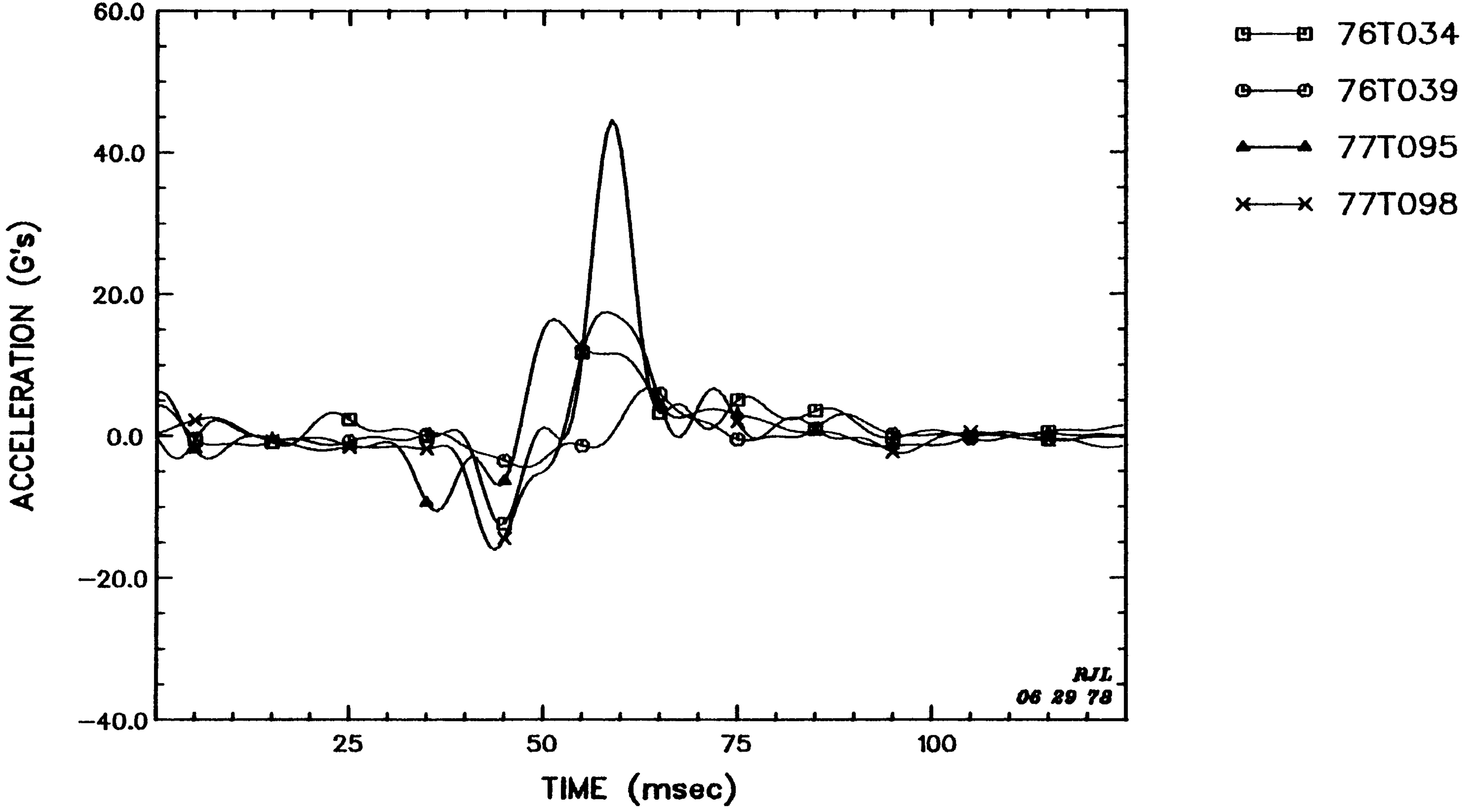
T-12 R-L -- PADDED SIDE TESTS

Figure 68



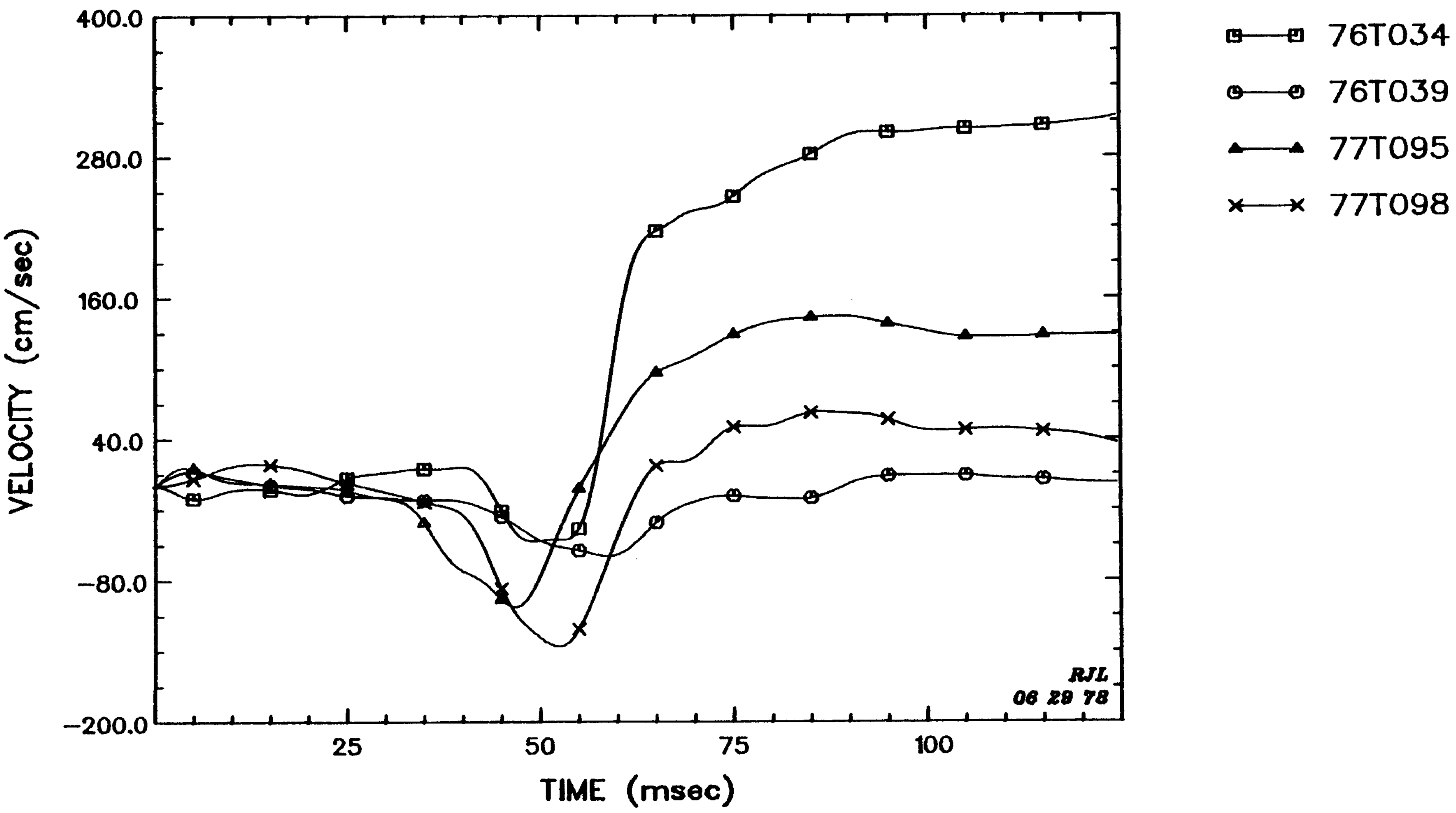
T-12 R-L -- PADDED SIDE TESTS

Figure 69



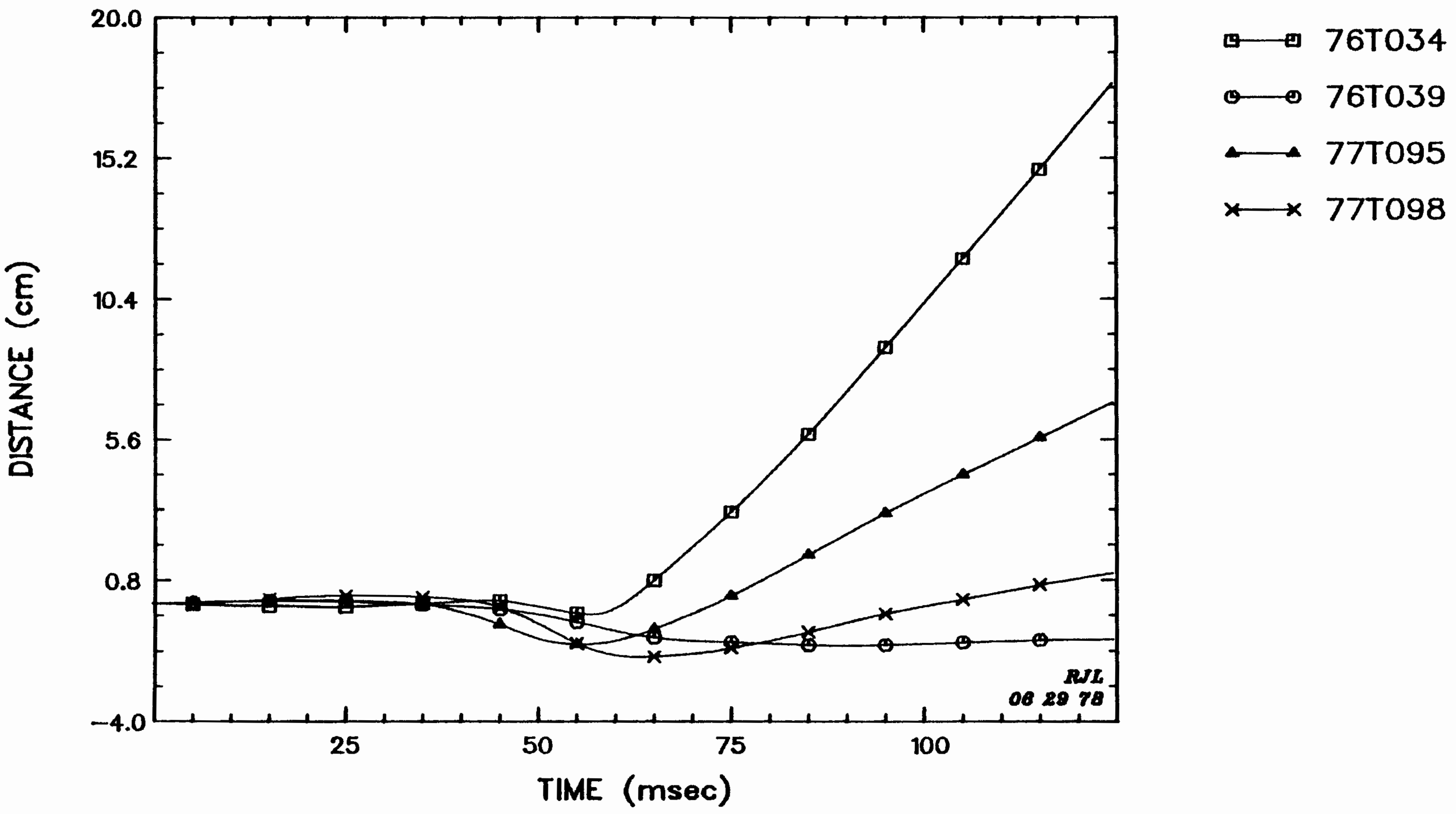
PELVIS P—A —— PADDED SIDE TESTS

Figure 70



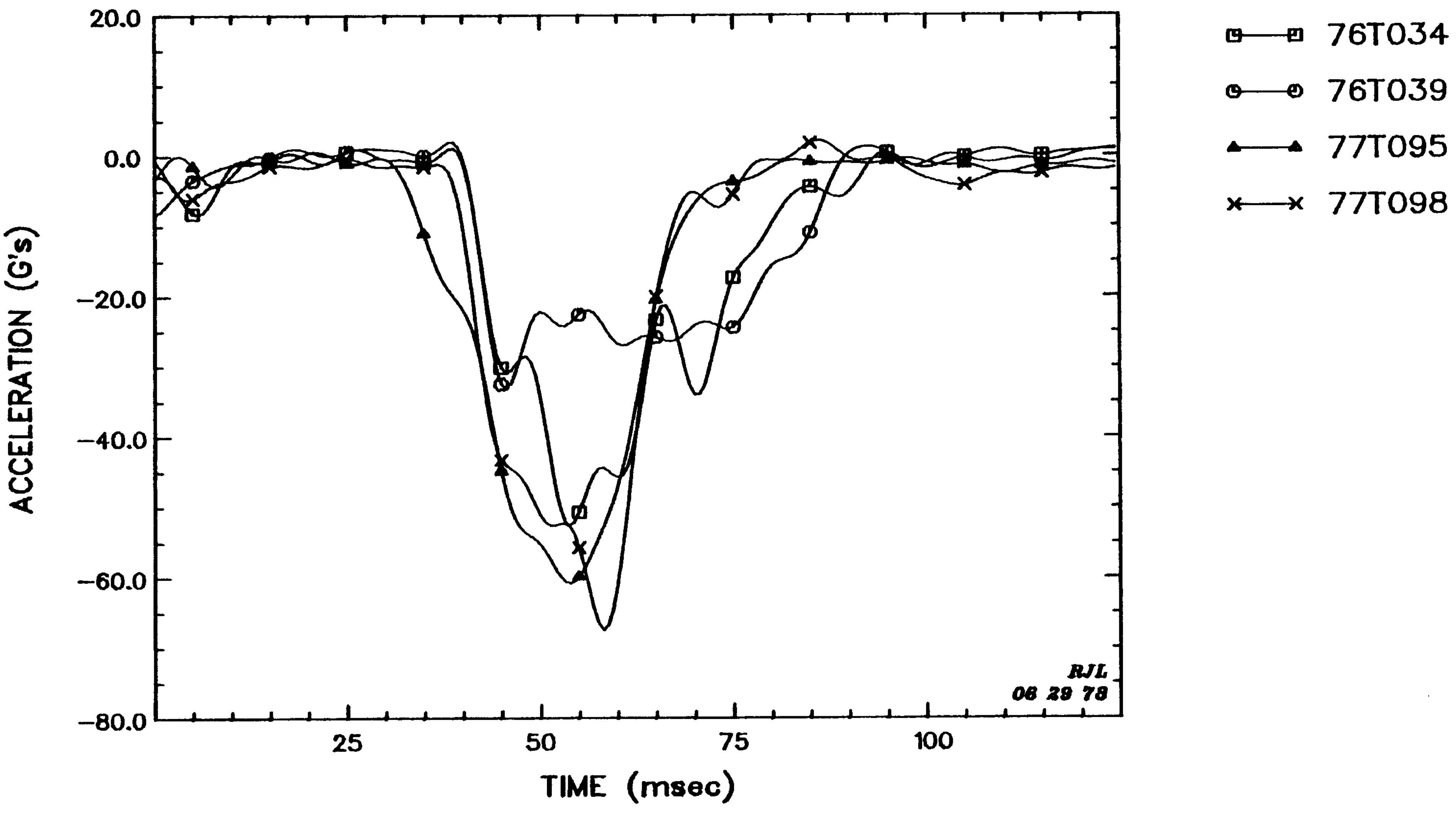
PELVIS P-A -- PADDED SIDE TESTS

Figure 71



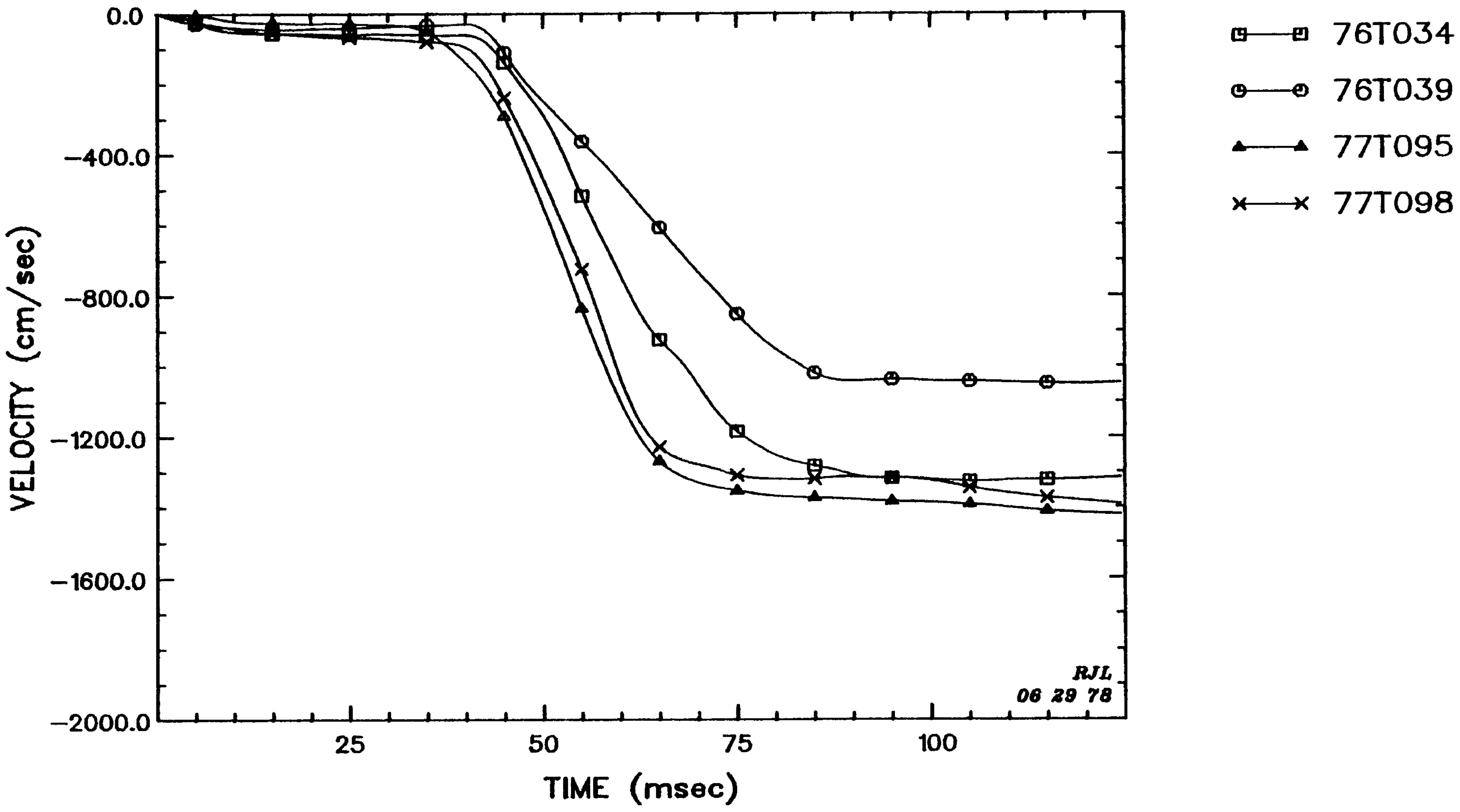
PELVIS P-A -- PADDED SIDE TESTS

Figure 72



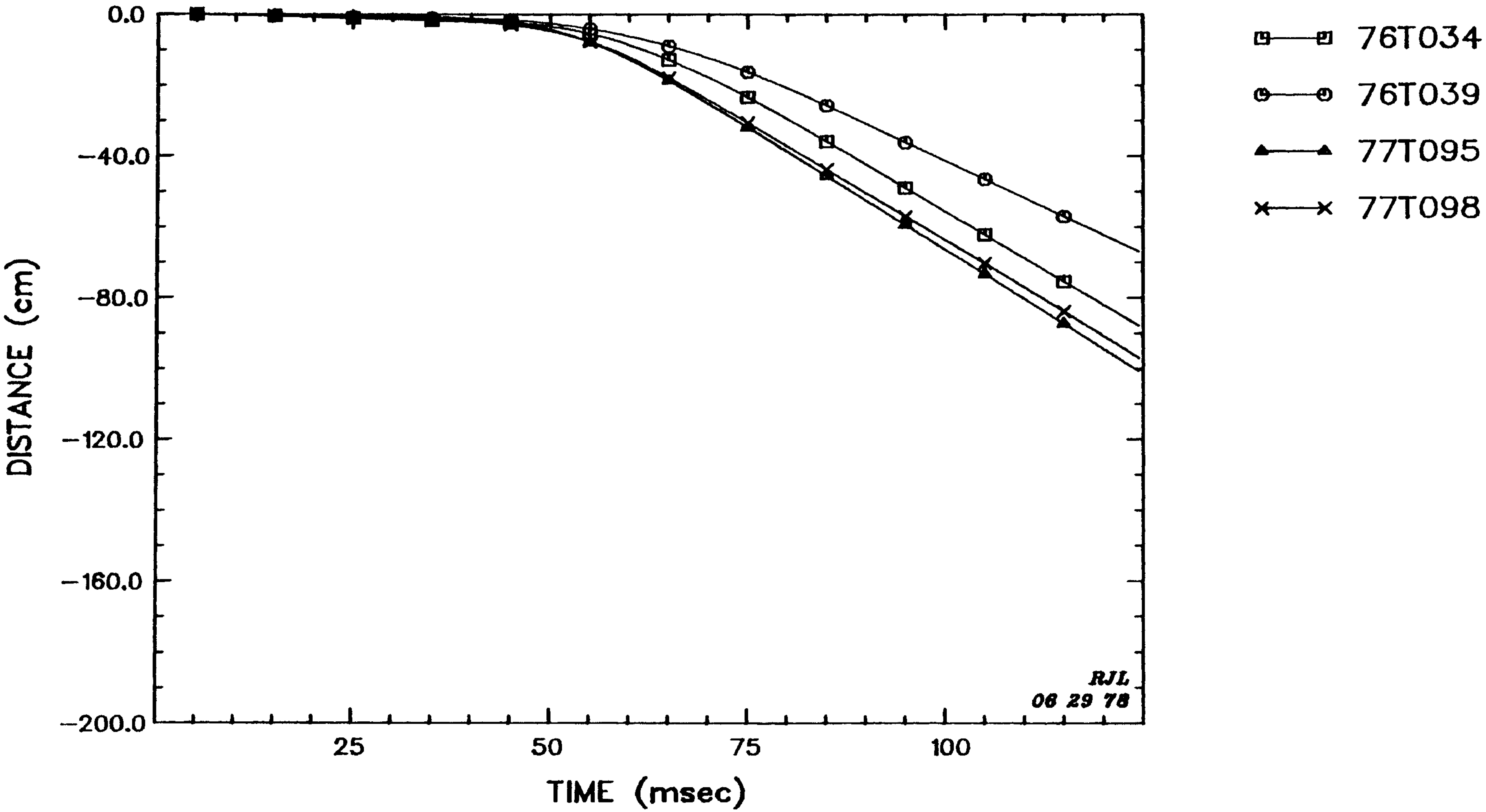
PELVIS R-L -- PADDED SIDE TESTS

Figure 73



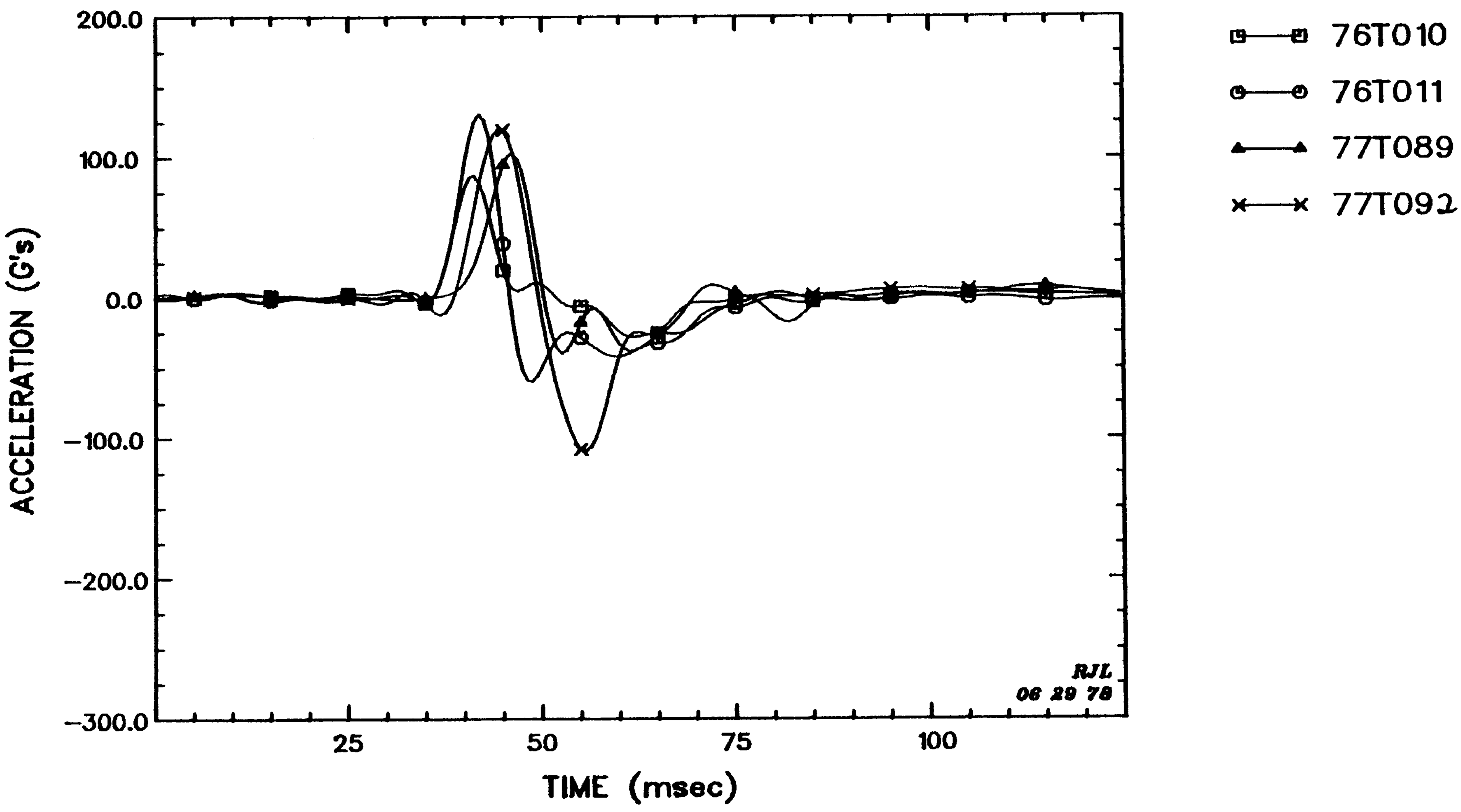
PELVIS R-L -- PADDED SIDE TESTS

Figure 74



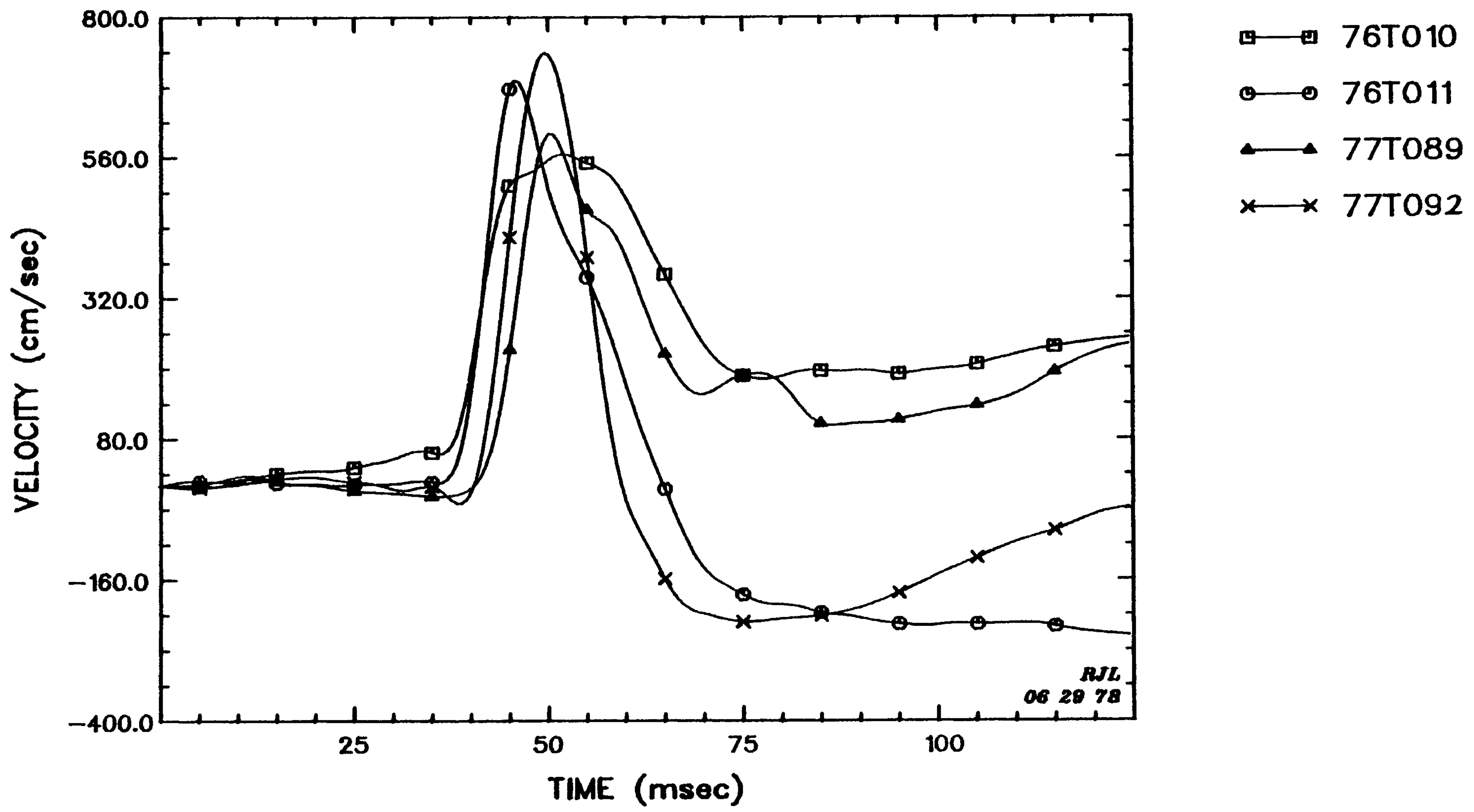
PELVIS R–L –– PADDED SIDE TESTS

Figure 75



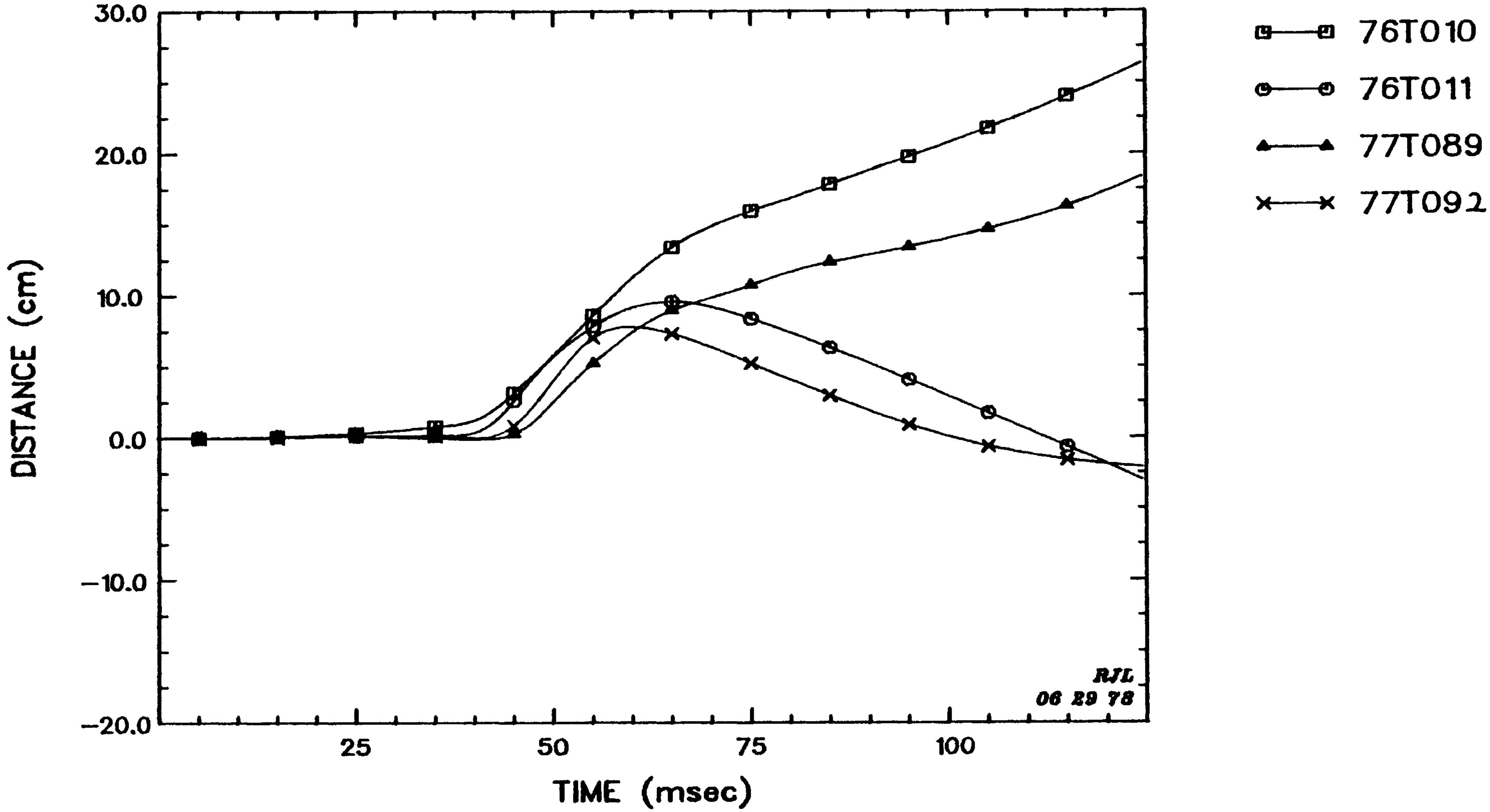
LOWER STERNALS -- RIGID SIDE TESTS

Figure 76



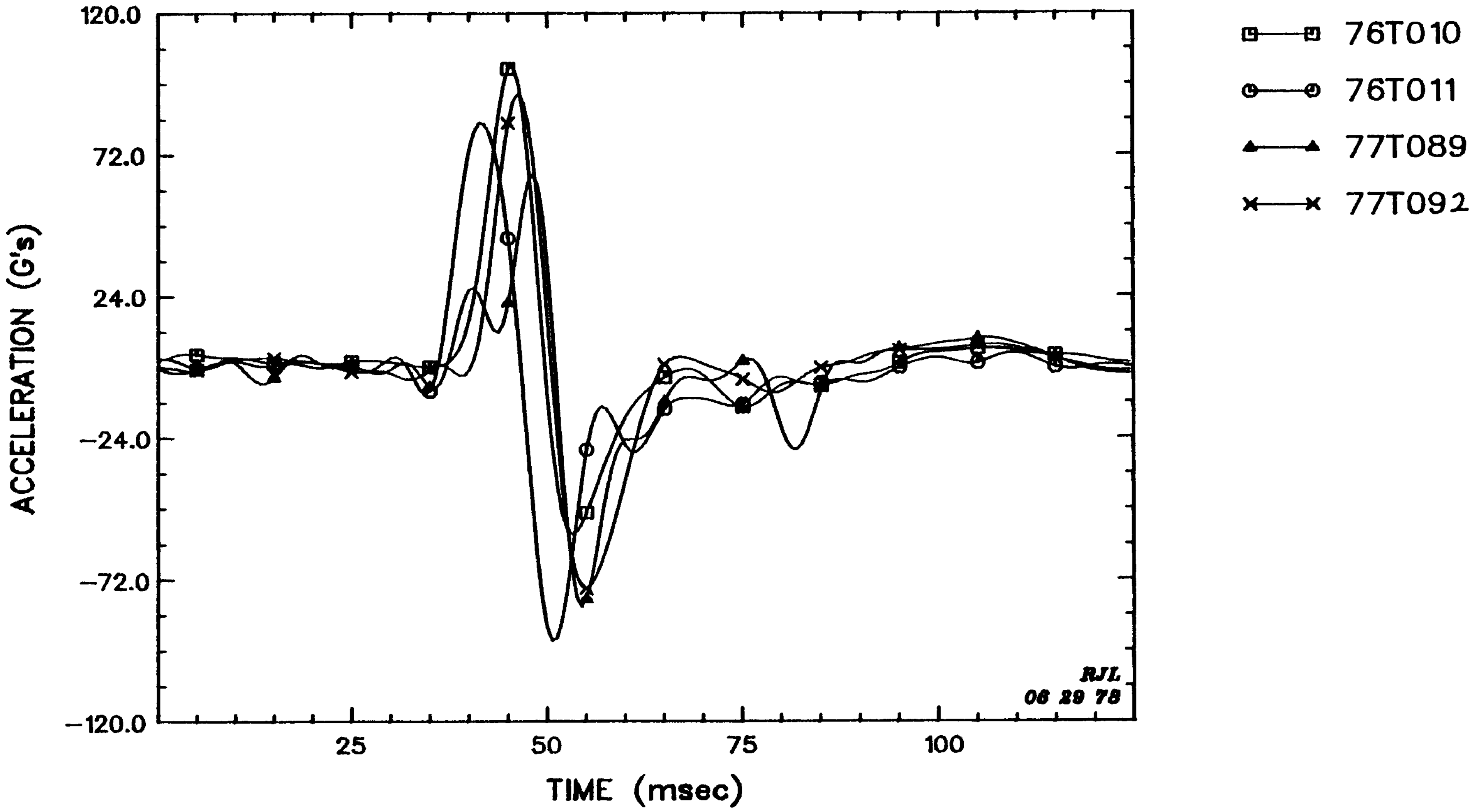
LOWER STERNALS -- RIGID SIDE TESTS

Figure 77



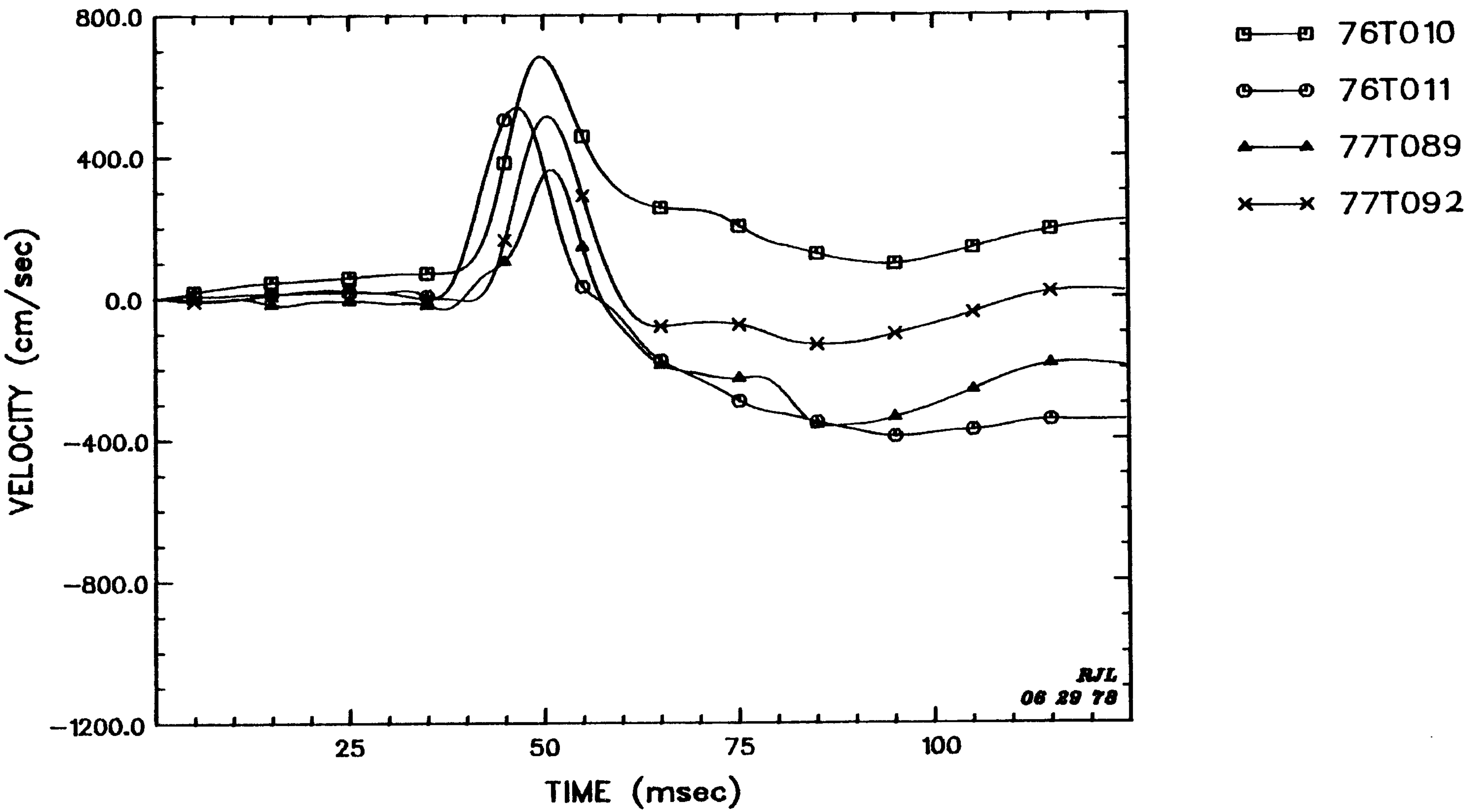
LOWER STERNALS -- RIGID SIDE TESTS

Figure 78



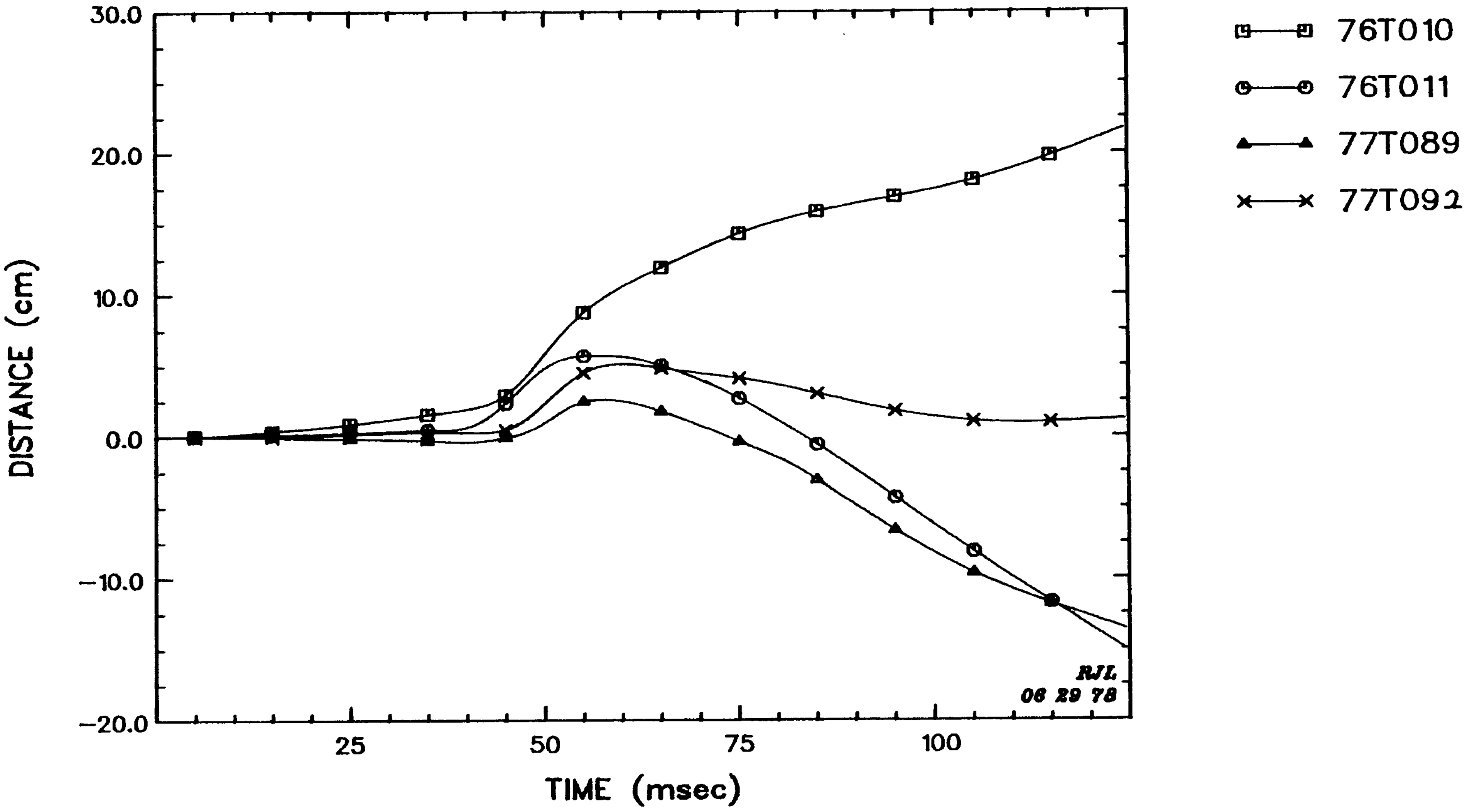
UPPER STERNALS -- RIGID SIDE TESTS

Figure 79



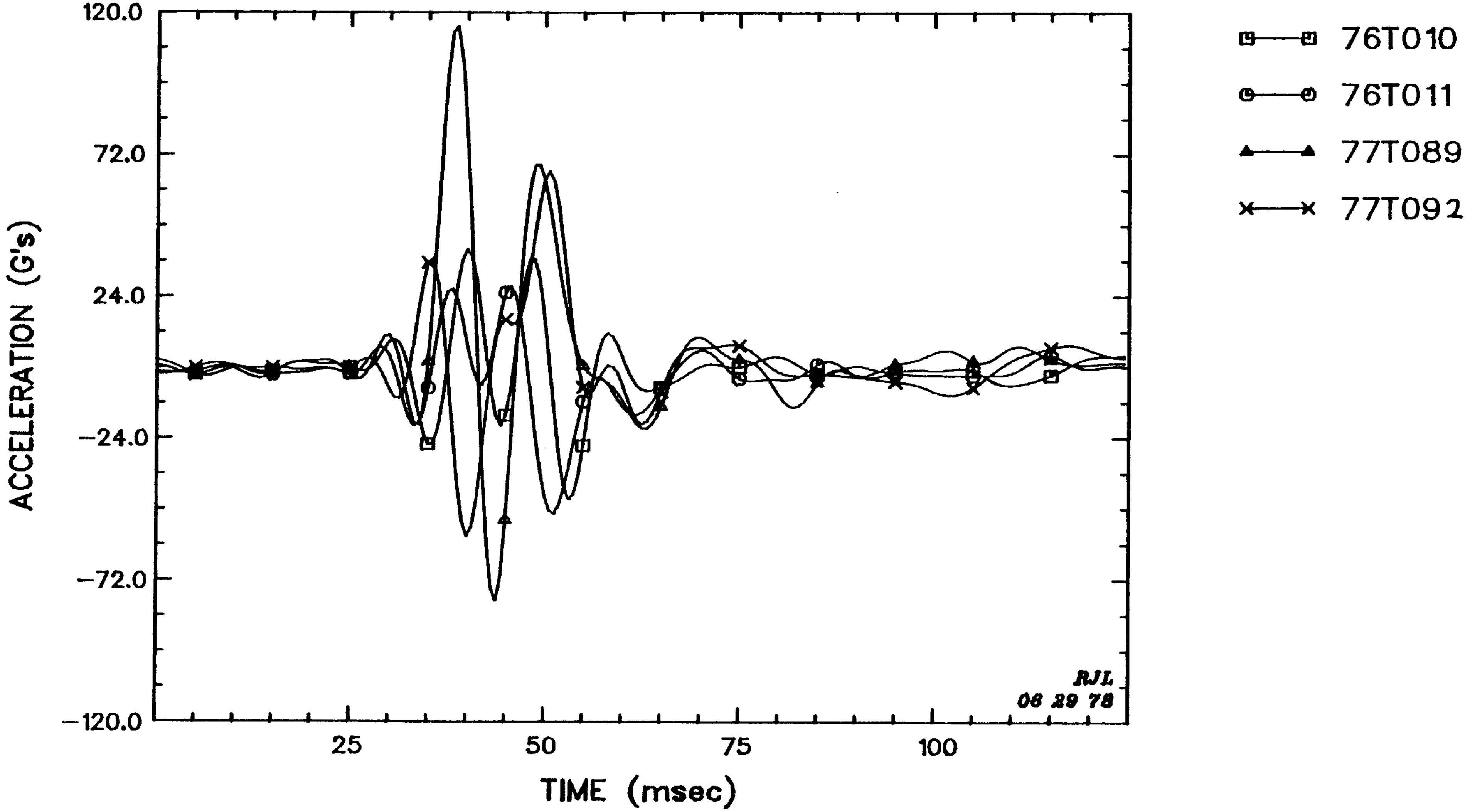
UPPER STERNALS -- RIGID SIDE TESTS

Figure 80



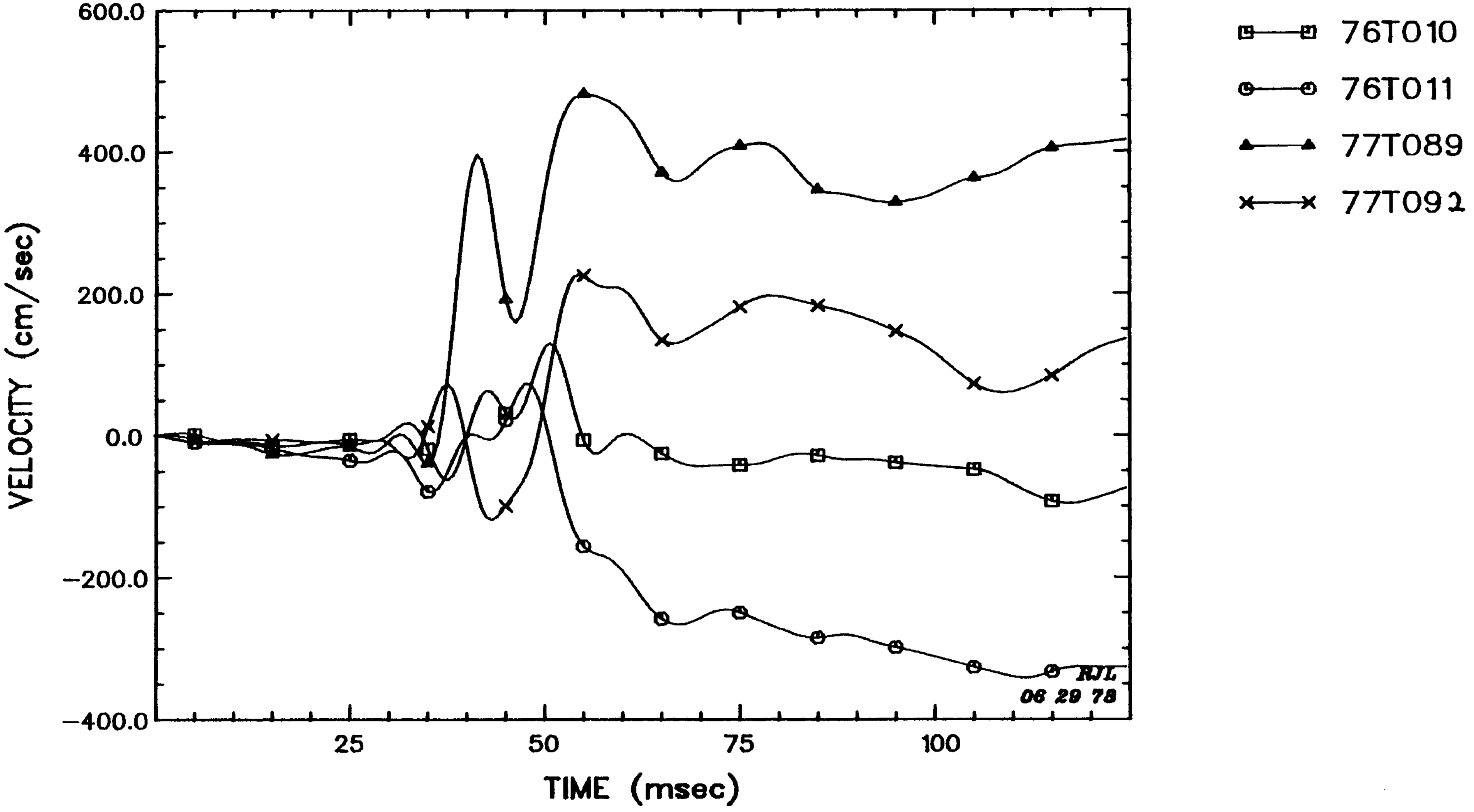
UPPER STERNALS -- RIGID SIDE TESTS

Figure 81



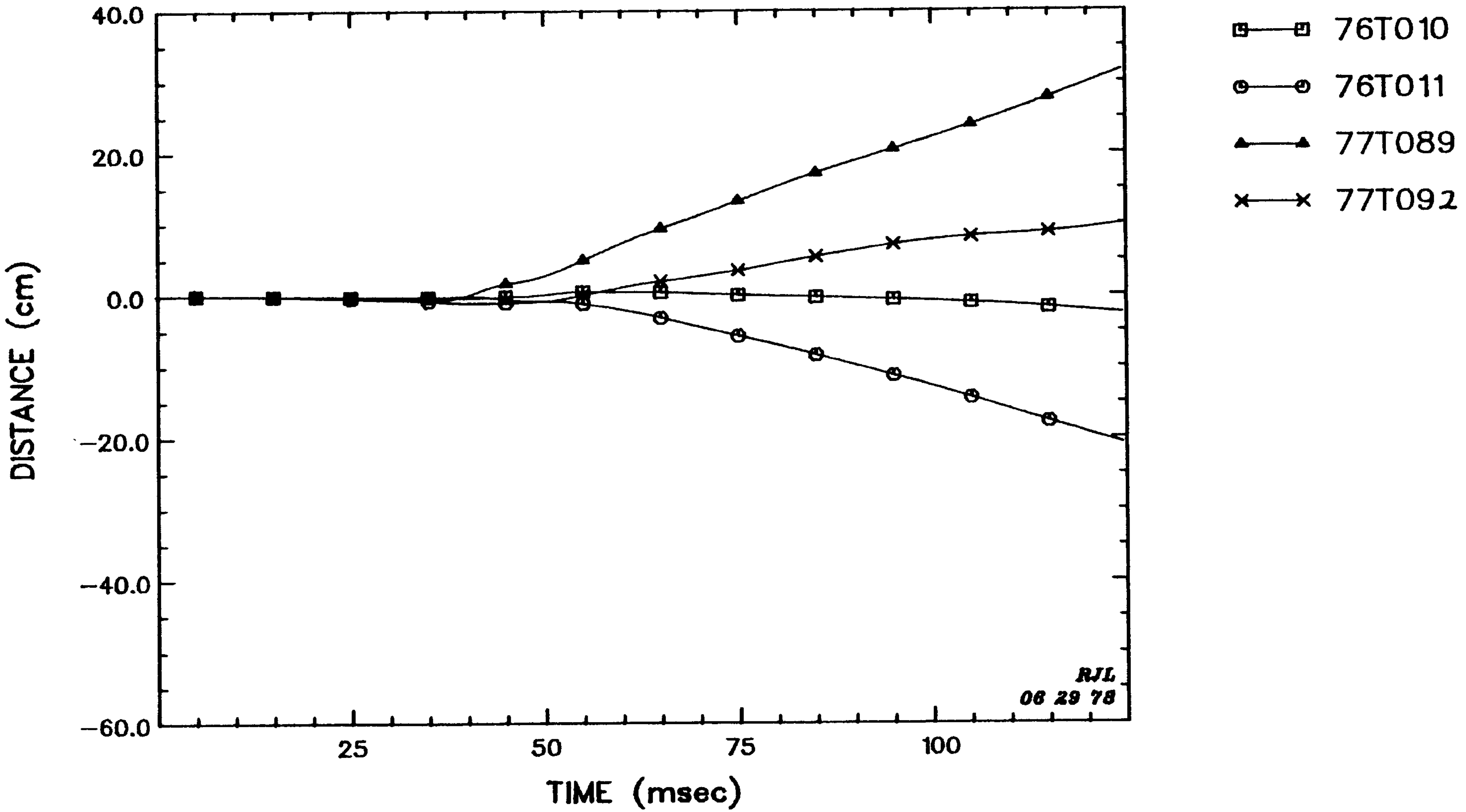
LEFT LOWER RIBS -- RIGID SIDE TESTS

Figure 82



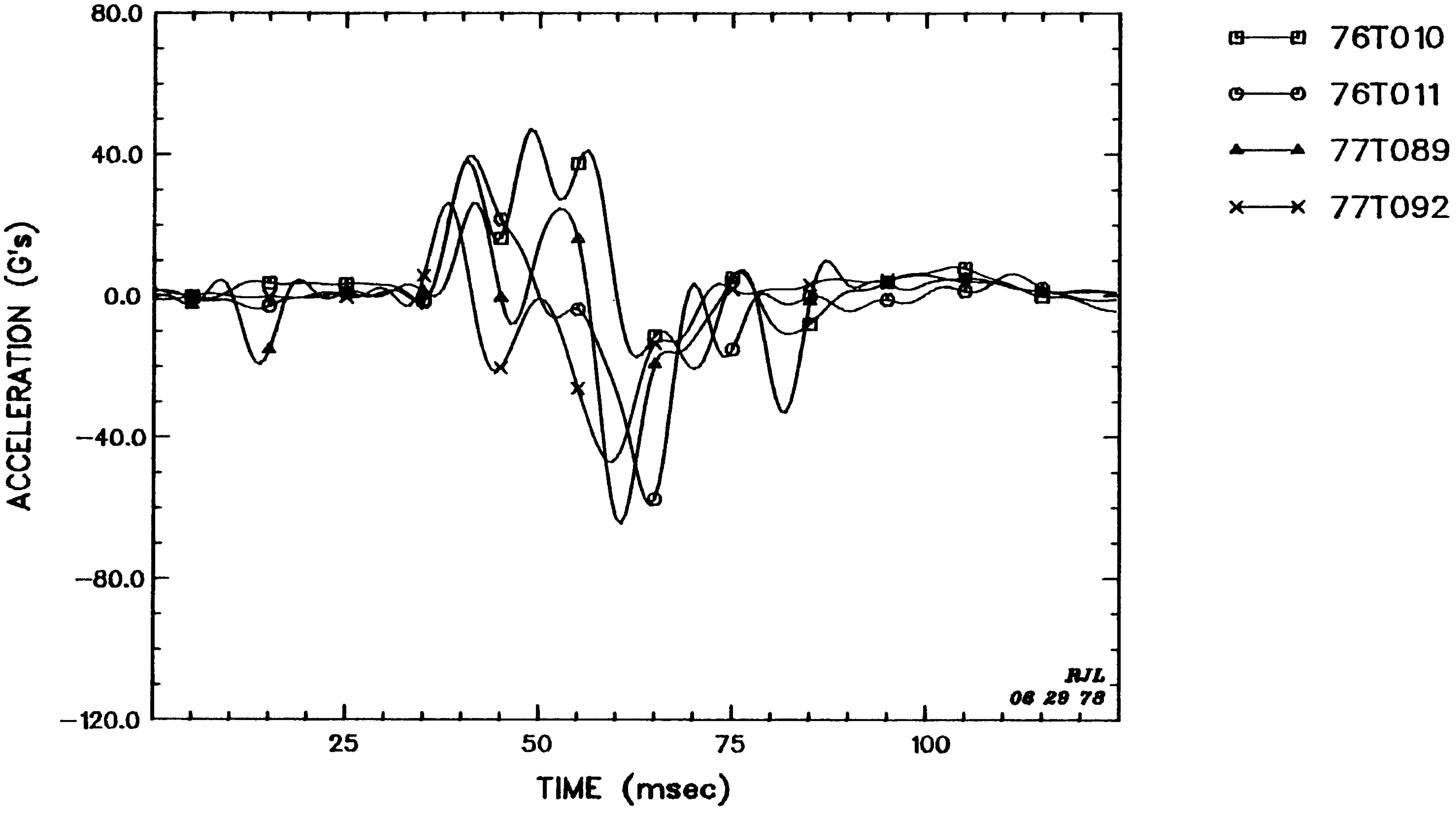
LEFT LOWER RIBS -- RIGID SIDE TESTS

Figure 83



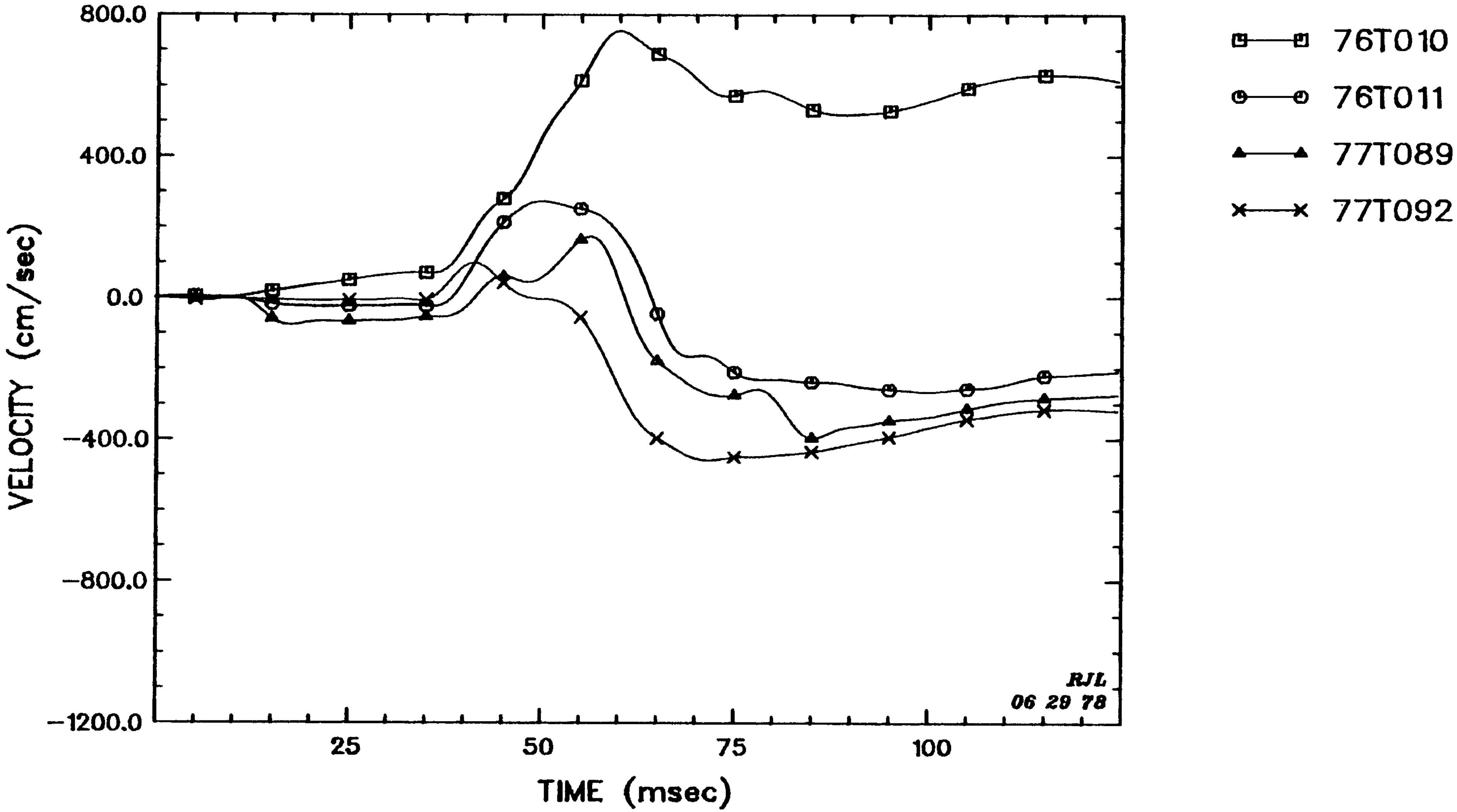
LEFT LOWER RIBS -- RIGID SIDE TESTS

Figure 84



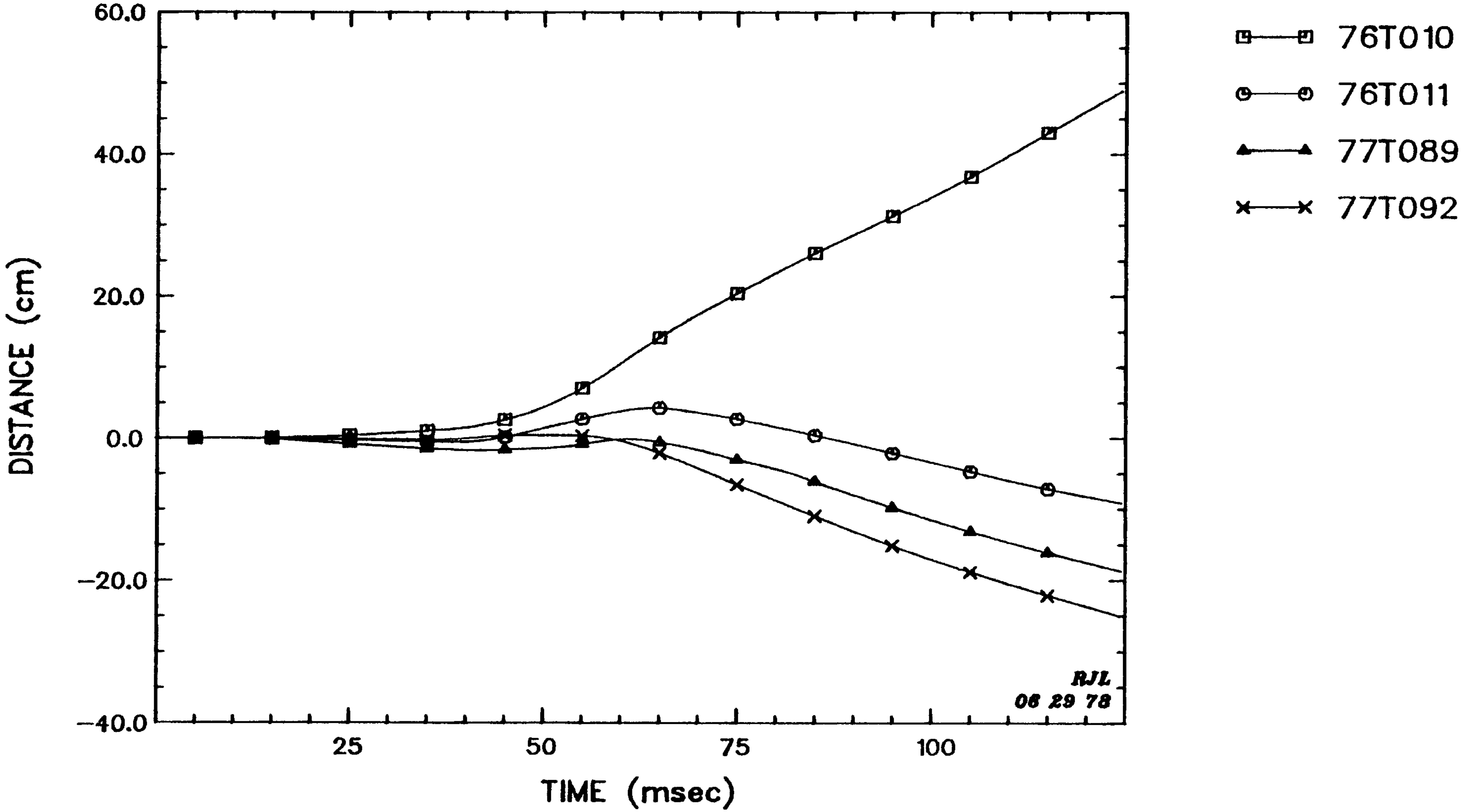
RIGHT LOWER RIBS -- RIGID SIDE TESTS

Figure 85



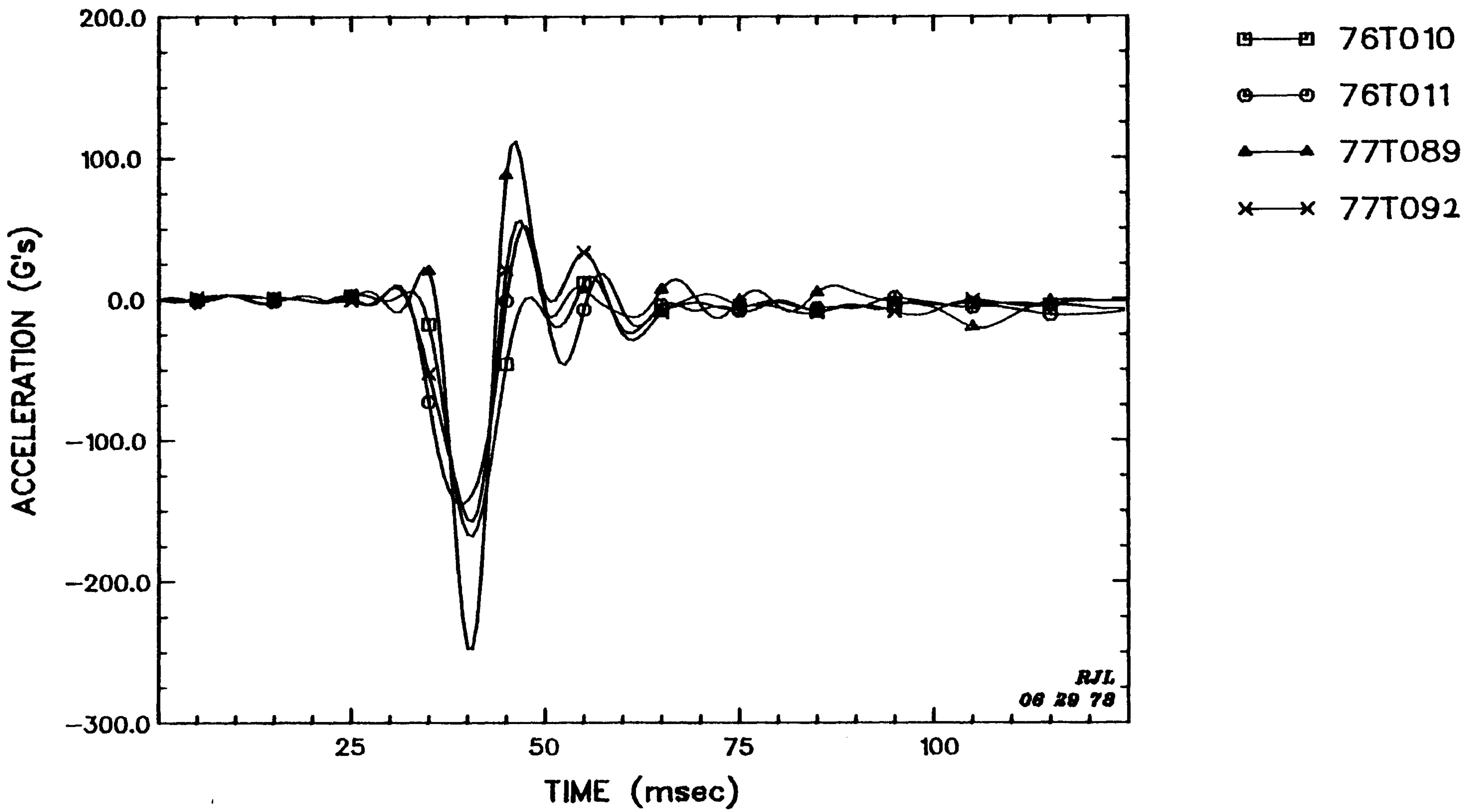
RIGHT LOWER RIBS -- RIGID SIDE TESTS

Figure 86



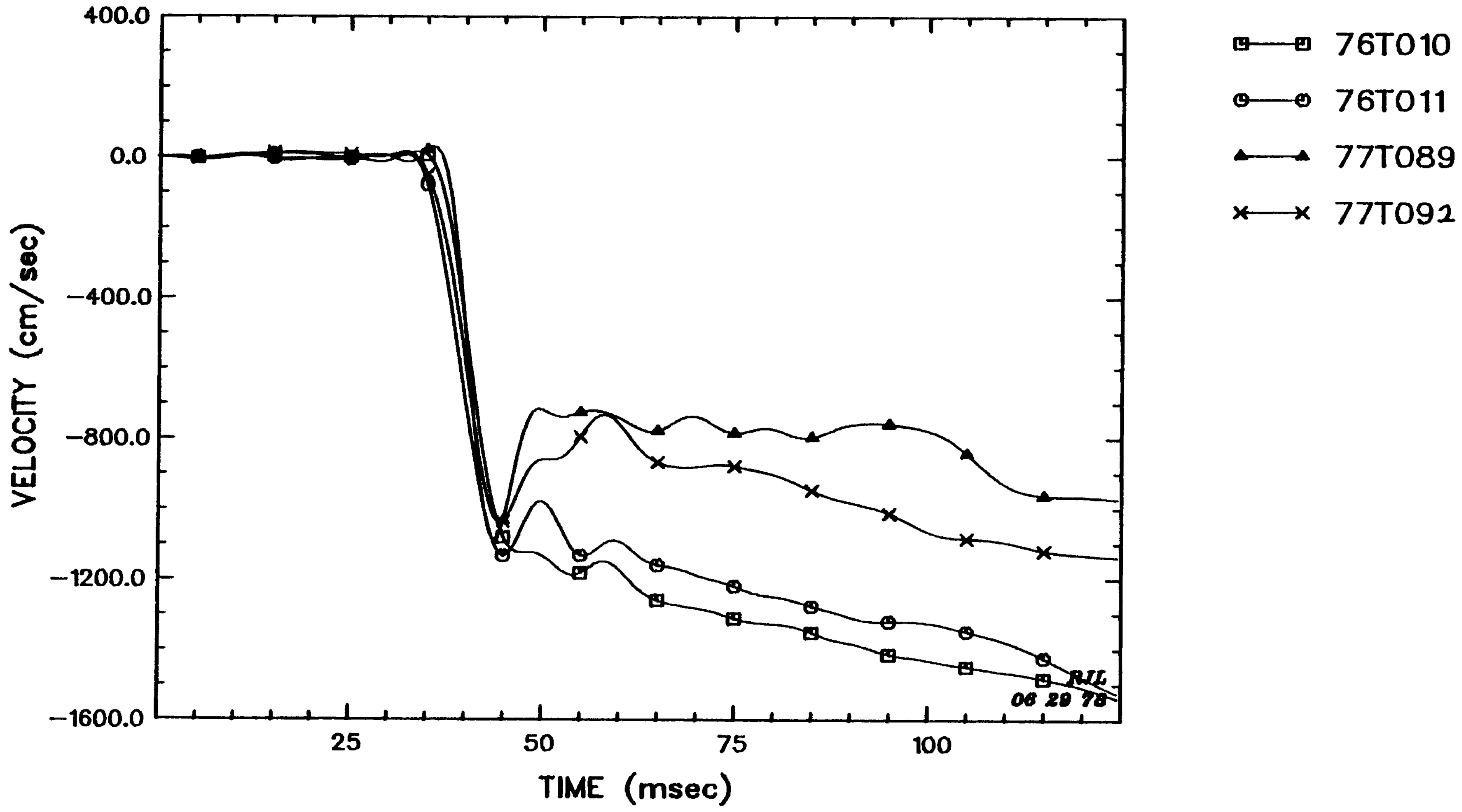
RIGHT LOWER RIBS -- RIGID SIDE TESTS

Figure 87



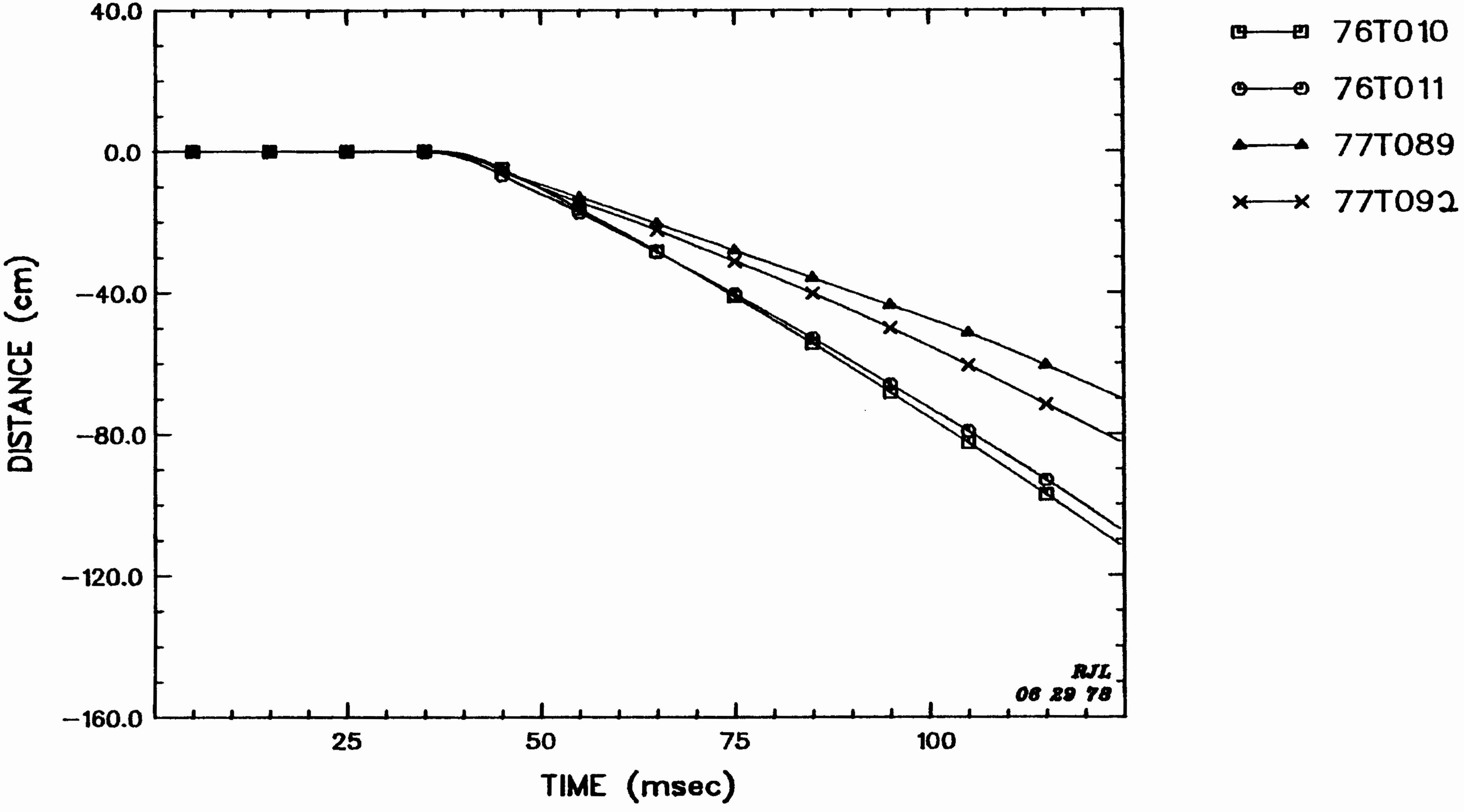
LEFT UPPER RIBS -- RIGID SIDE TESTS

Figure 88



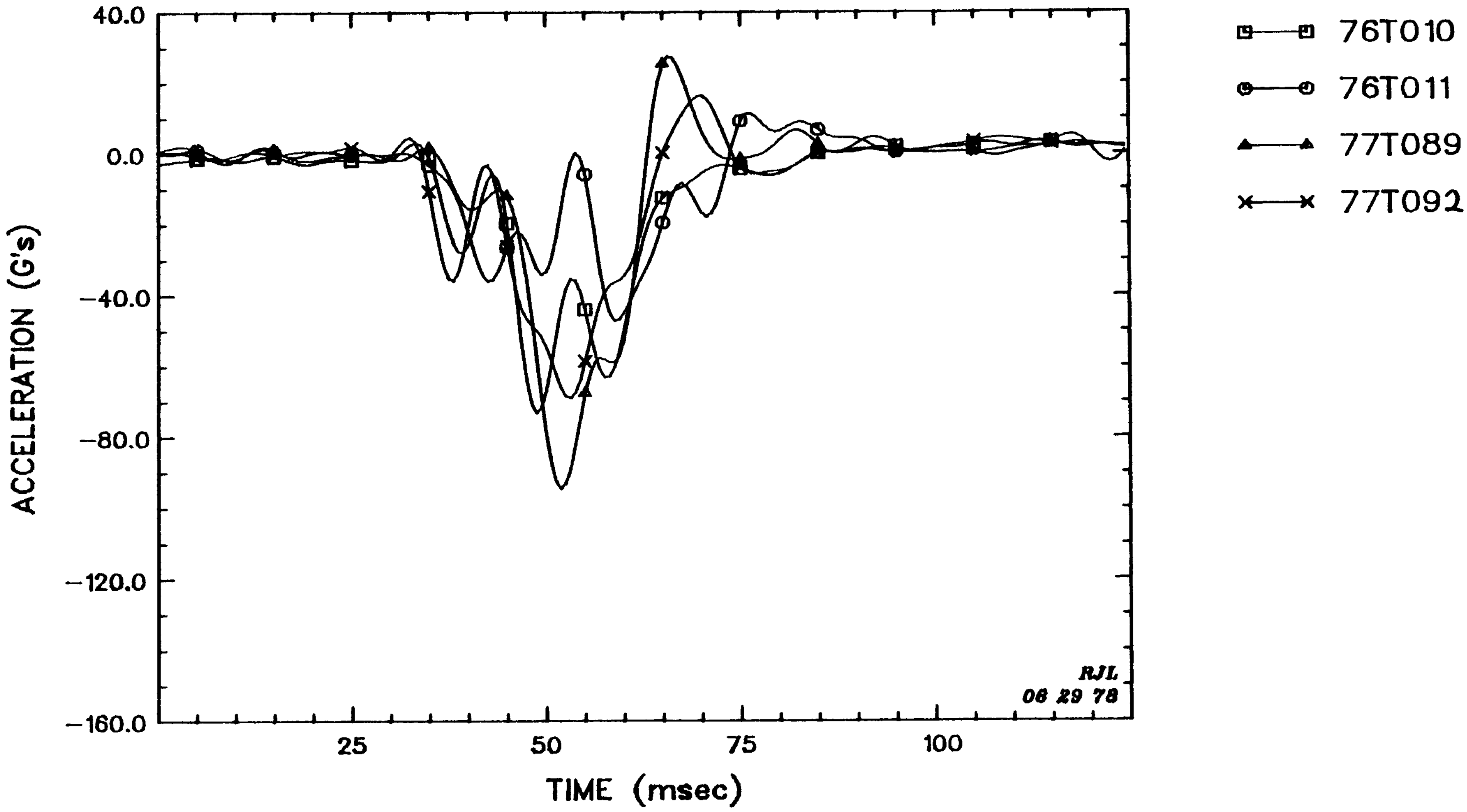
LEFT UPPER RIBS -- RIGID SIDE TESTS

Figure 89



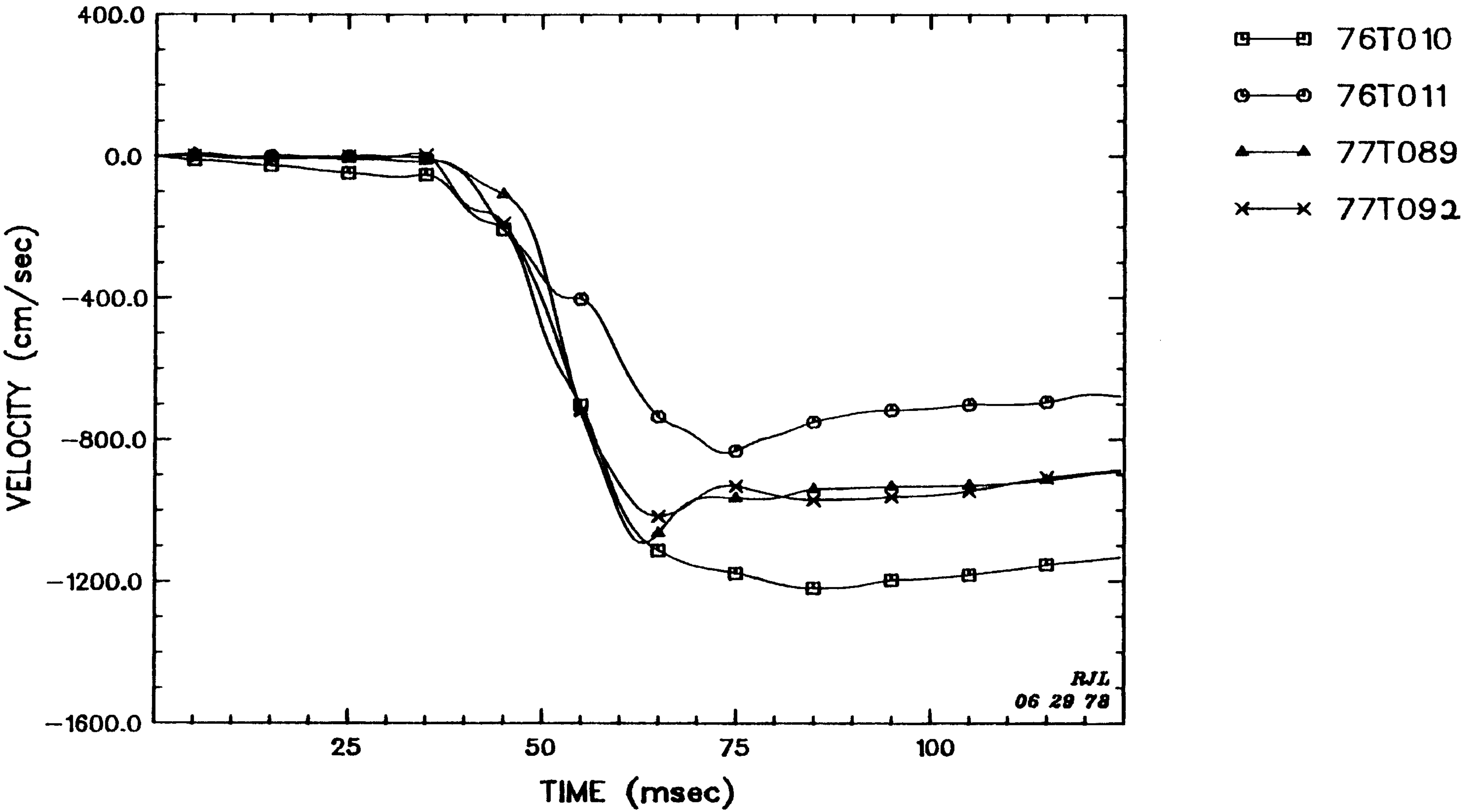
LEFT UPPER RIBS -- RIGID SIDE TESTS

Figure 90



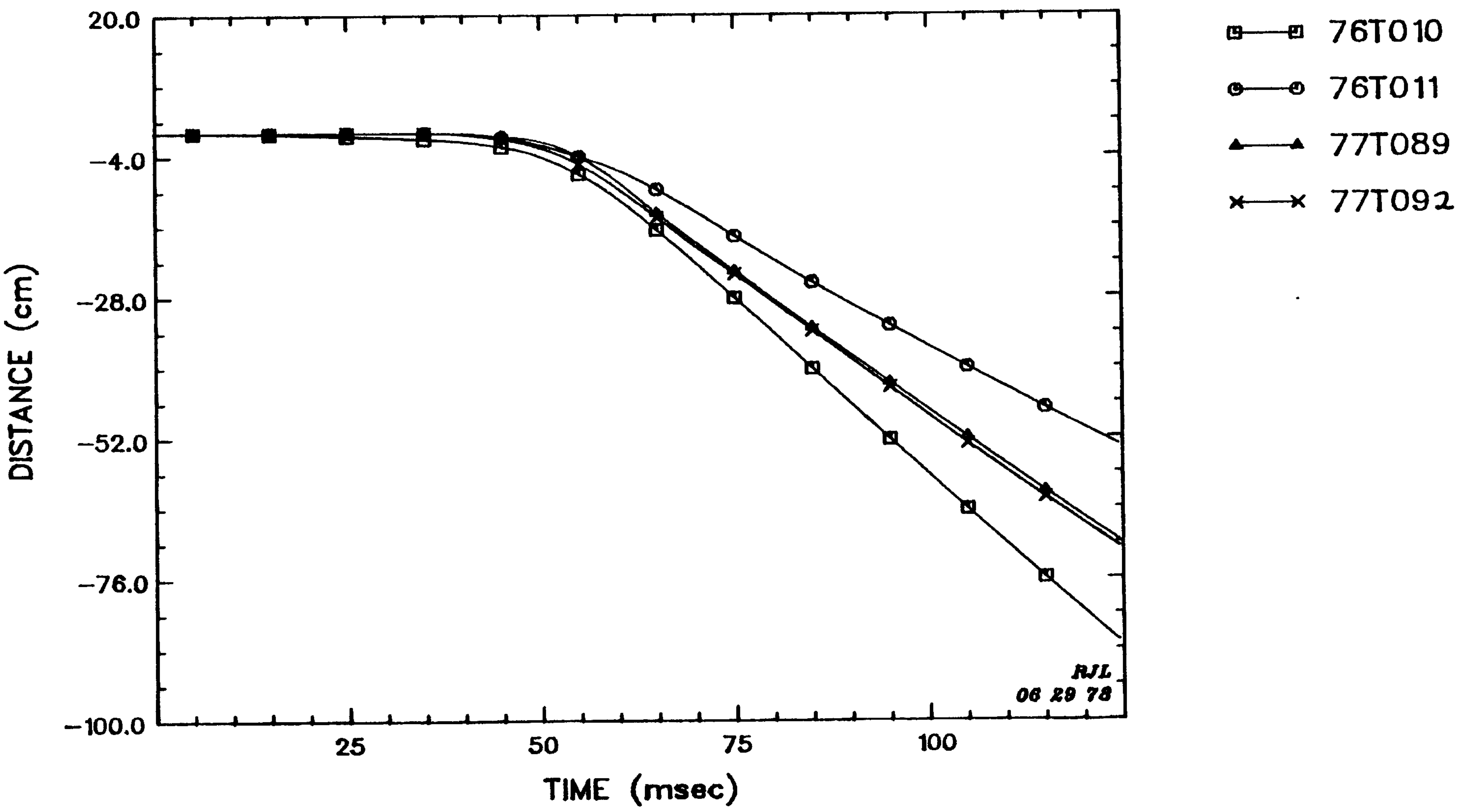
RIGHT UPPER RIBS –– RIGID SIDE TESTS

Figure 91



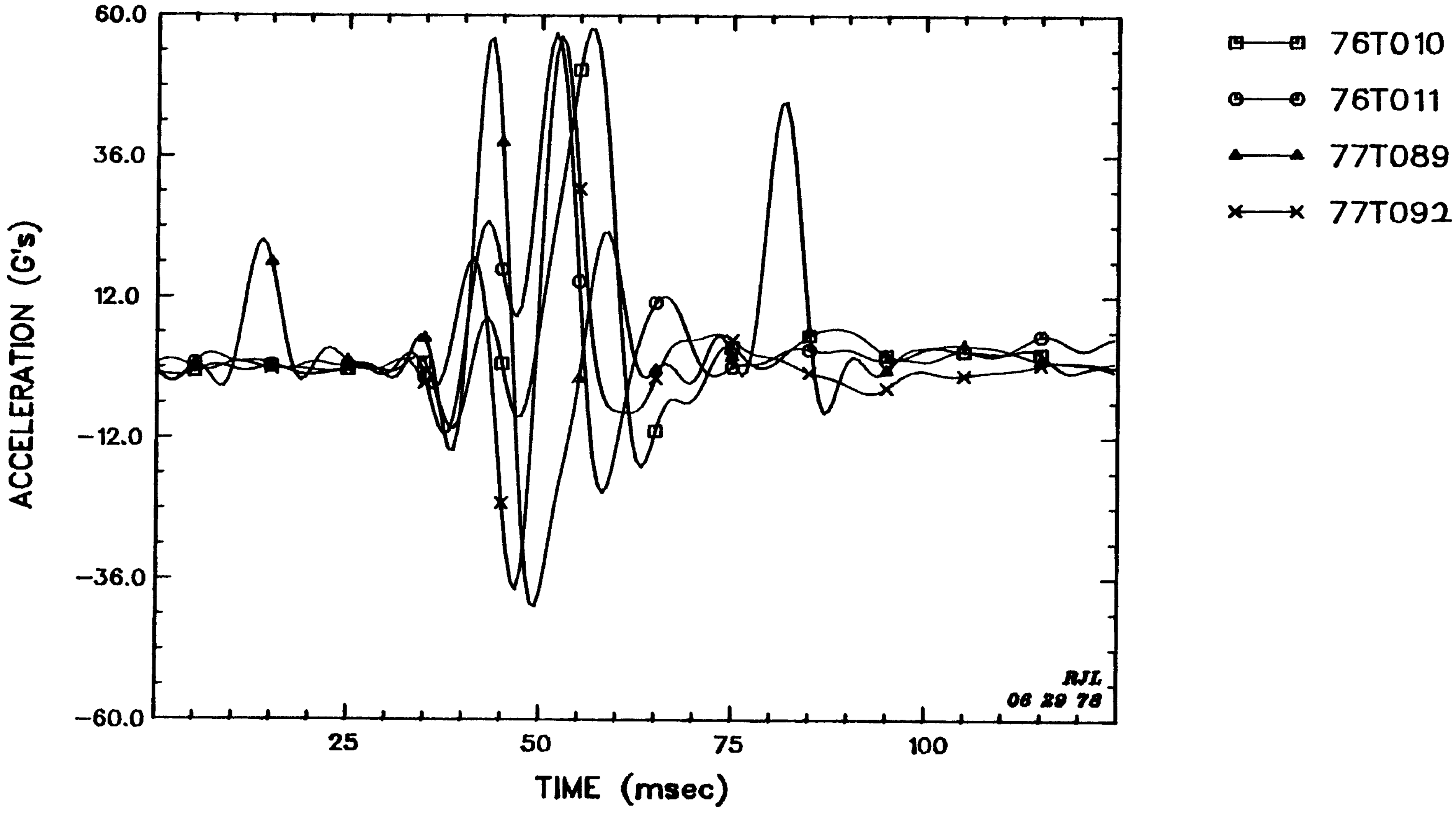
RIGHT UPPER RIBS -- RIGID SIDE TESTS

Figure 92



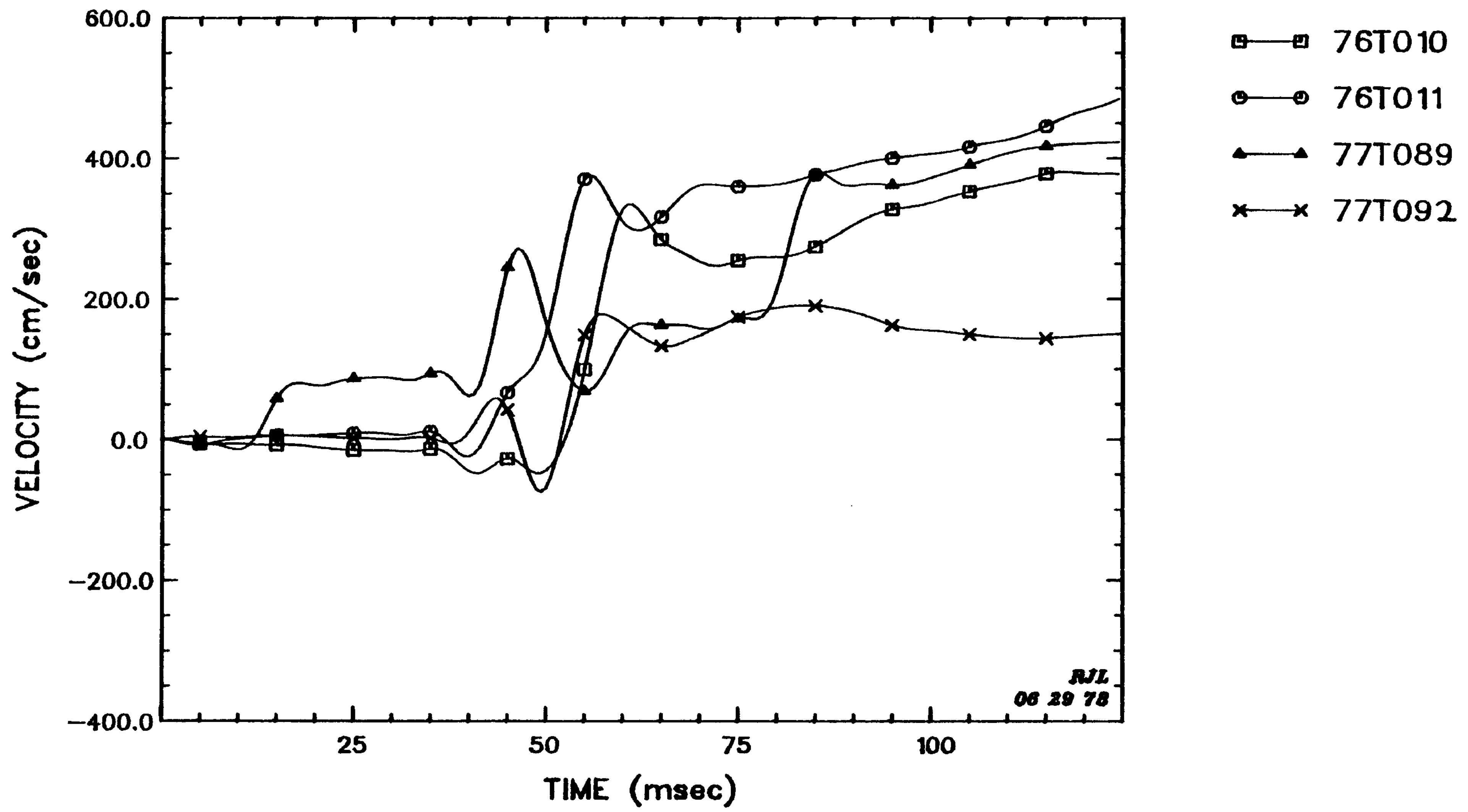
RIGHT UPPER RIBS -- RIGID SIDE TESTS

Figure 93



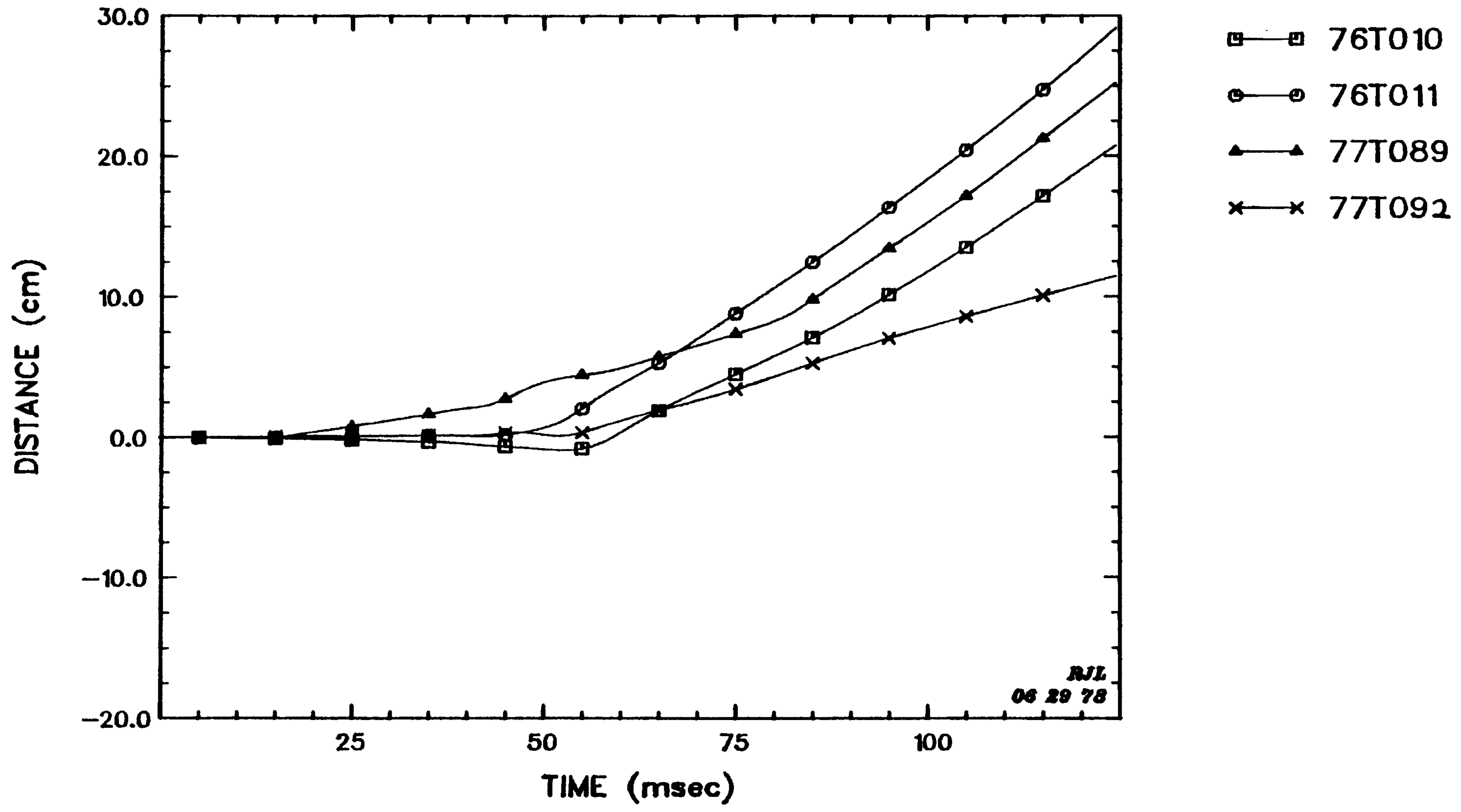
T-1 P-A -- RIGID SIDE TESTS

Figure 94



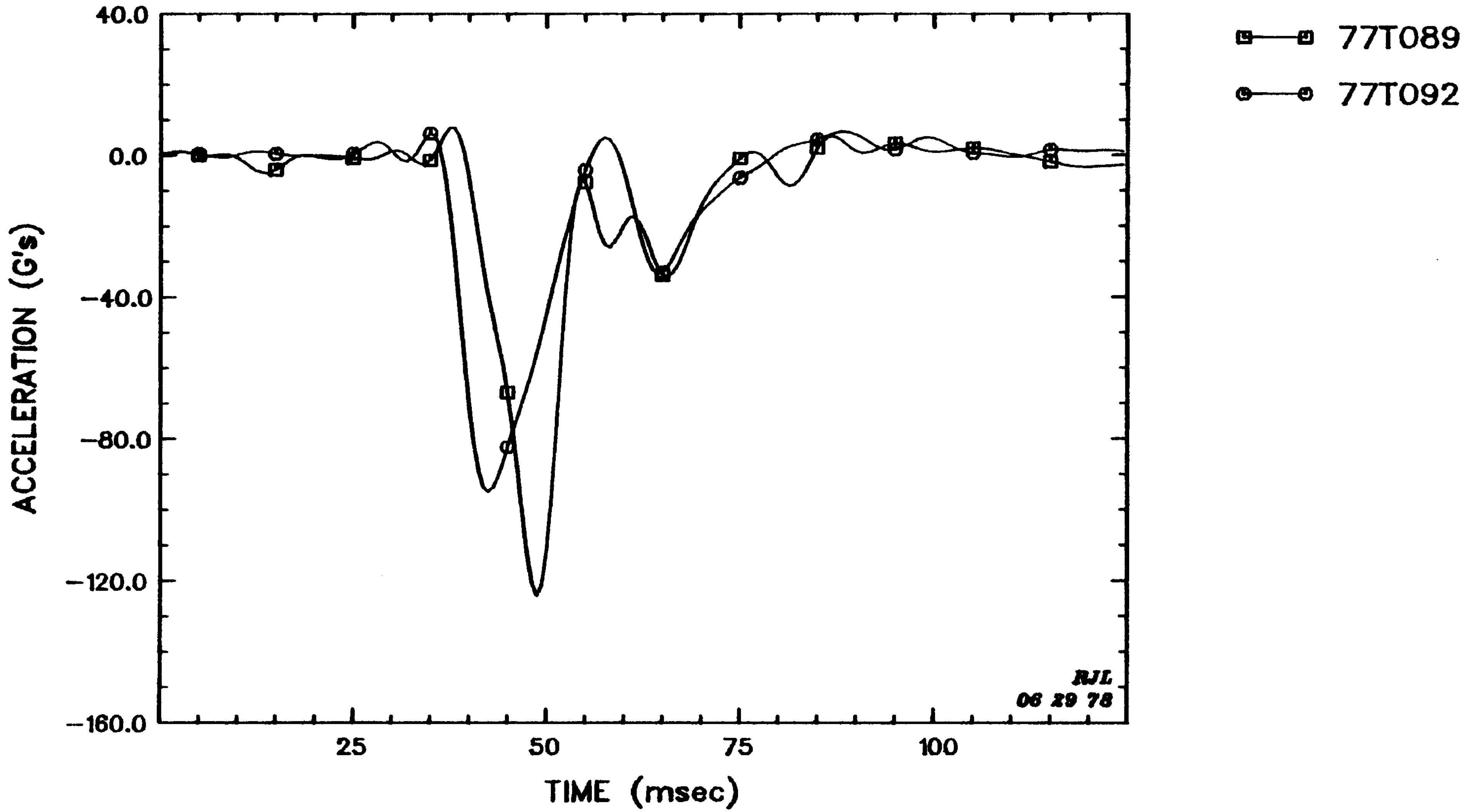
T-1 P-A -- RIGID SIDE TESTS

Figure 95



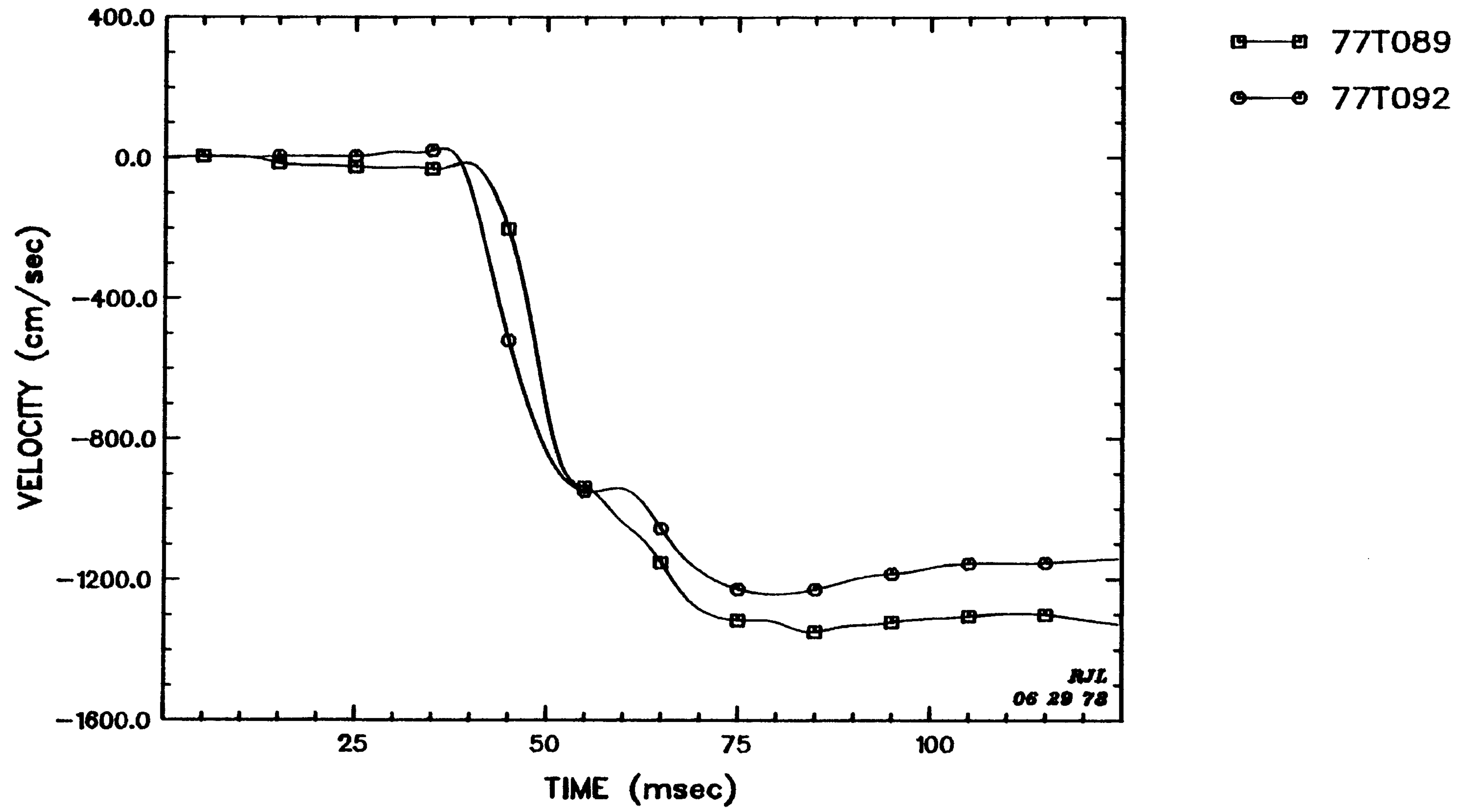
T−1 P−A −− RIGID SIDE TESTS

Figure 96



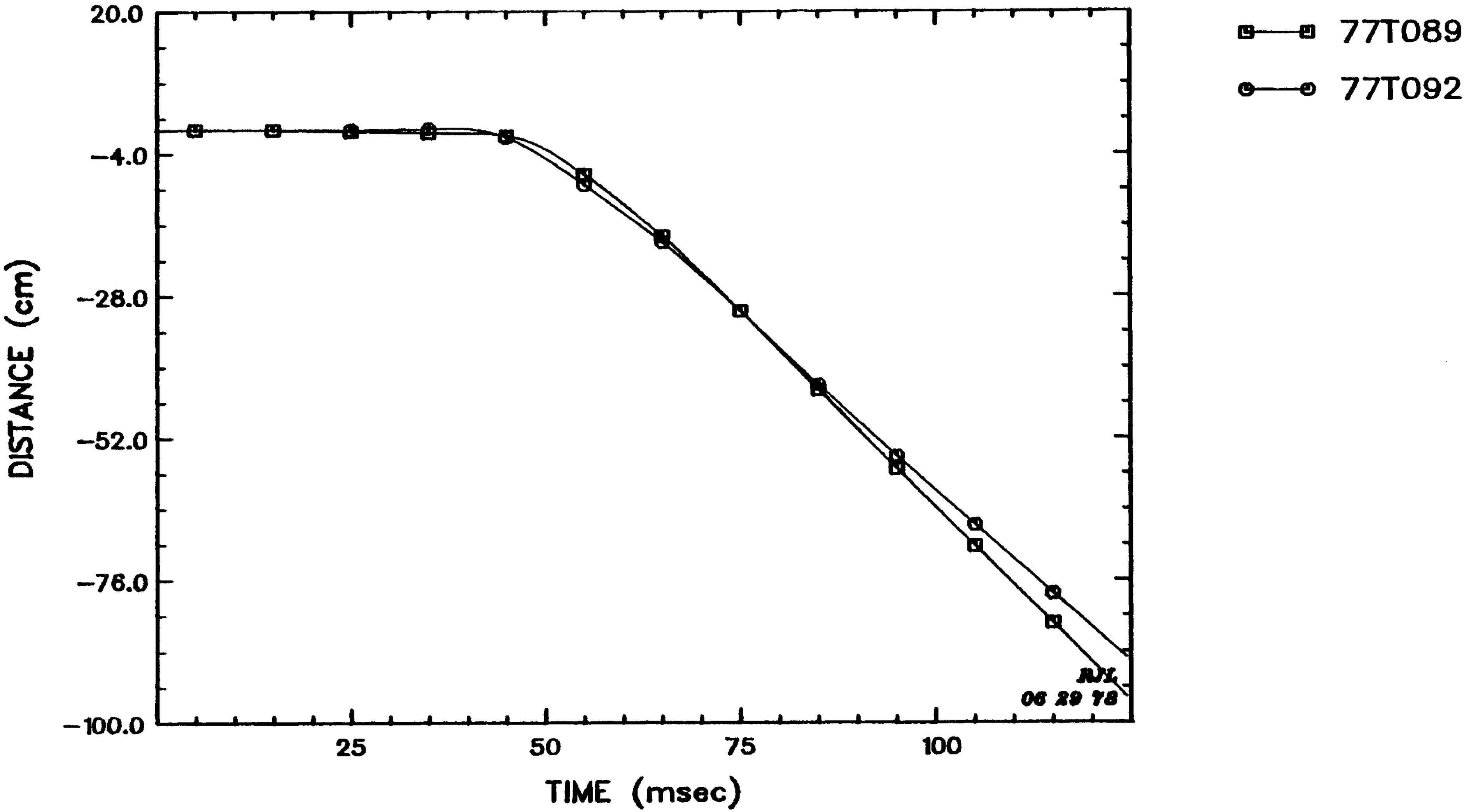
T-1 R-L -- RIGID SIDE TESTS

Figure 97



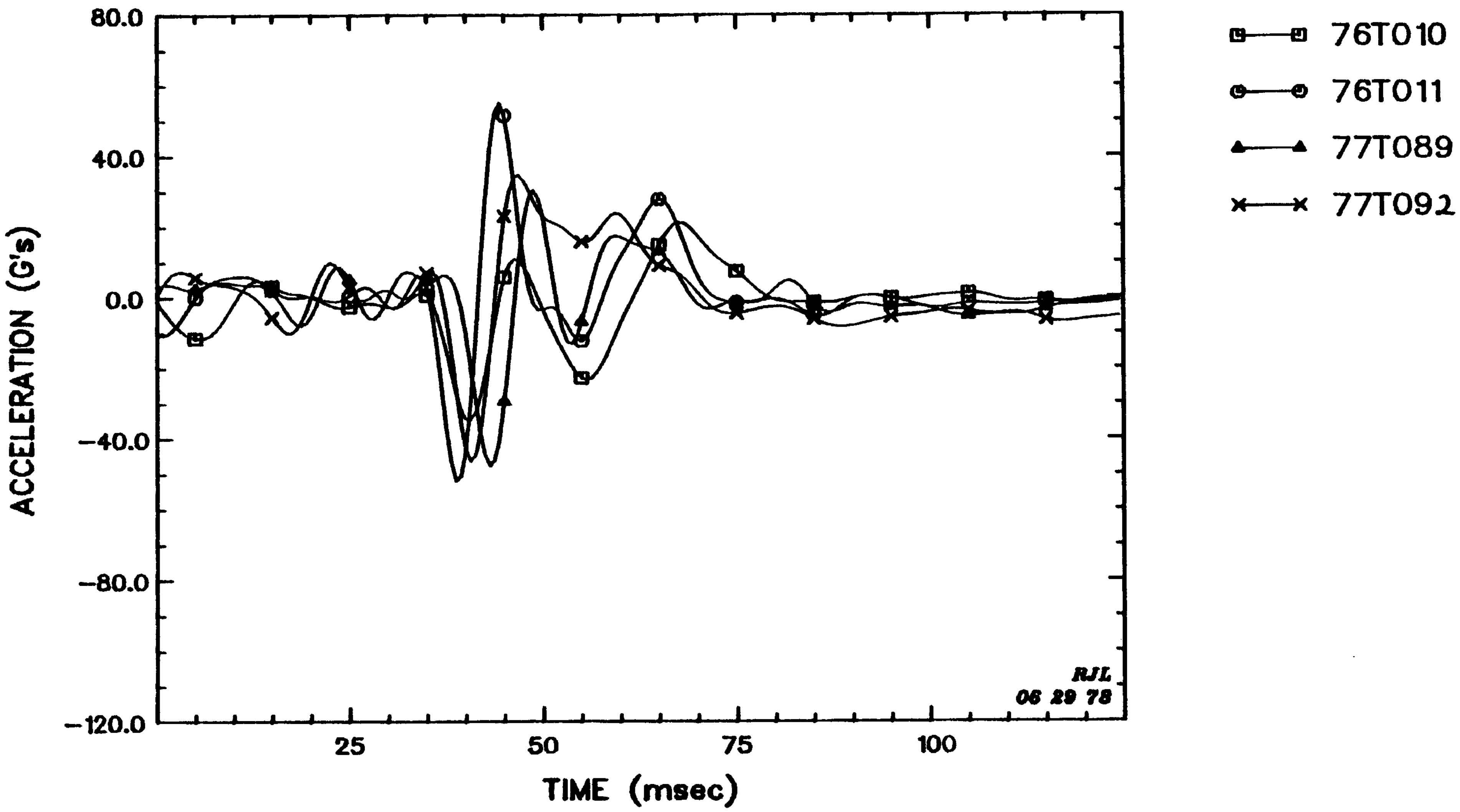
T-1 R-L -- RIGID SIDE TESTS

Figure 98



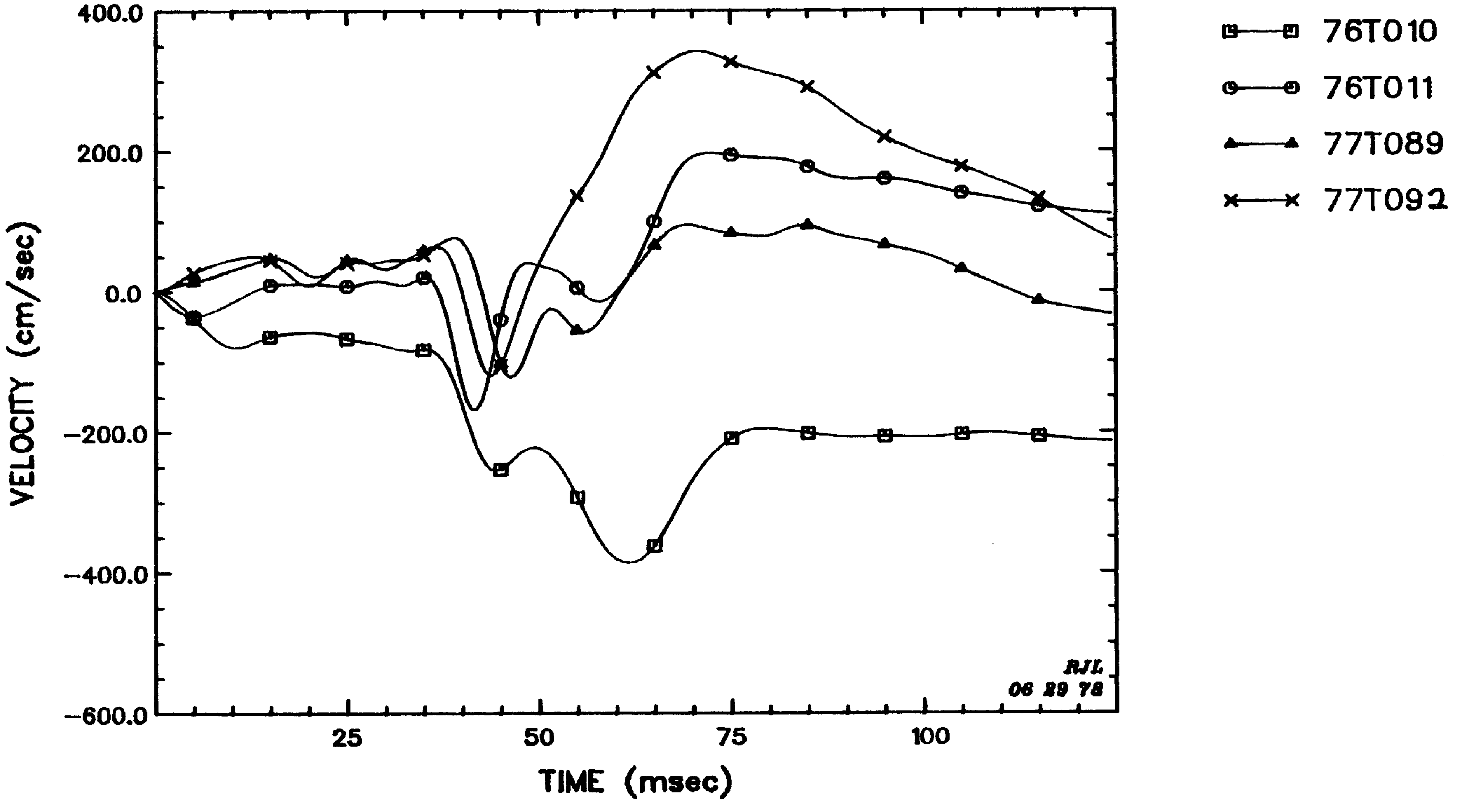
T-1 R-L -- RIGID SIDE TESTS

Figure '99



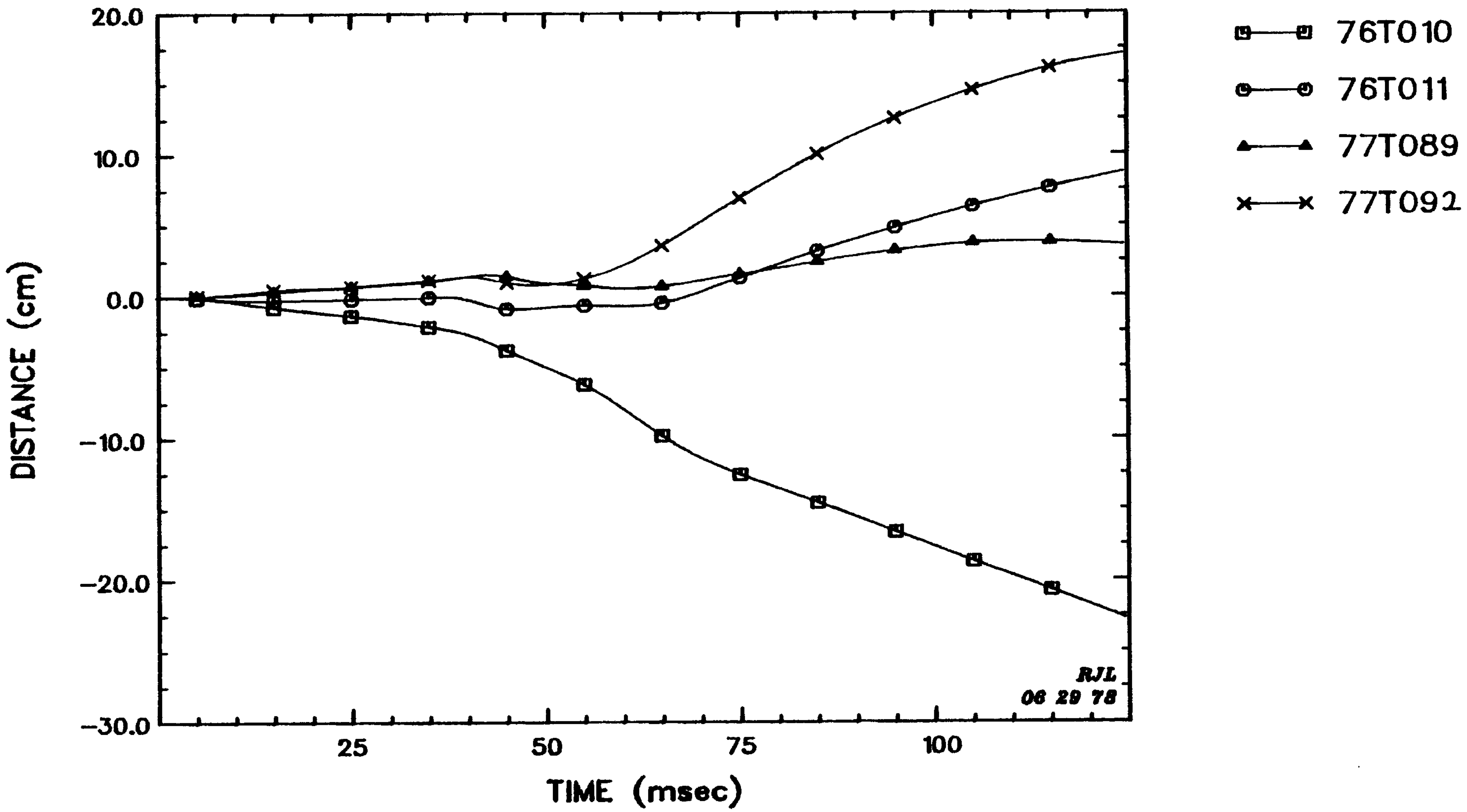
T-12 P-A -- RIGID SIDE TESTS

Figure 100



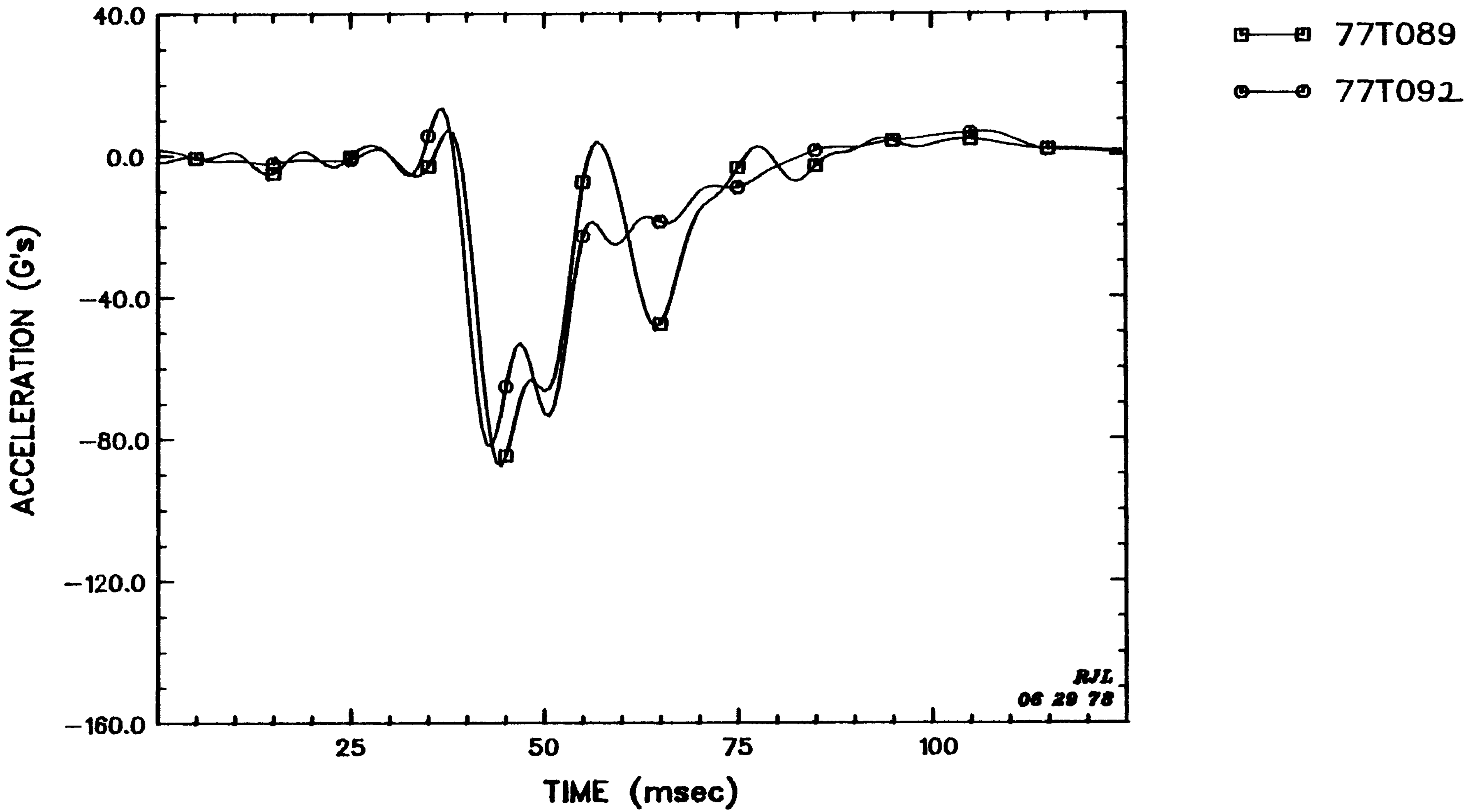
T-12 P-A -- RIGID SIDE TESTS

Figure 101



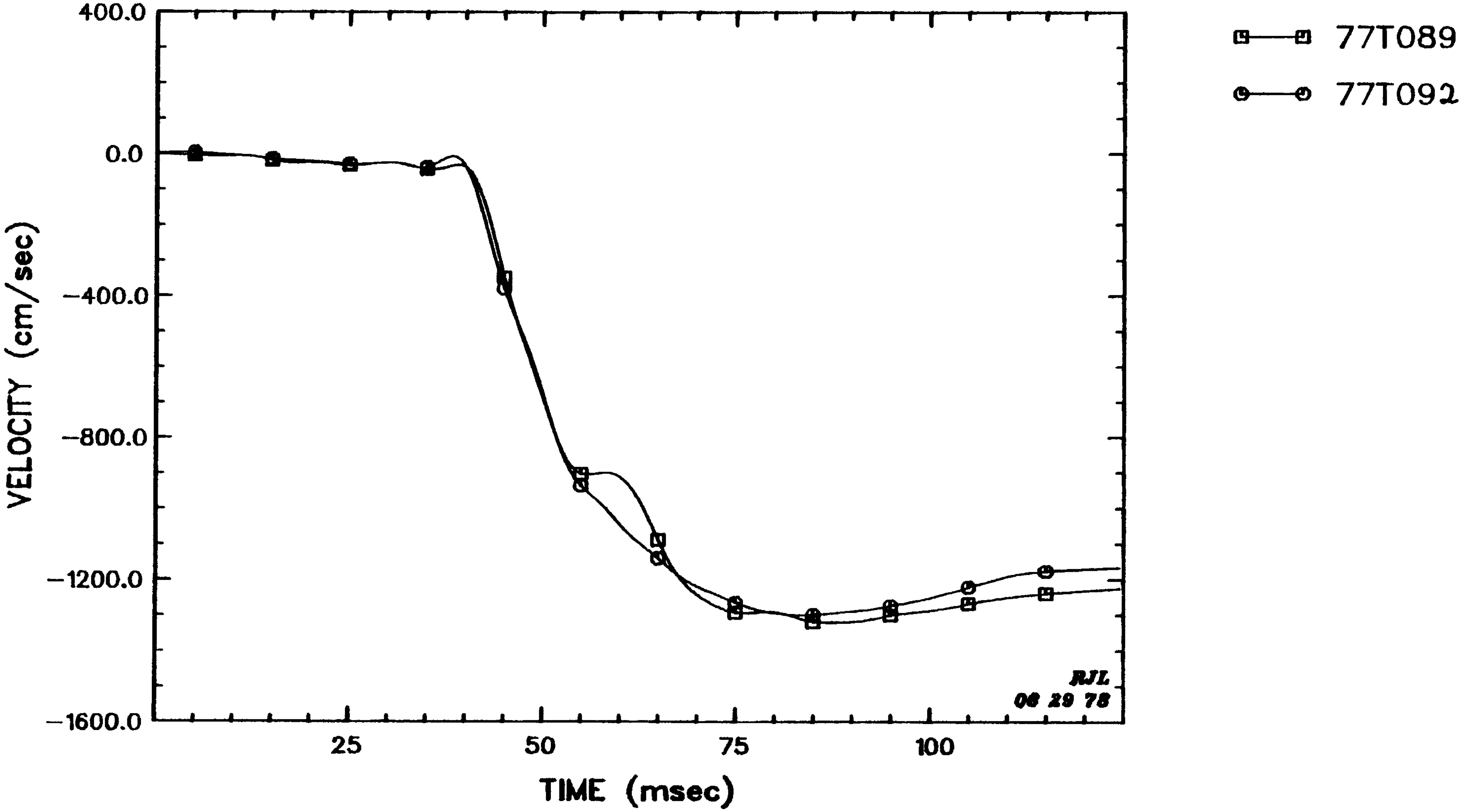
T-12 P-A -- RIGID SIDE TESTS

Figure 102



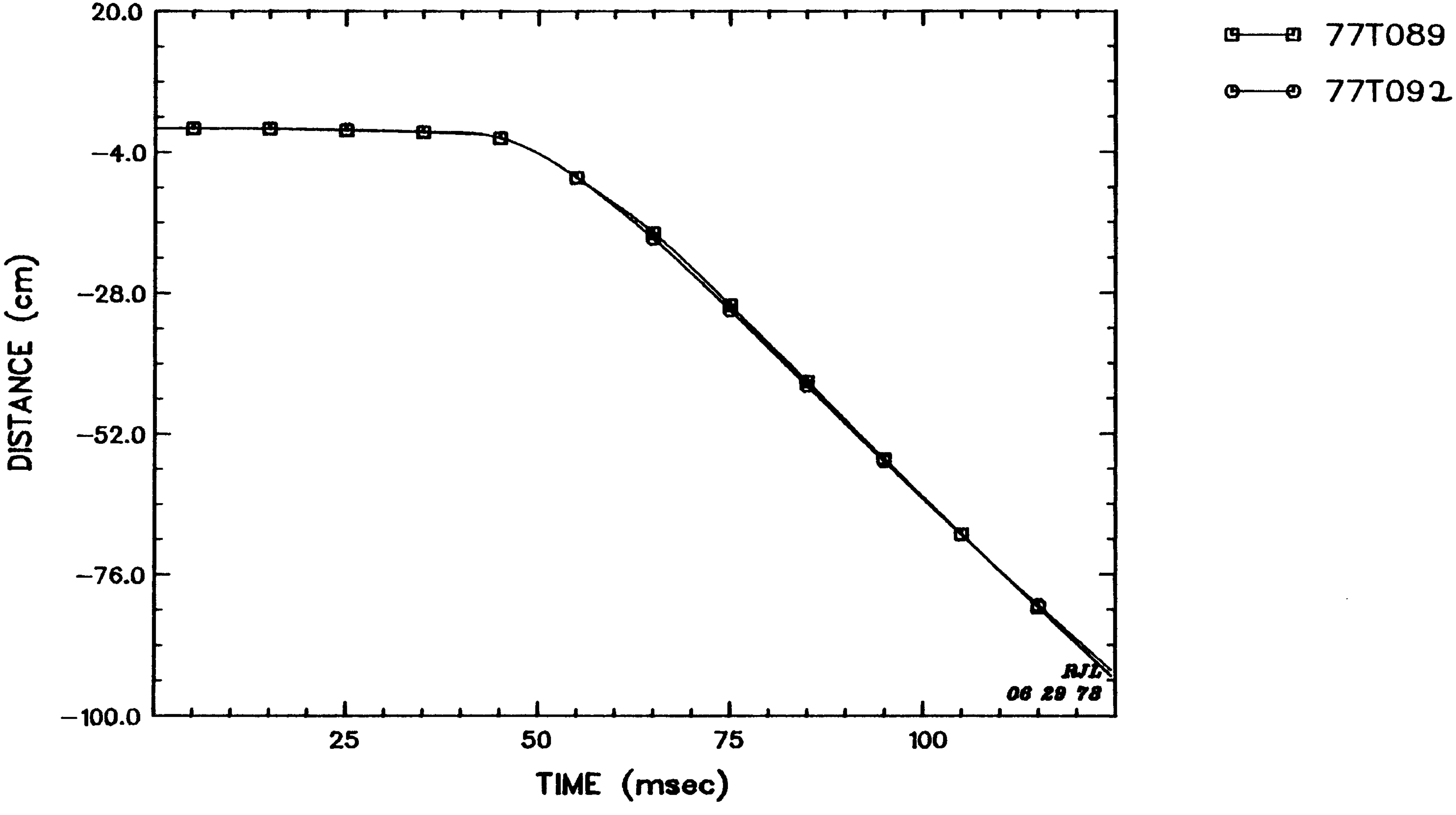
T-12 R-L -- RIGID SIDE TESTS

Figure 103



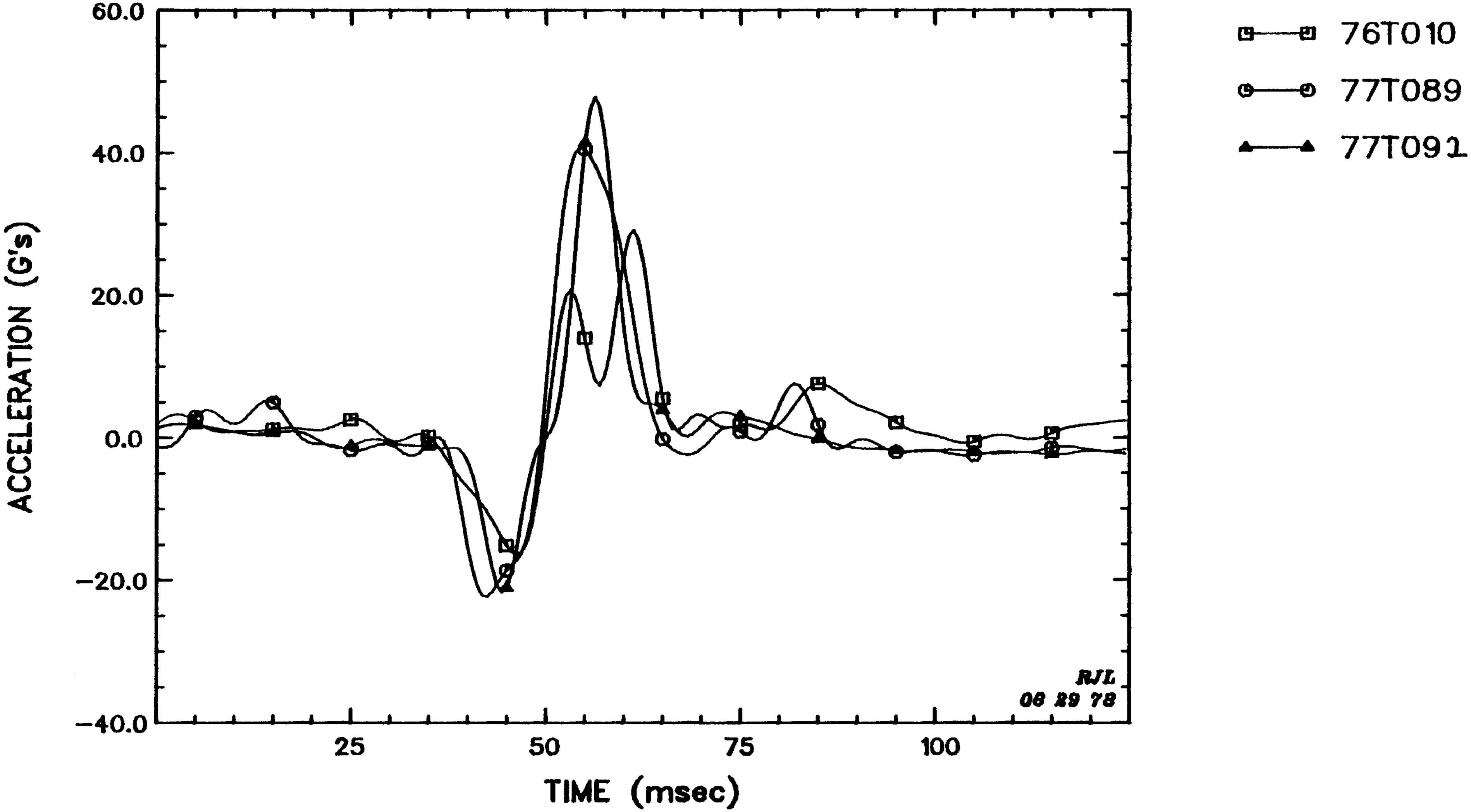
T-12 R-L -- RIGID SIDE TESTS

Figure 104



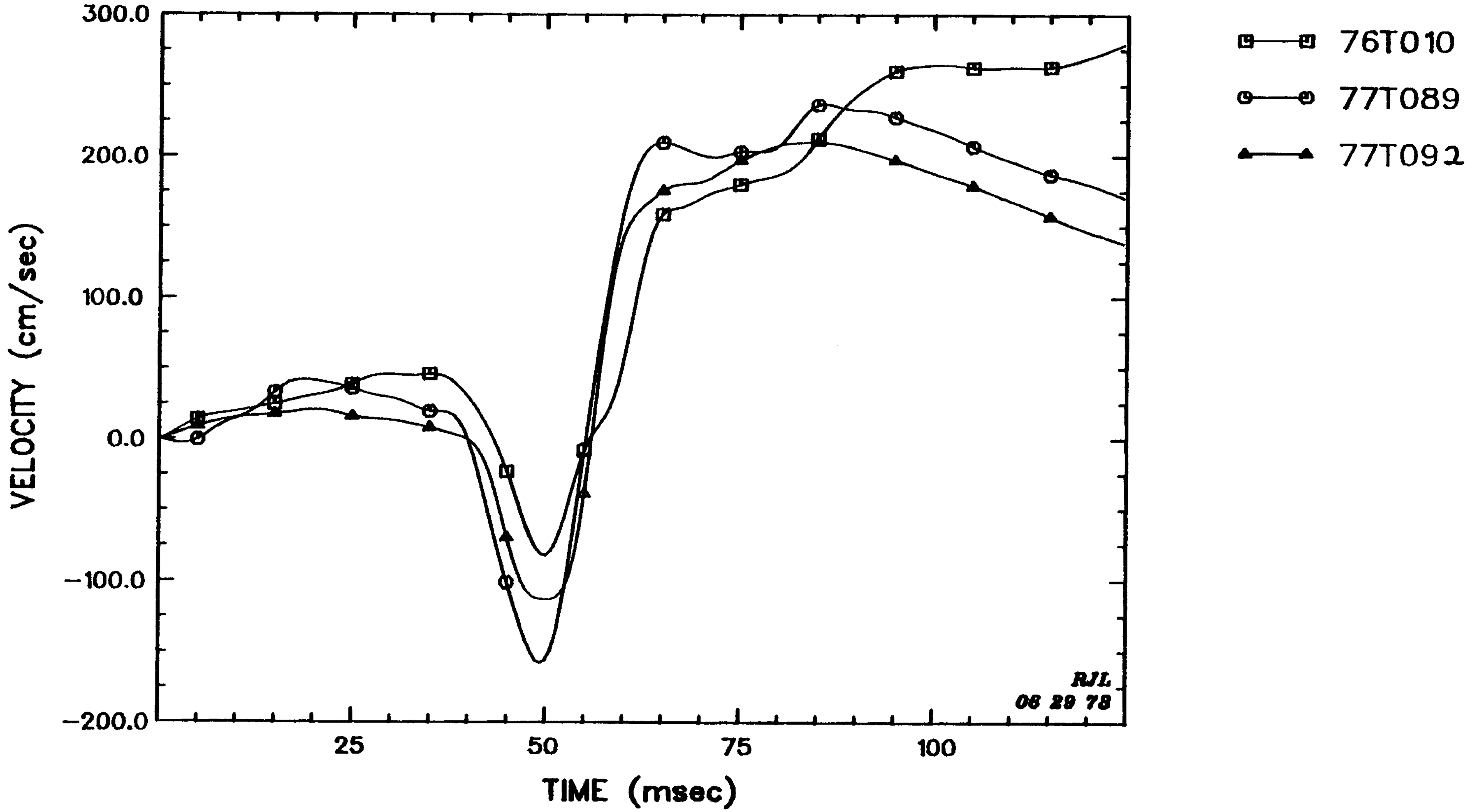
T-12 R-L -- RIGID SIDE TESTS

Figure 105



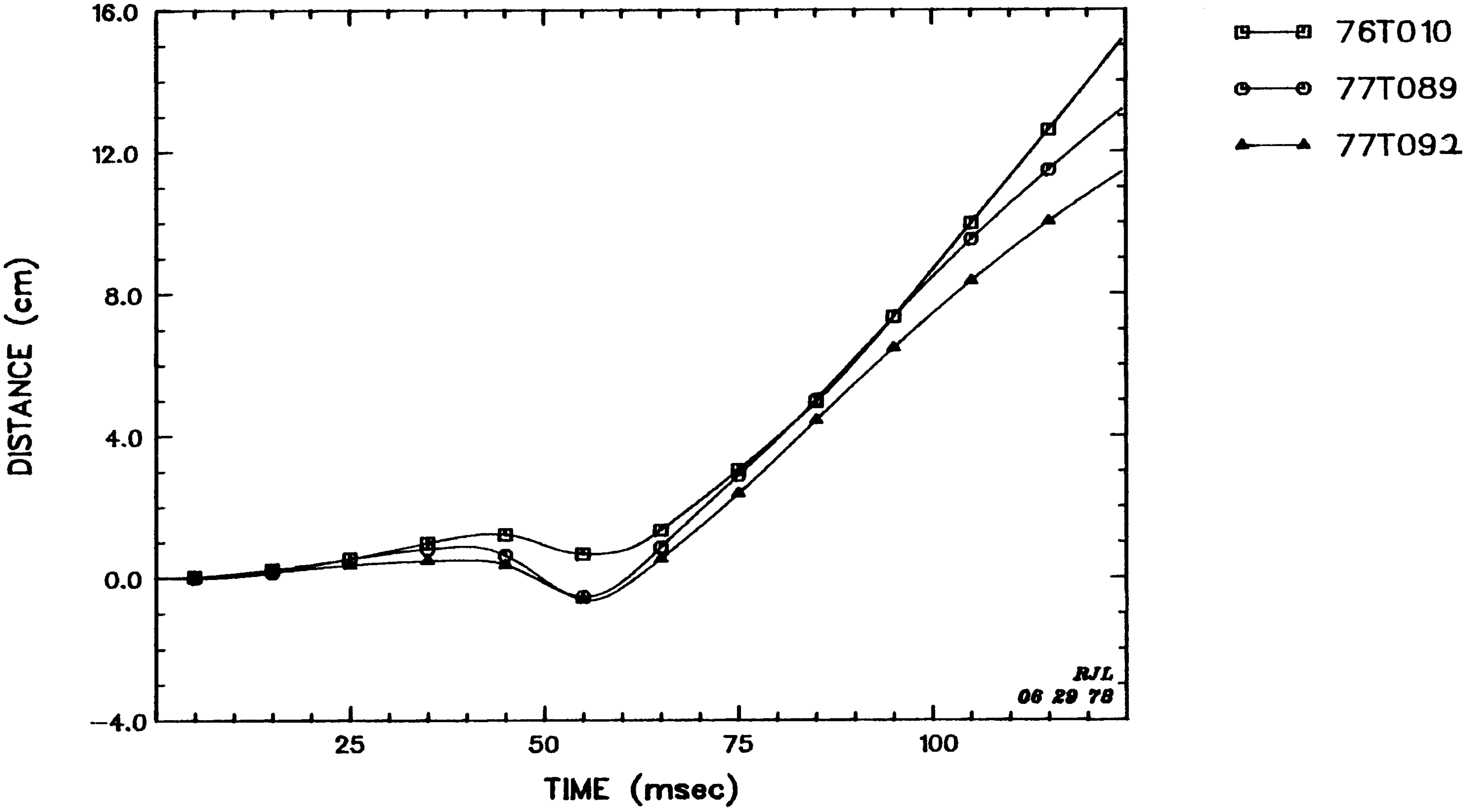
PELVIS P—A —— RIGID SIDE TESTS

Figure 106



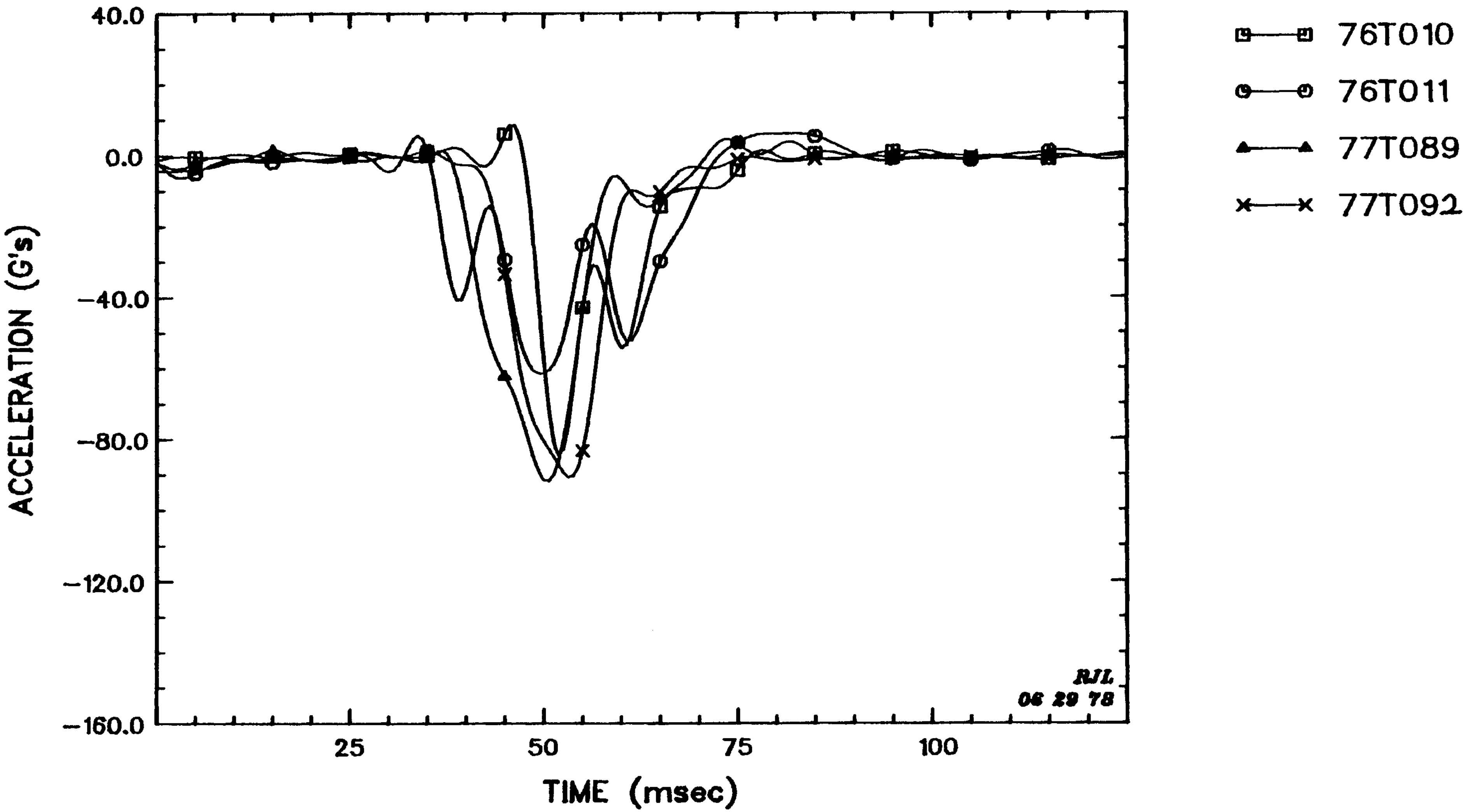
PELVIS P-A -- RIGID SIDE TESTS

Figure 107



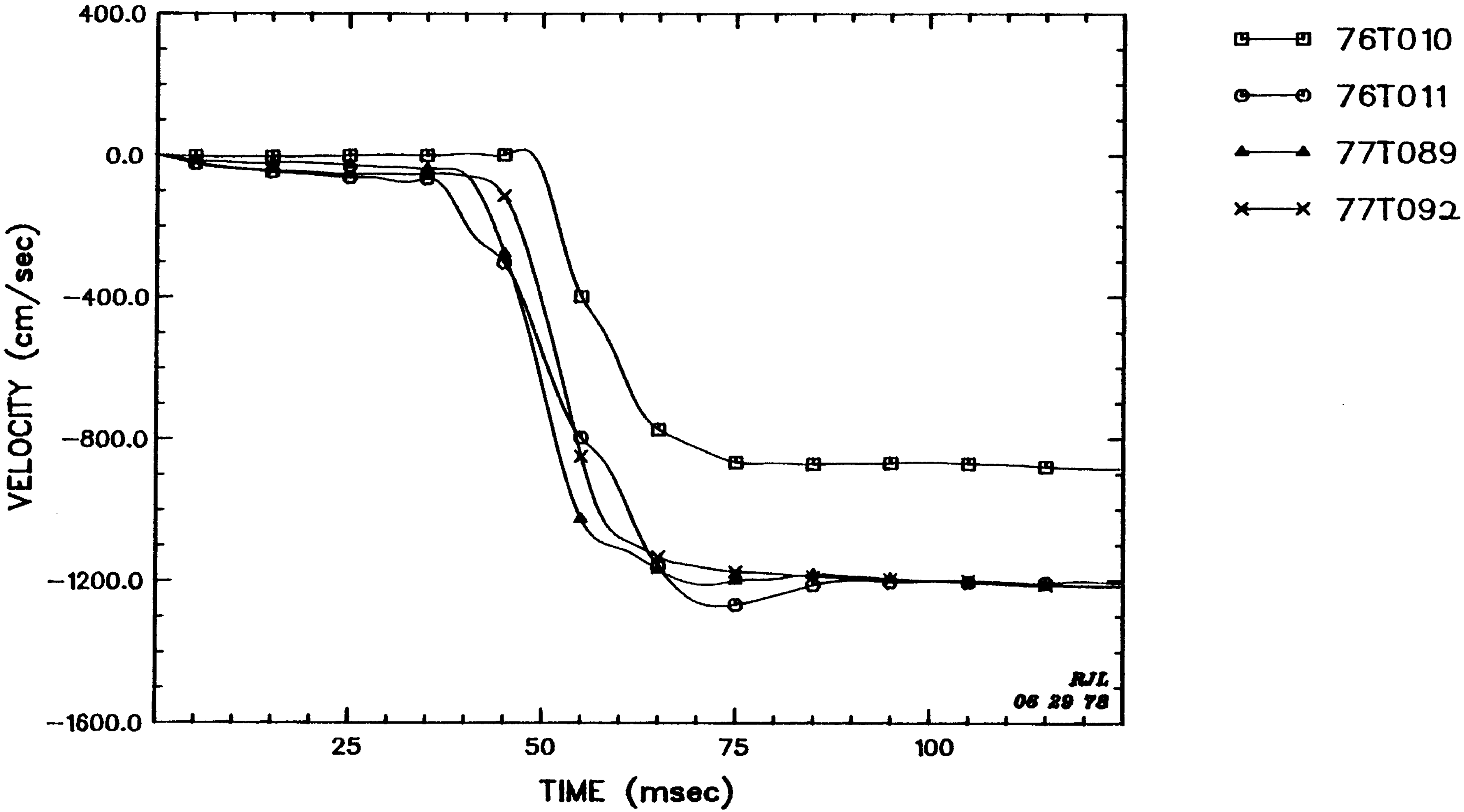
PELVIS P–A –– RIGID SIDE TESTS

Figure 108



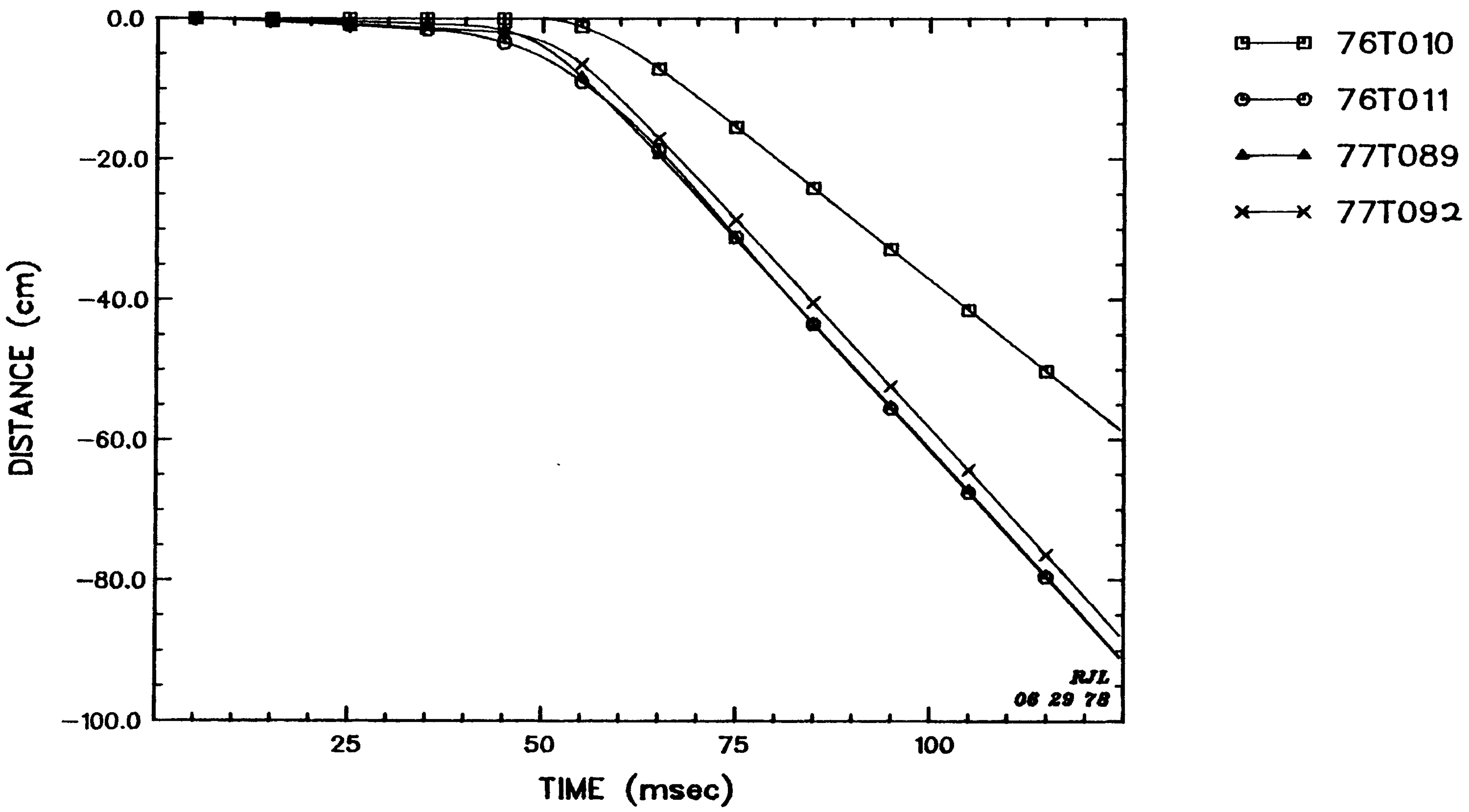
PELVIS R-L -- RIGID SIDE TESTS

Figure 109



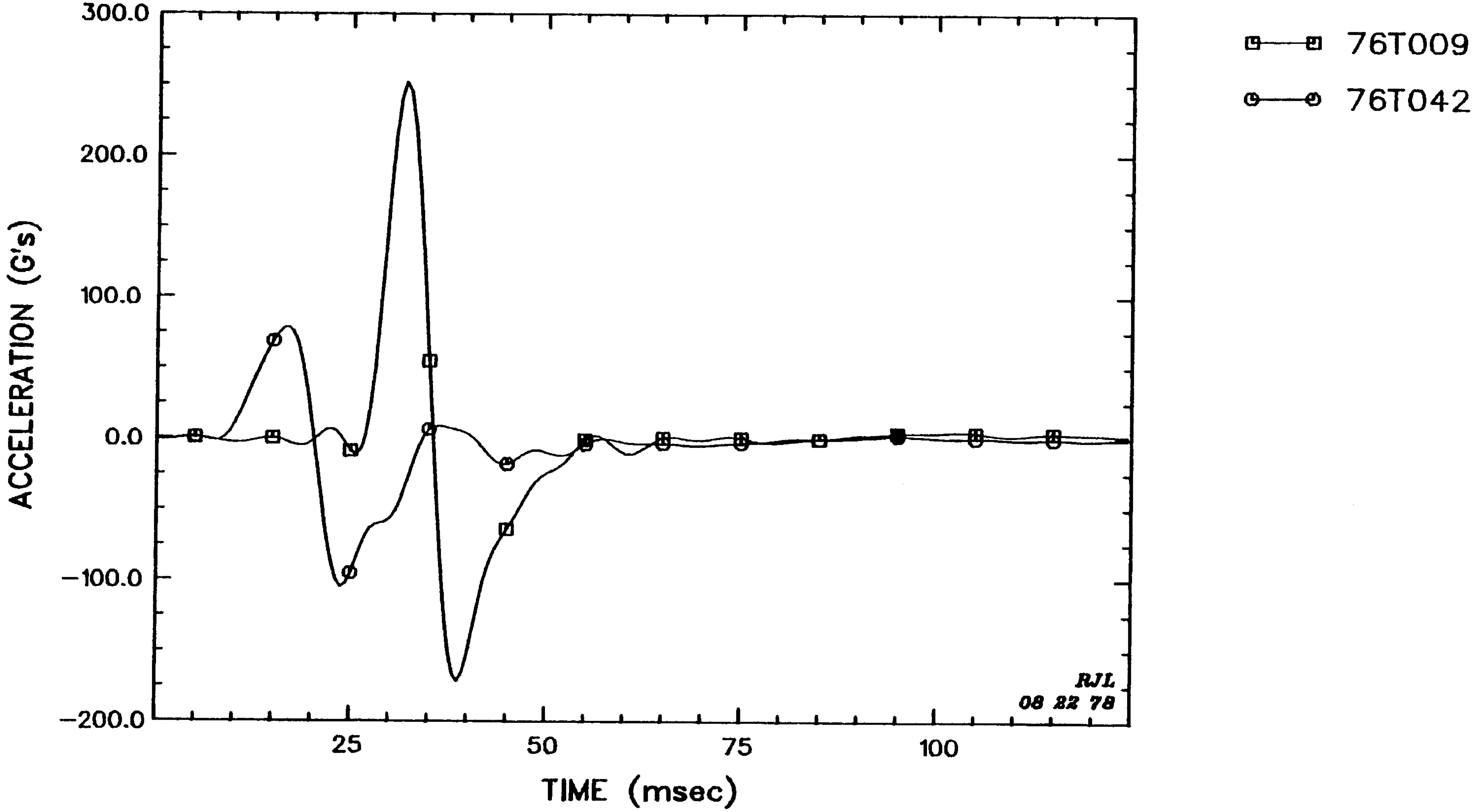
PELVIS R-L -- RIGID SIDE TESTS

Figure 110



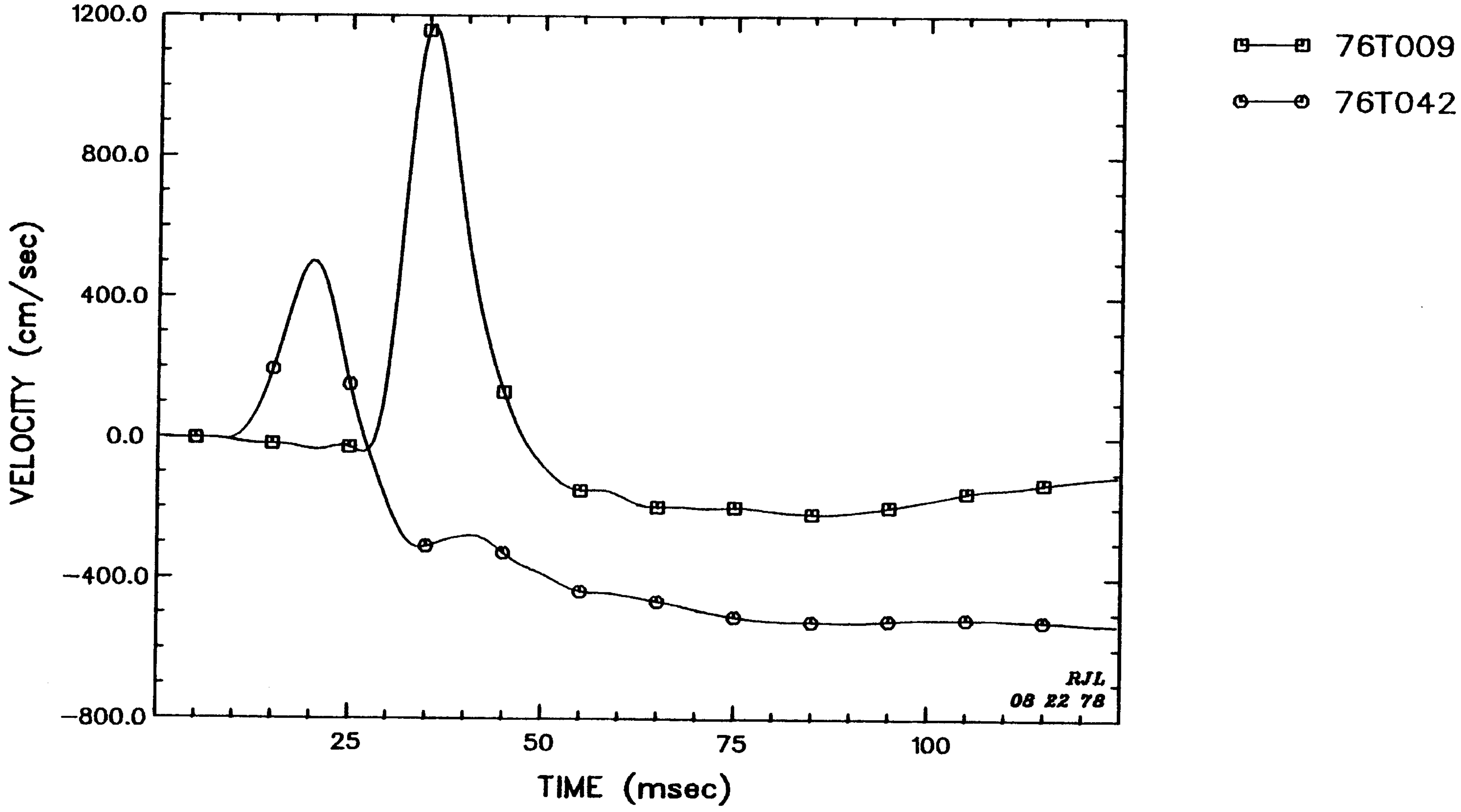
PELVIS R-L -- RIGID SIDE TESTS

Figure 111



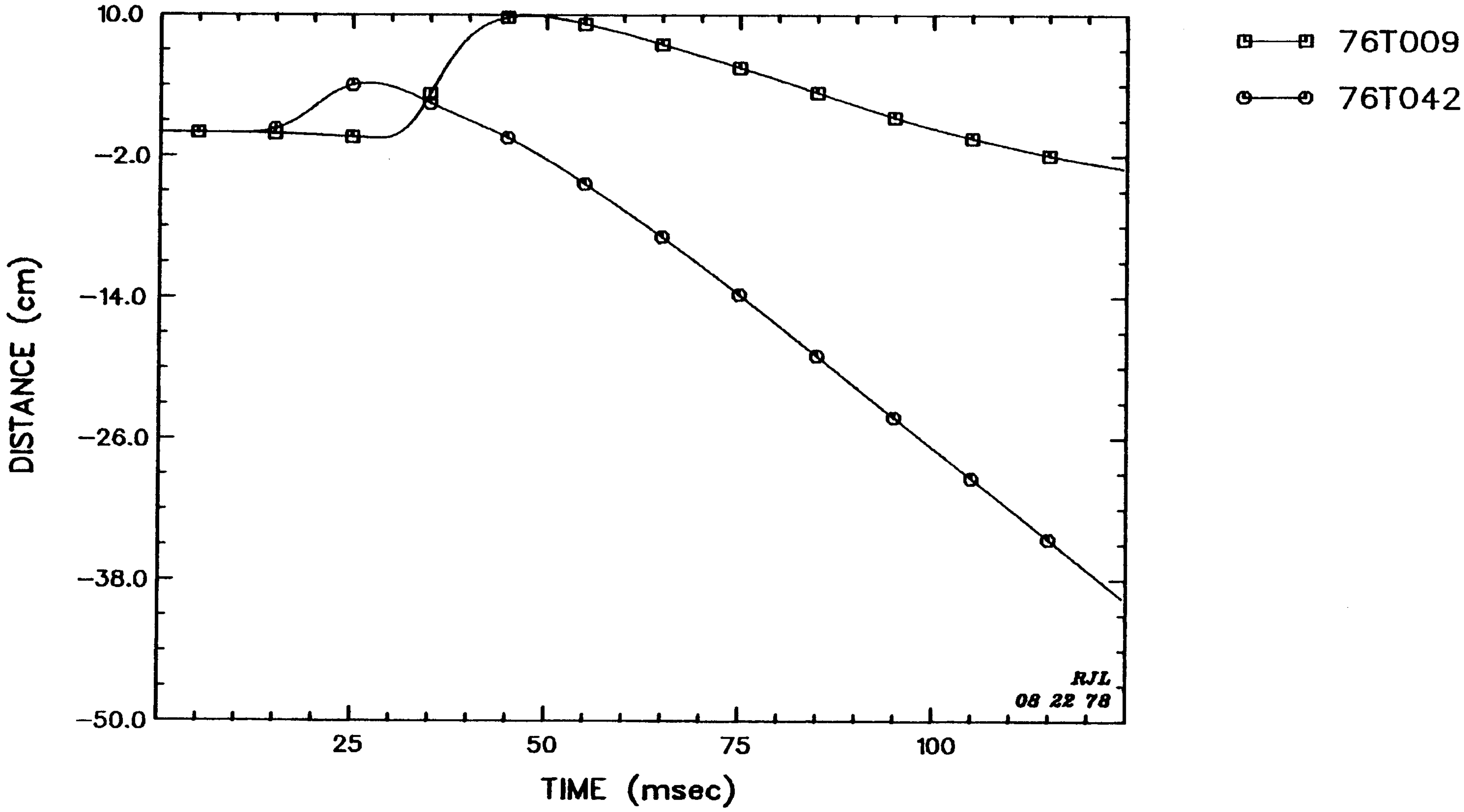
LOWER STERNALS -- SIDE TESTS (26-R,P)

Figure 112



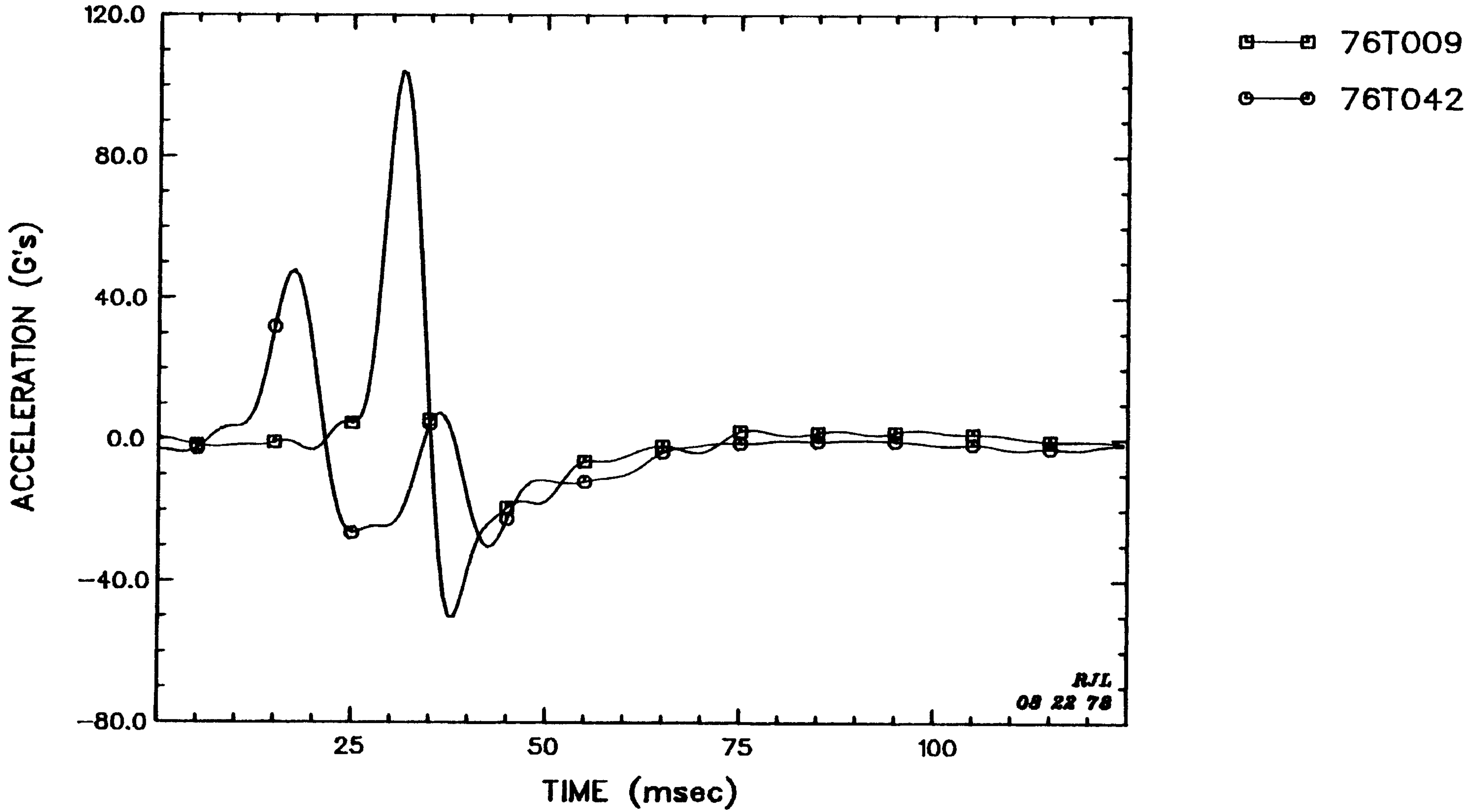
LOWER STERNALS -- SIDE TESTS (26-R,P)

Figure 113



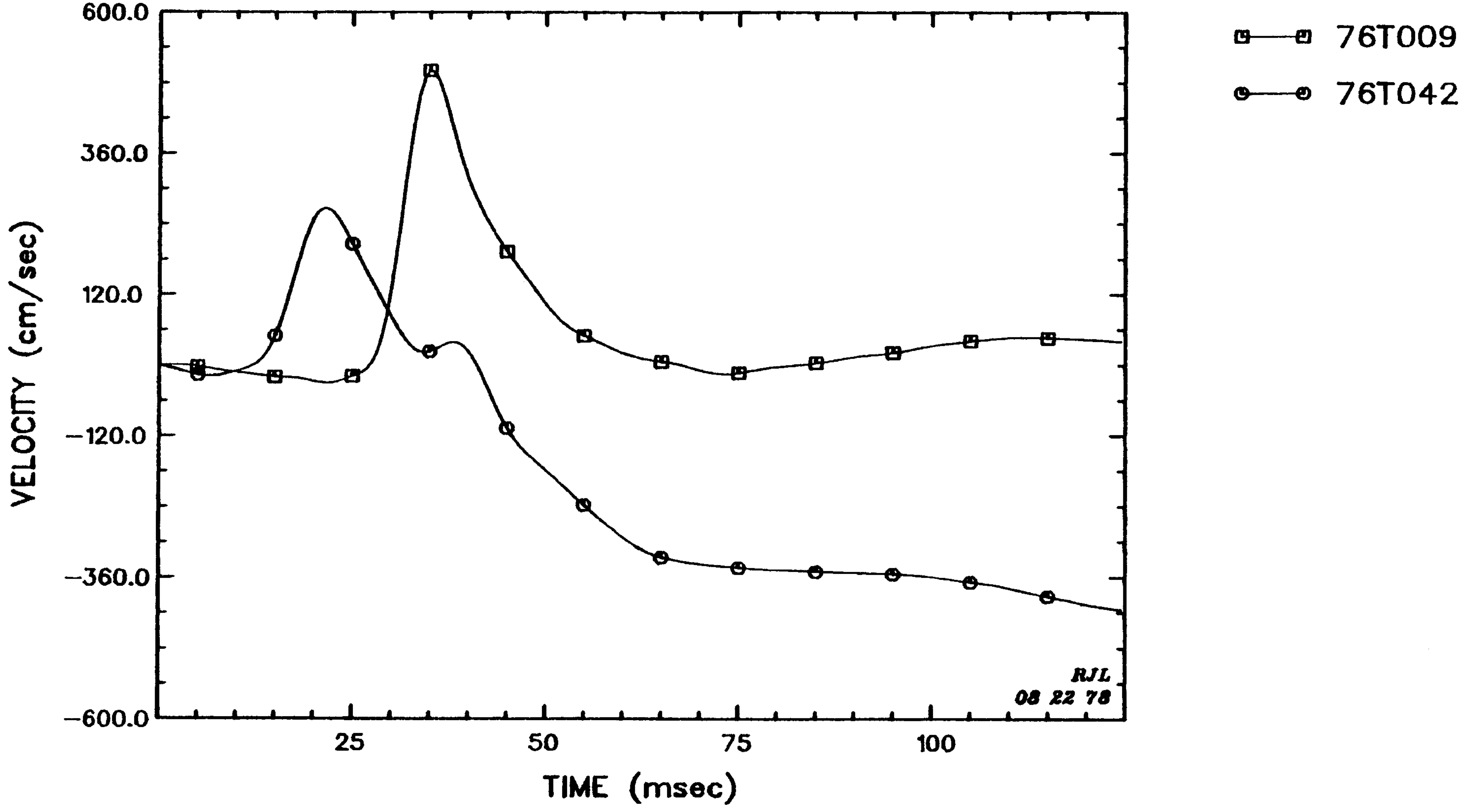
LOWER STERNALS -- SIDE TESTS (26-R,P)

Figure 114



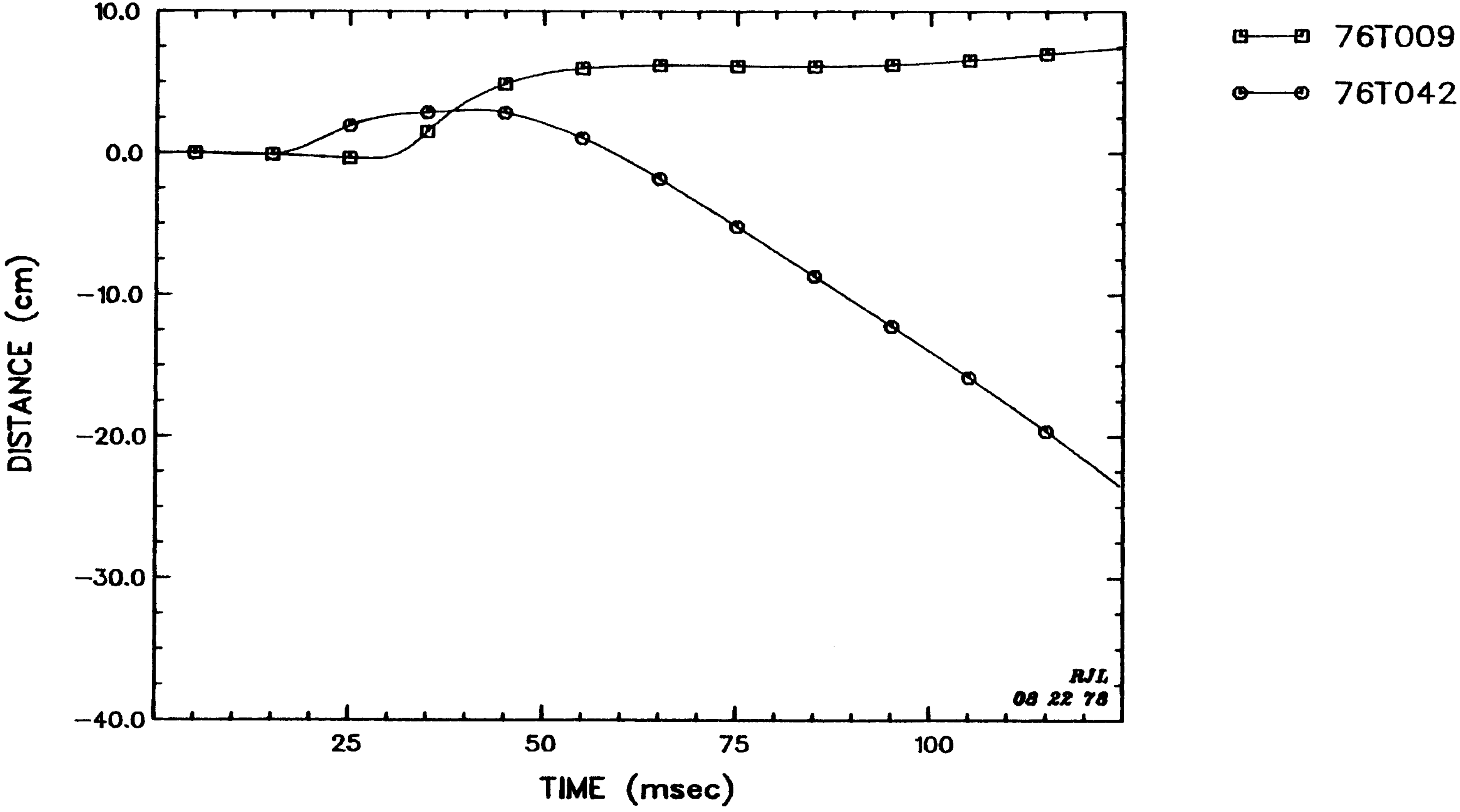
UPPER STERNALS -- SIDE TESTS (26-R,P)

Figure 115



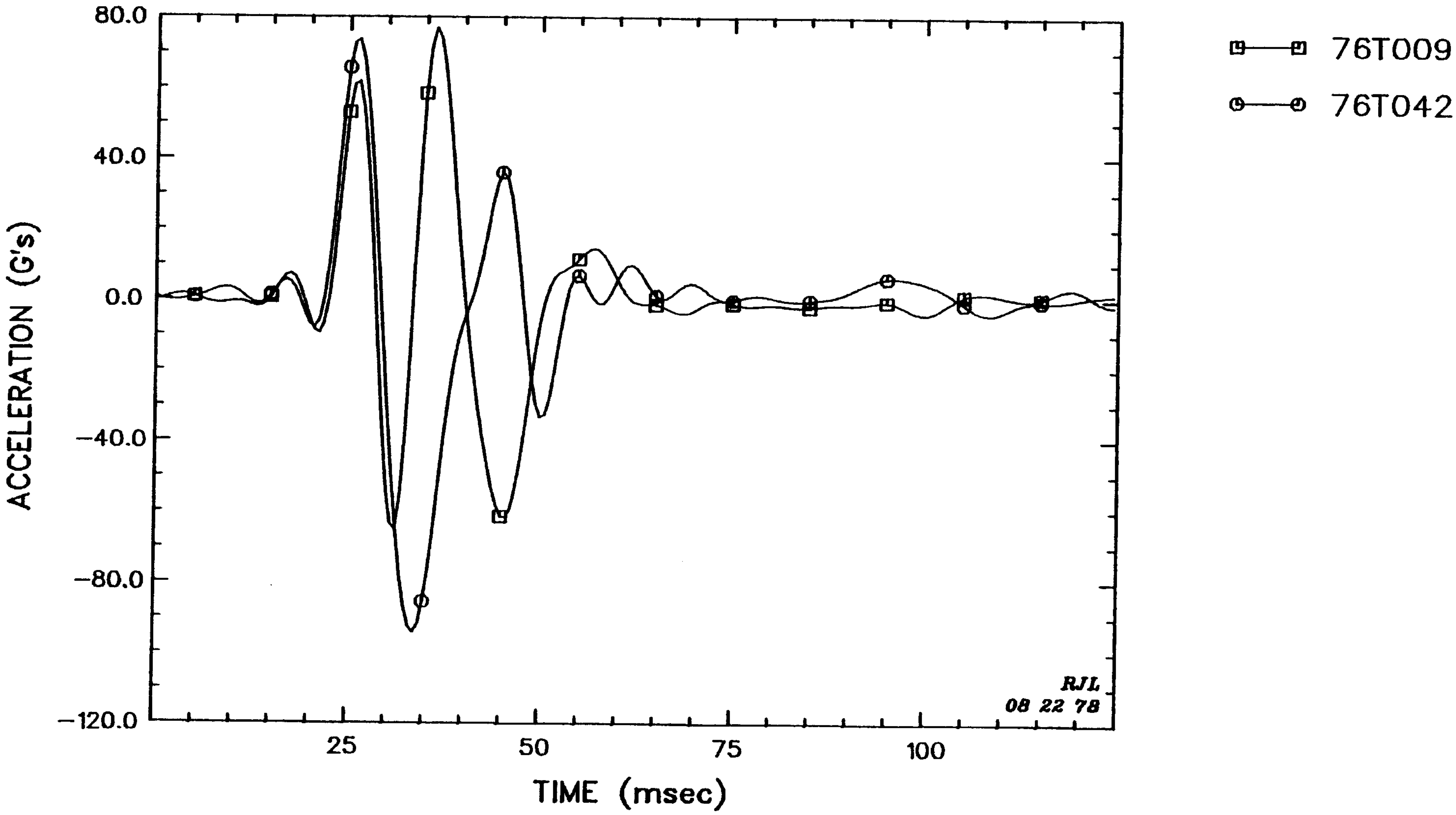
UPPER STERNALS -- SIDE TESTS (26-R,P)

Figure 116



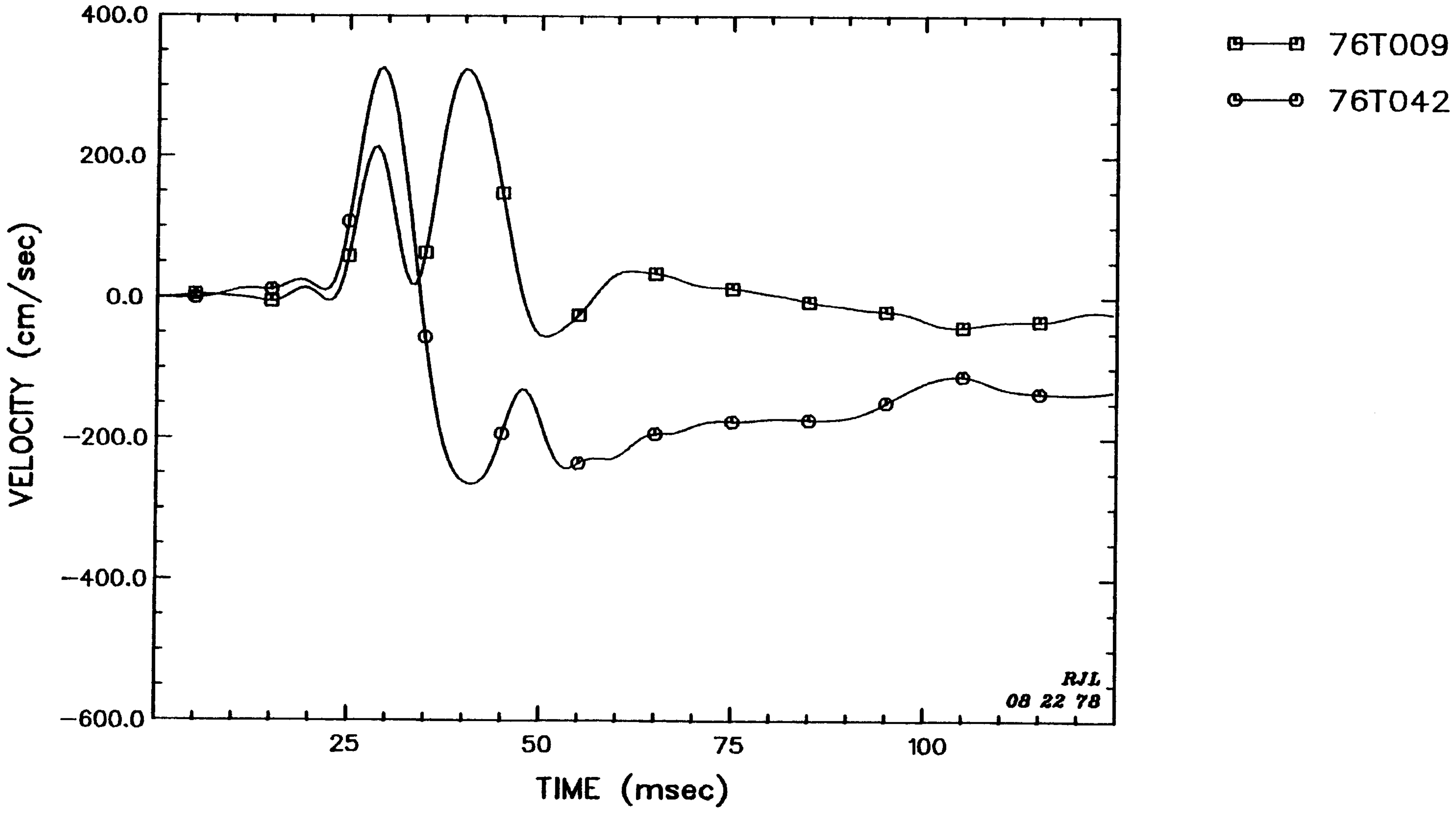
UPPER STERNALS -- SIDE TESTS (26-R,P)

Figure 117



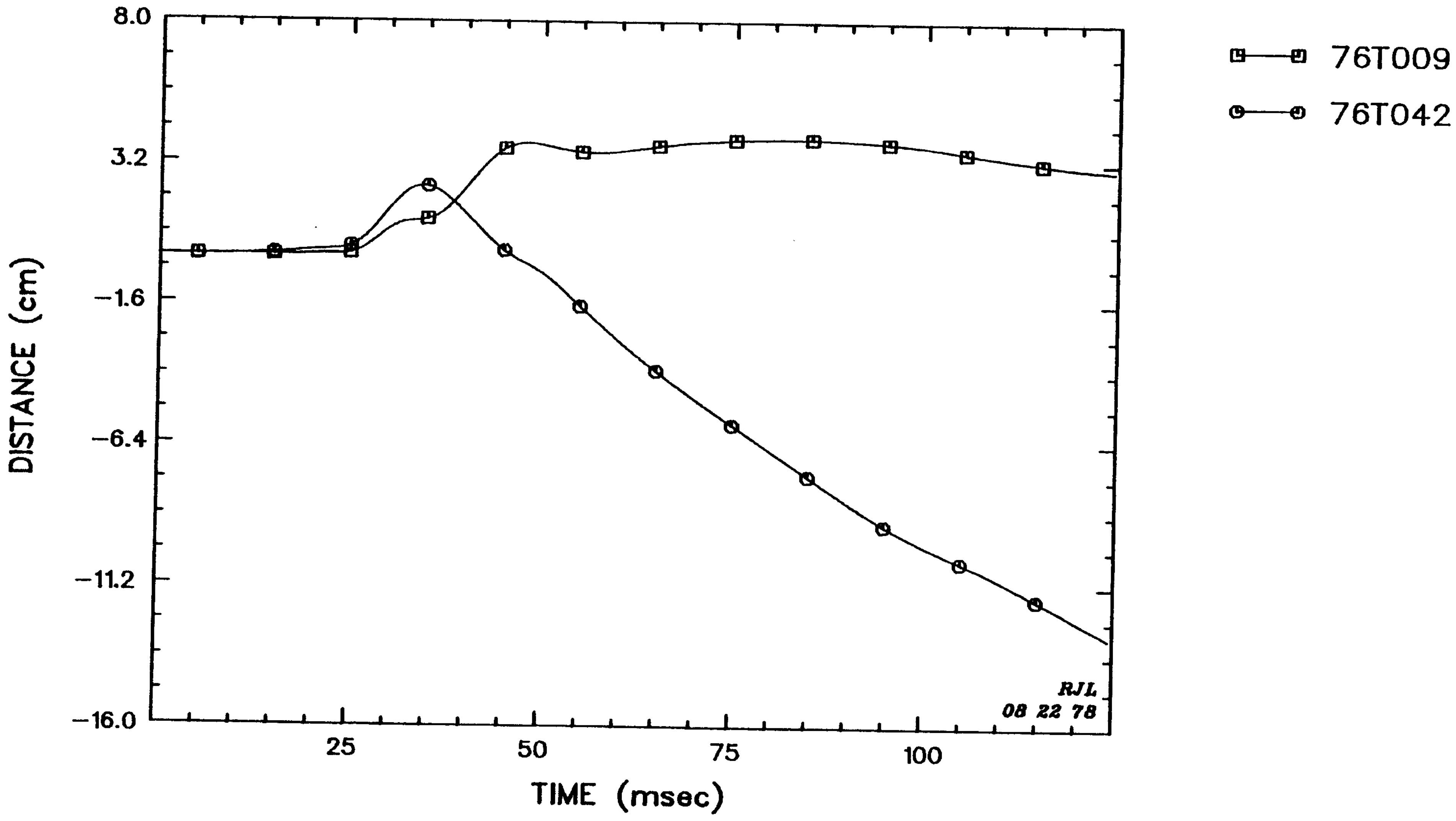
LEFT LOWER RIBS -- SIDE TESTS (26-R,P)

Figure 118



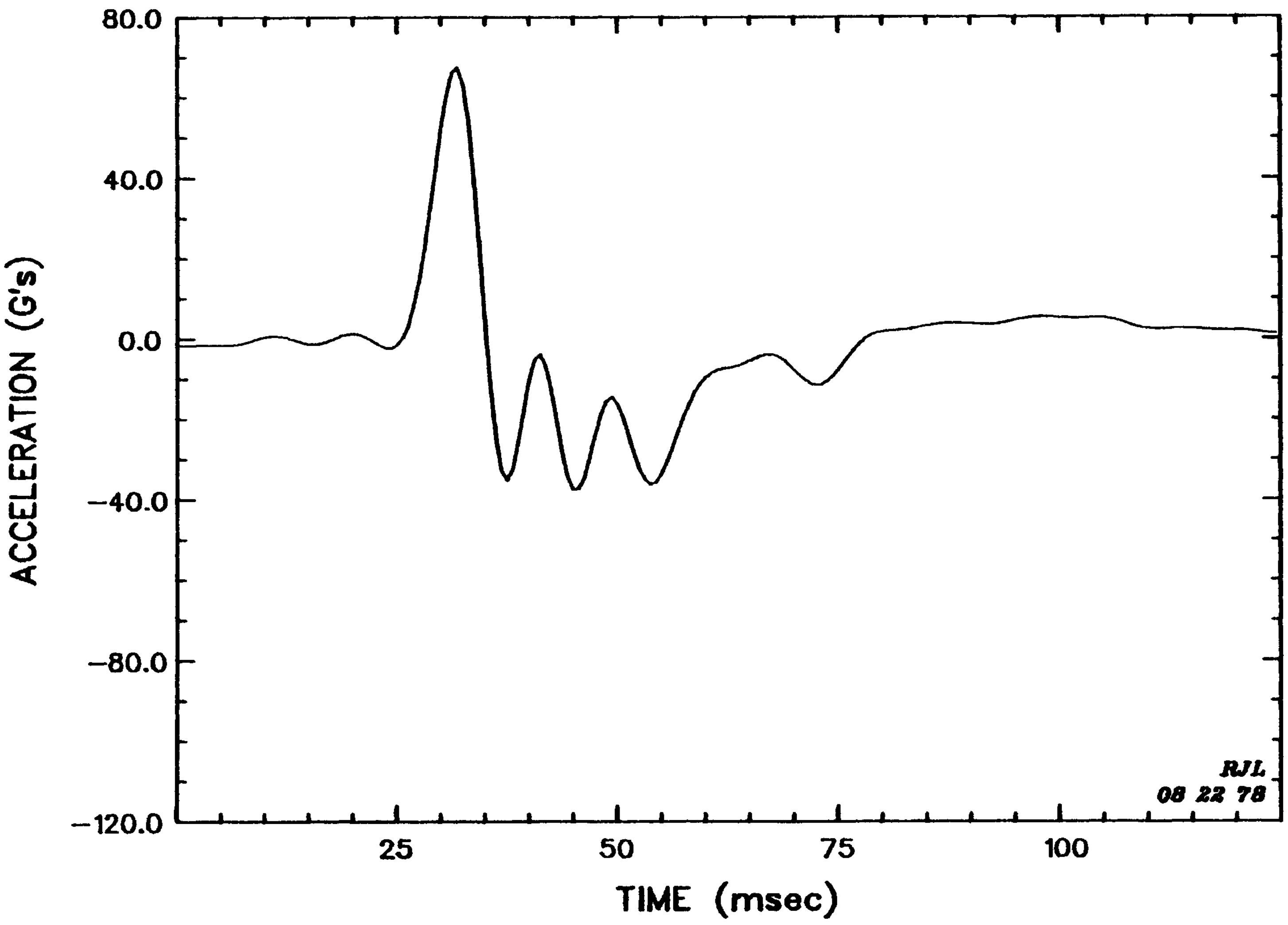
LEFT LOWER RIBS -- SIDE TESTS (26-R,P)

Figure 119



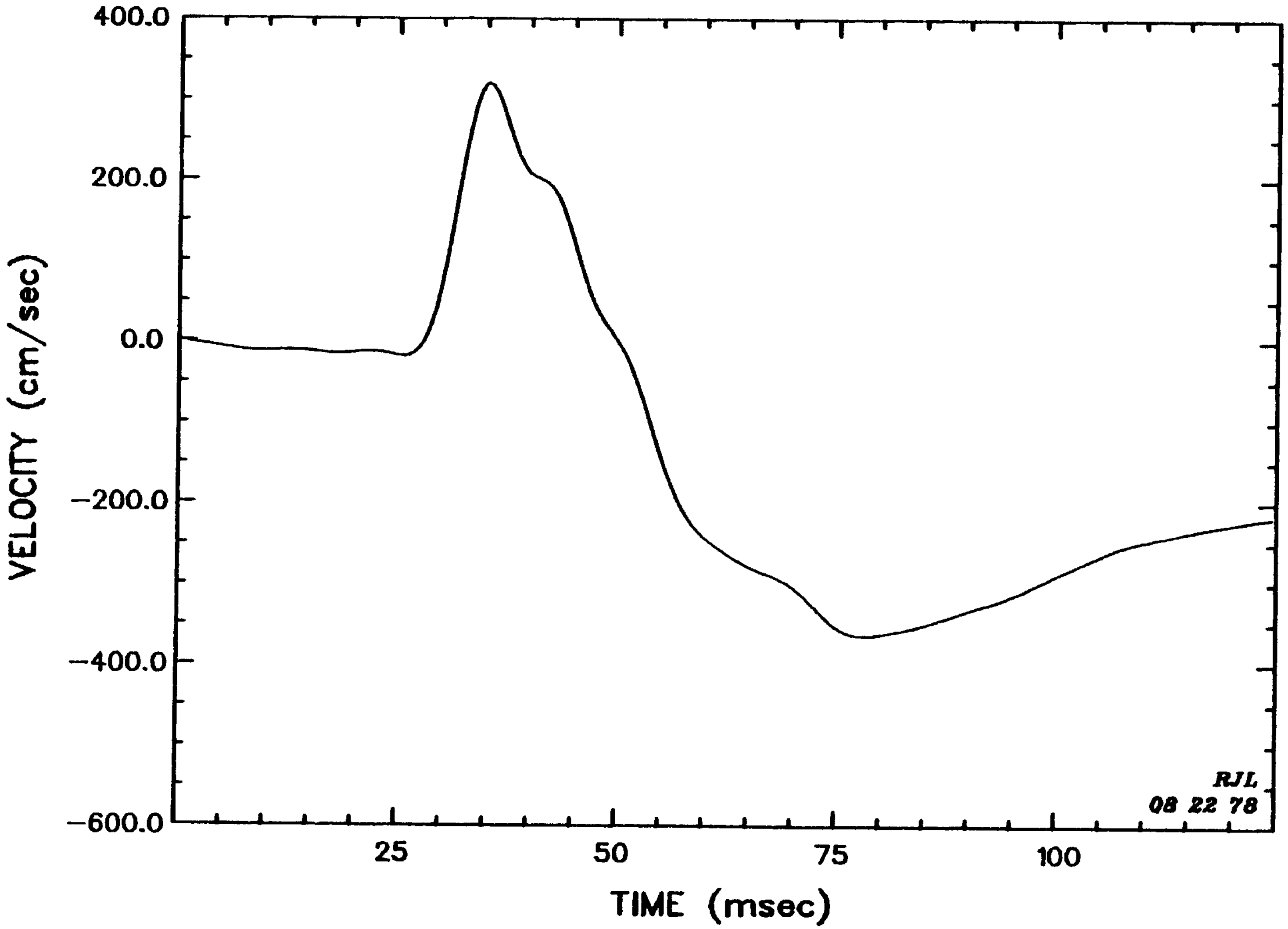
LEFT LOWER RIBS -- SIDE TESTS (26-R,P)

Figure 120



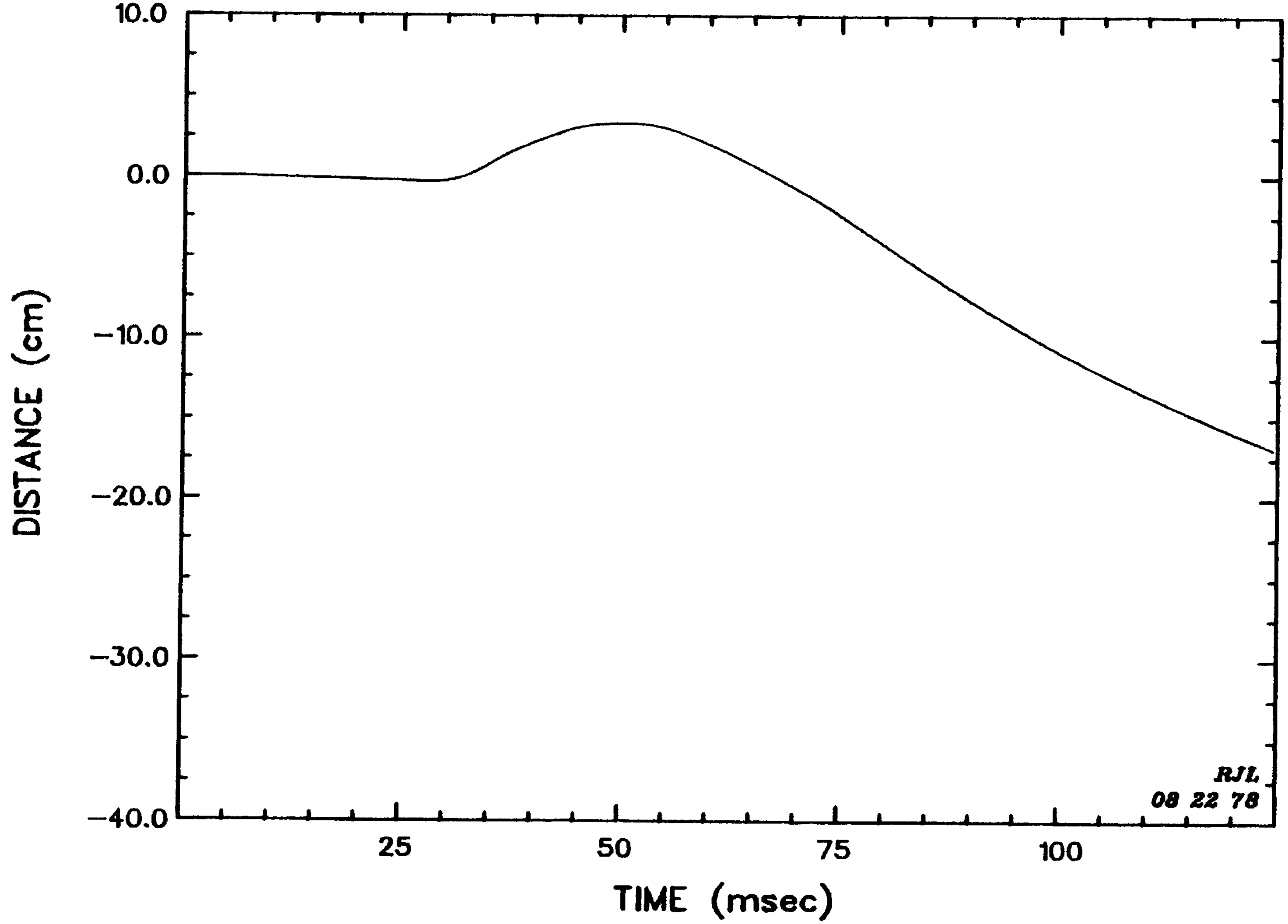
RIGHT LOWER RIBS -- SIDE TESTS (26-R,P)

Figure 121



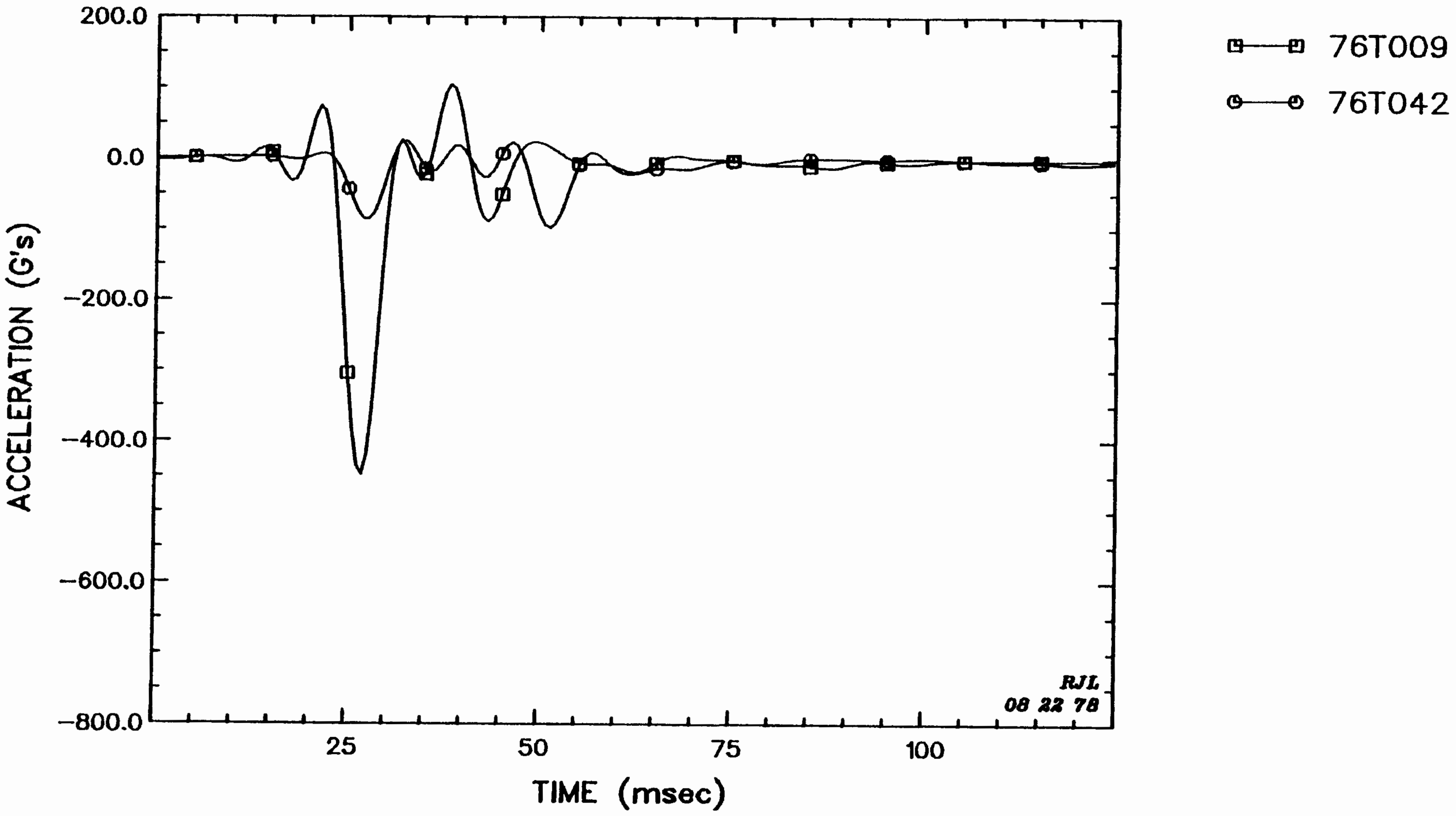
RIGHT LOWER RIBS -- SIDE TESTS (26-R,P)

Figure 122



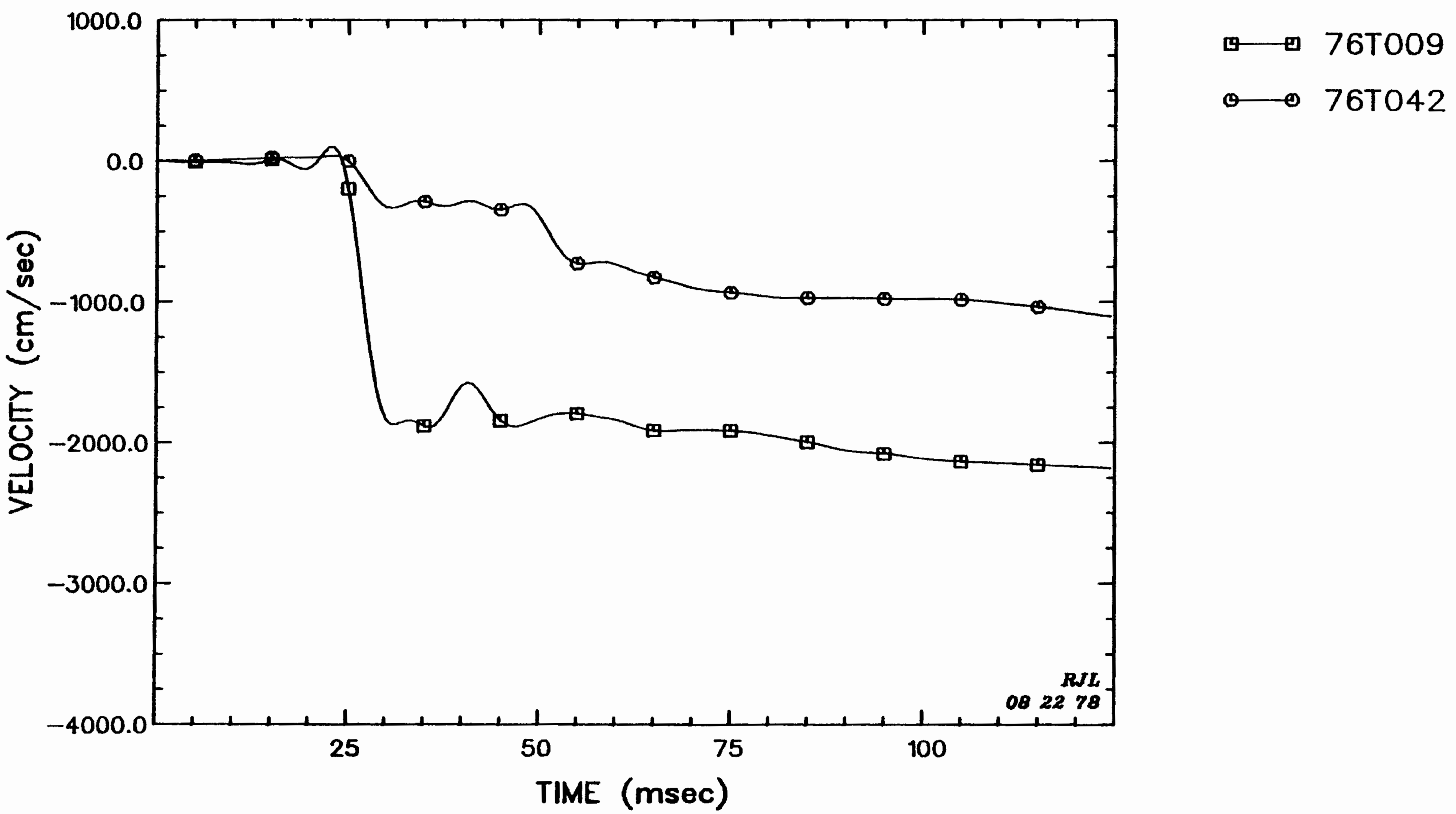
RIGHT LOWER RIBS -- SIDE TESTS (26-R,P)

Figure 123

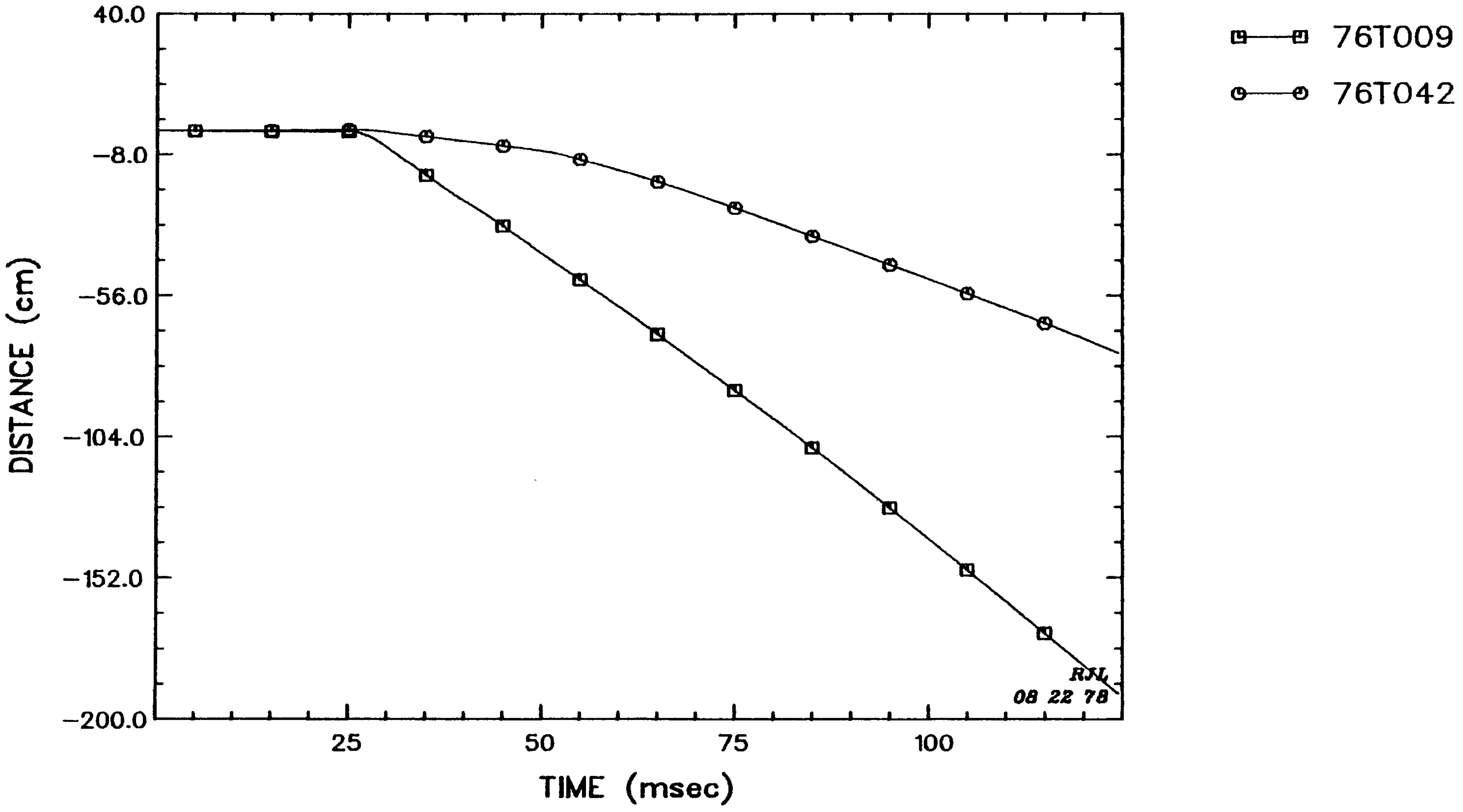


LEFT UPPER RIBS -- SIDE TESTS (26-R,P)

Figure 124

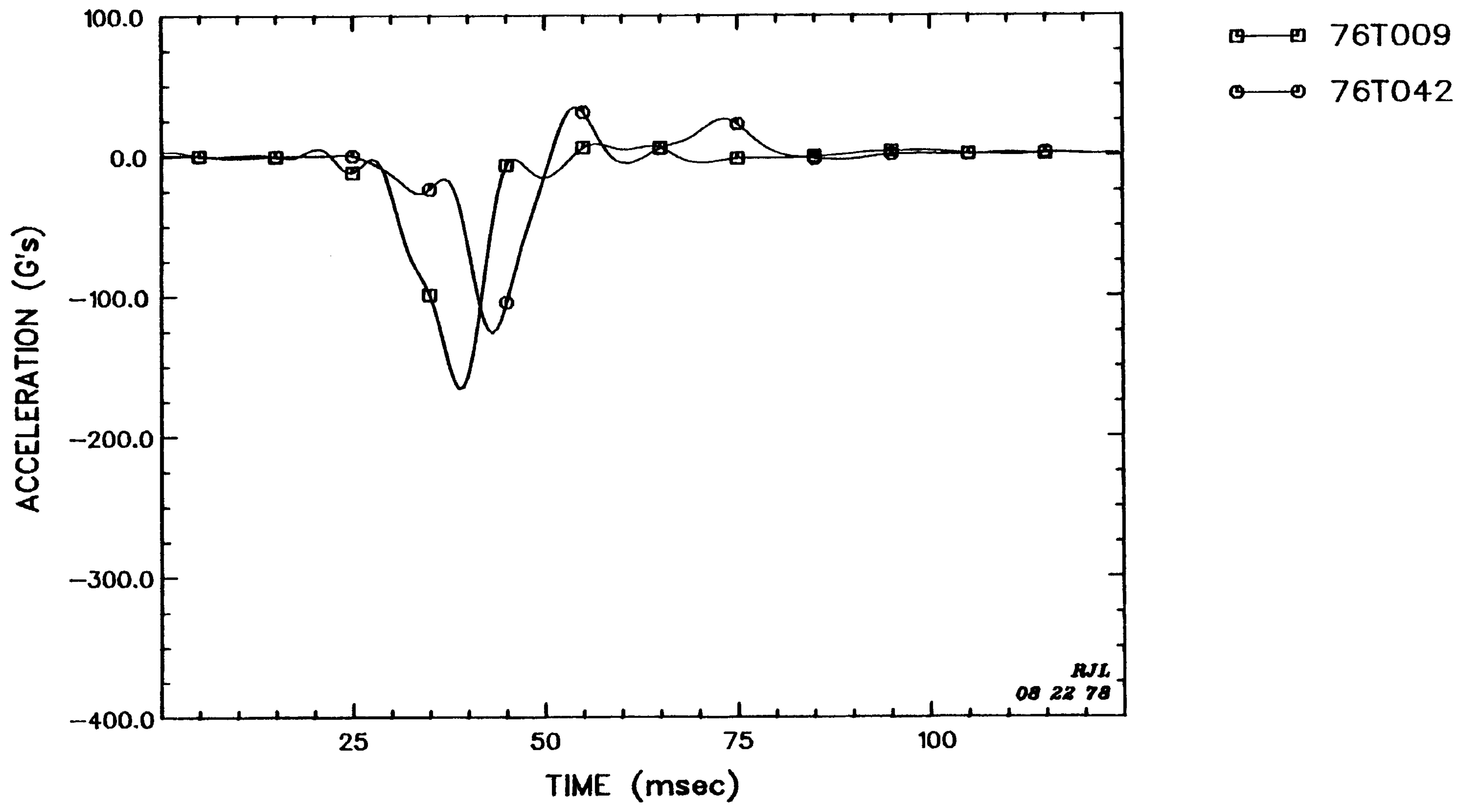


LEFT UPPER RIBS -- SIDE TESTS (26-R,P)
Figure 125



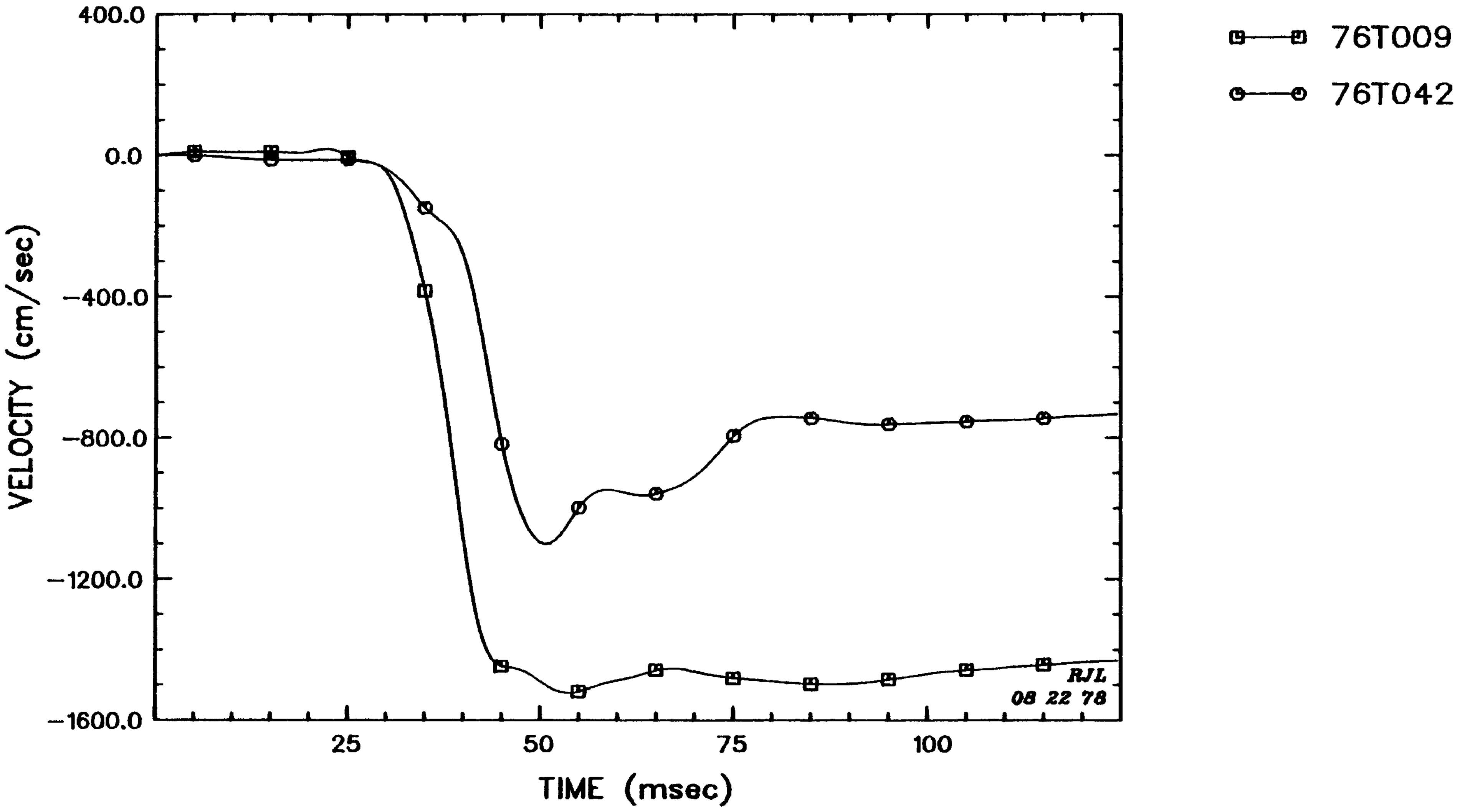
LEFT UPPER RIBS -- SIDE TESTS (26-R,P)

Figure 126



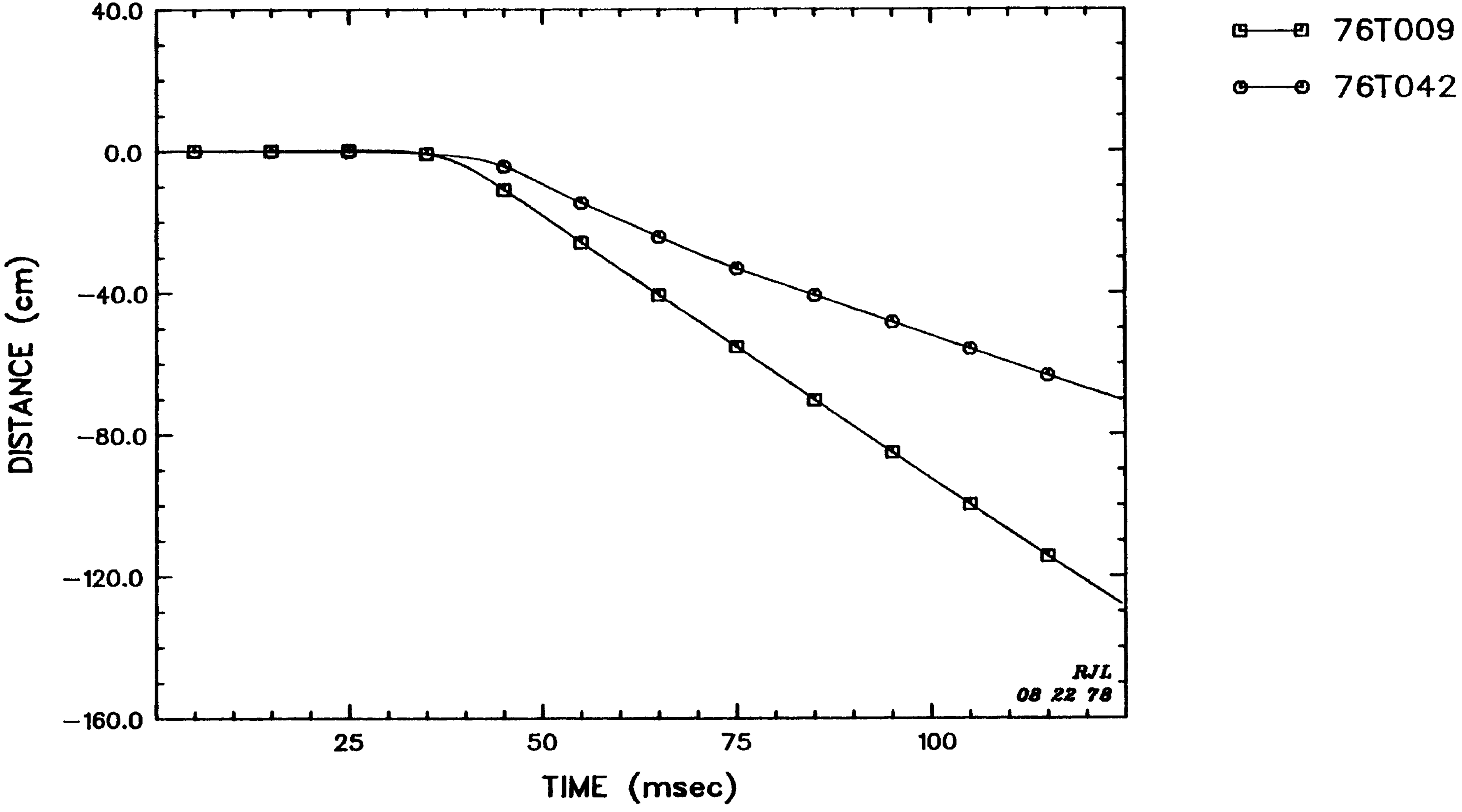
RIGHT UPPER RIBS -- SIDE TESTS (26-R,P)

Figure 127



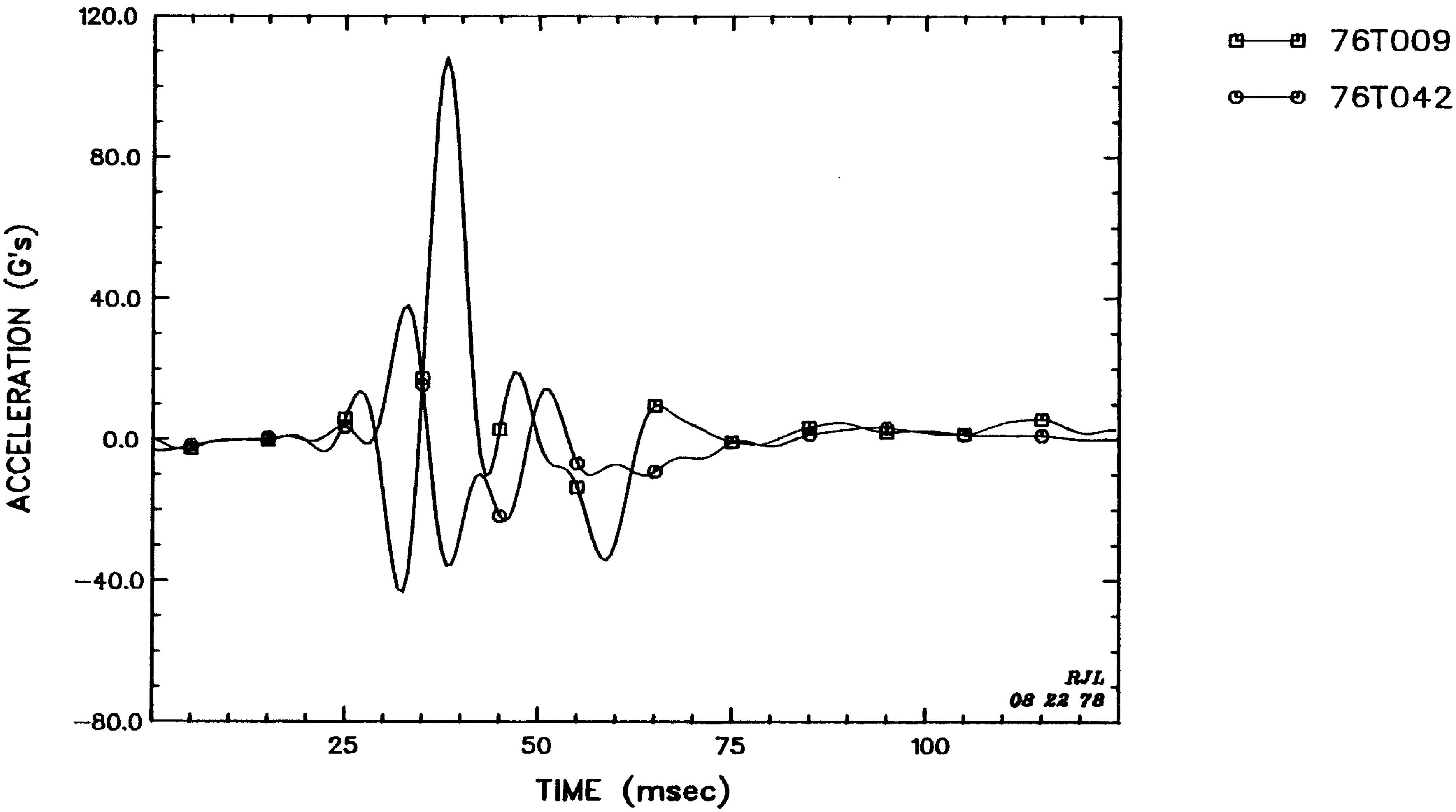
RIGHT UPPER RIBS -- SIDE TESTS (26-R,P)

Figure 128



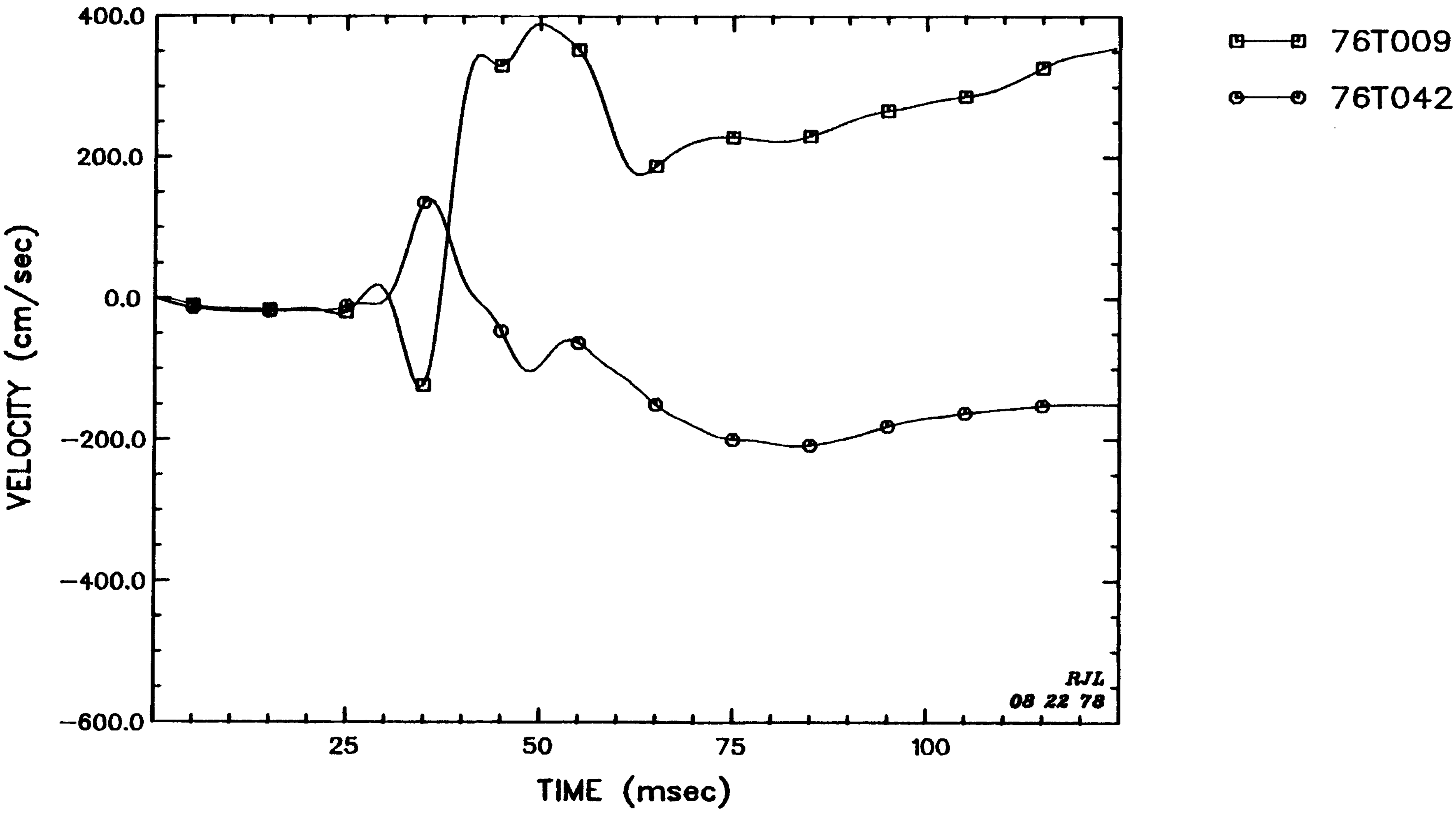
RIGHT UPPER RIBS -- SIDE TESTS (26-R,P)

Figure 129



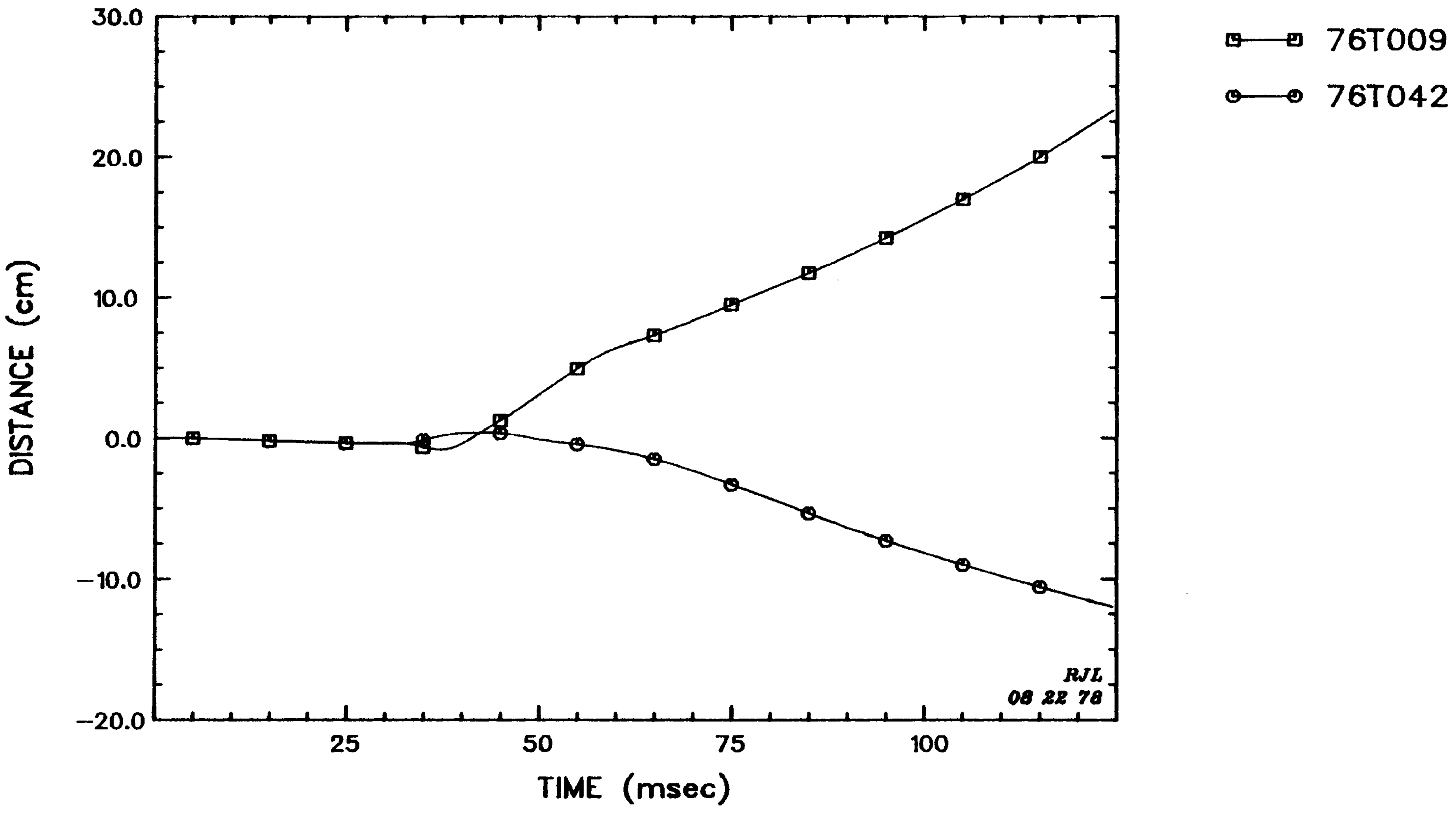
T-1 P-A -- SIDE TESTS (26-R,P)

Figure 130



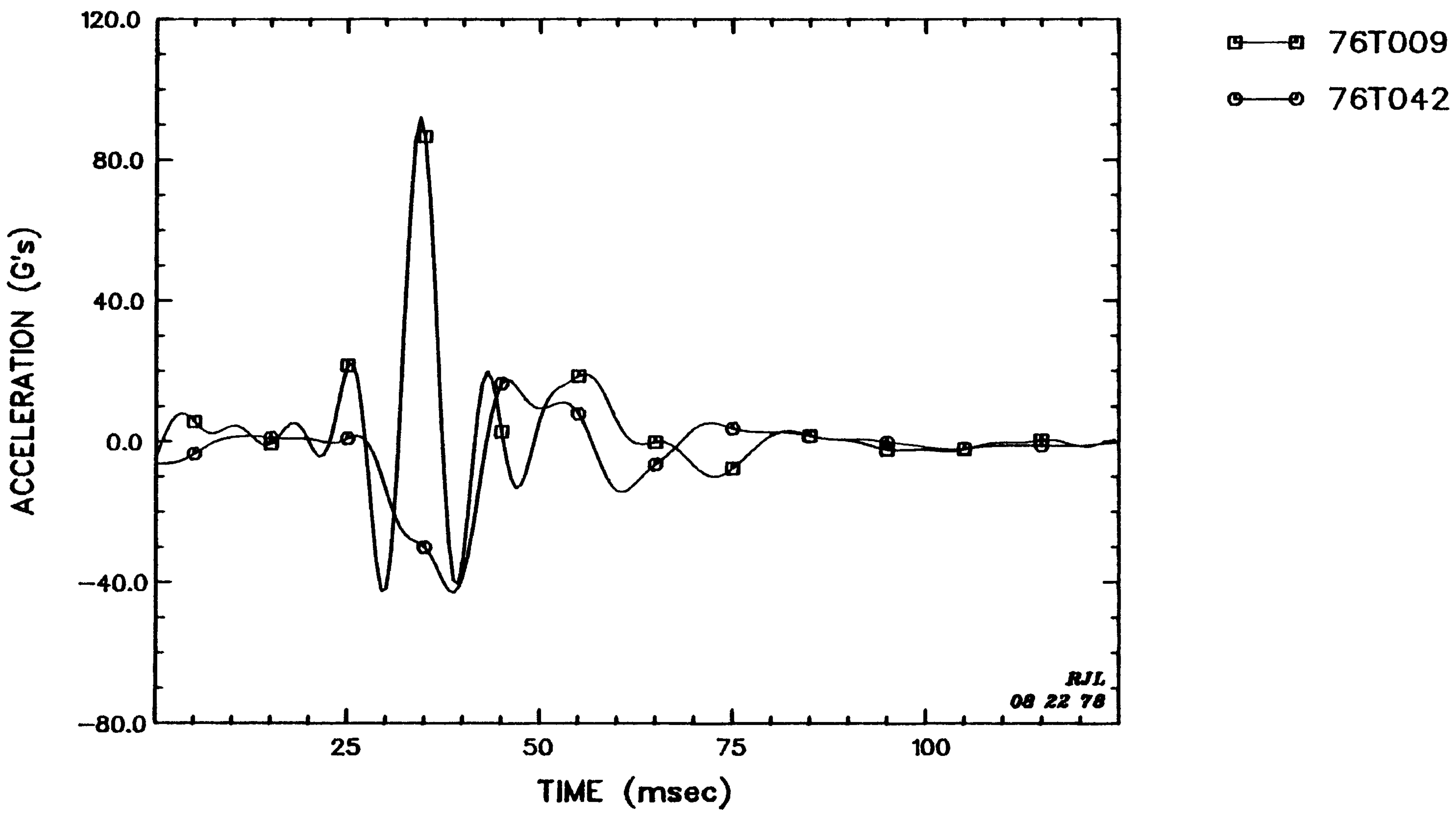
T-1 P-A -- SIDE TESTS (26-R,P)

Figure 131



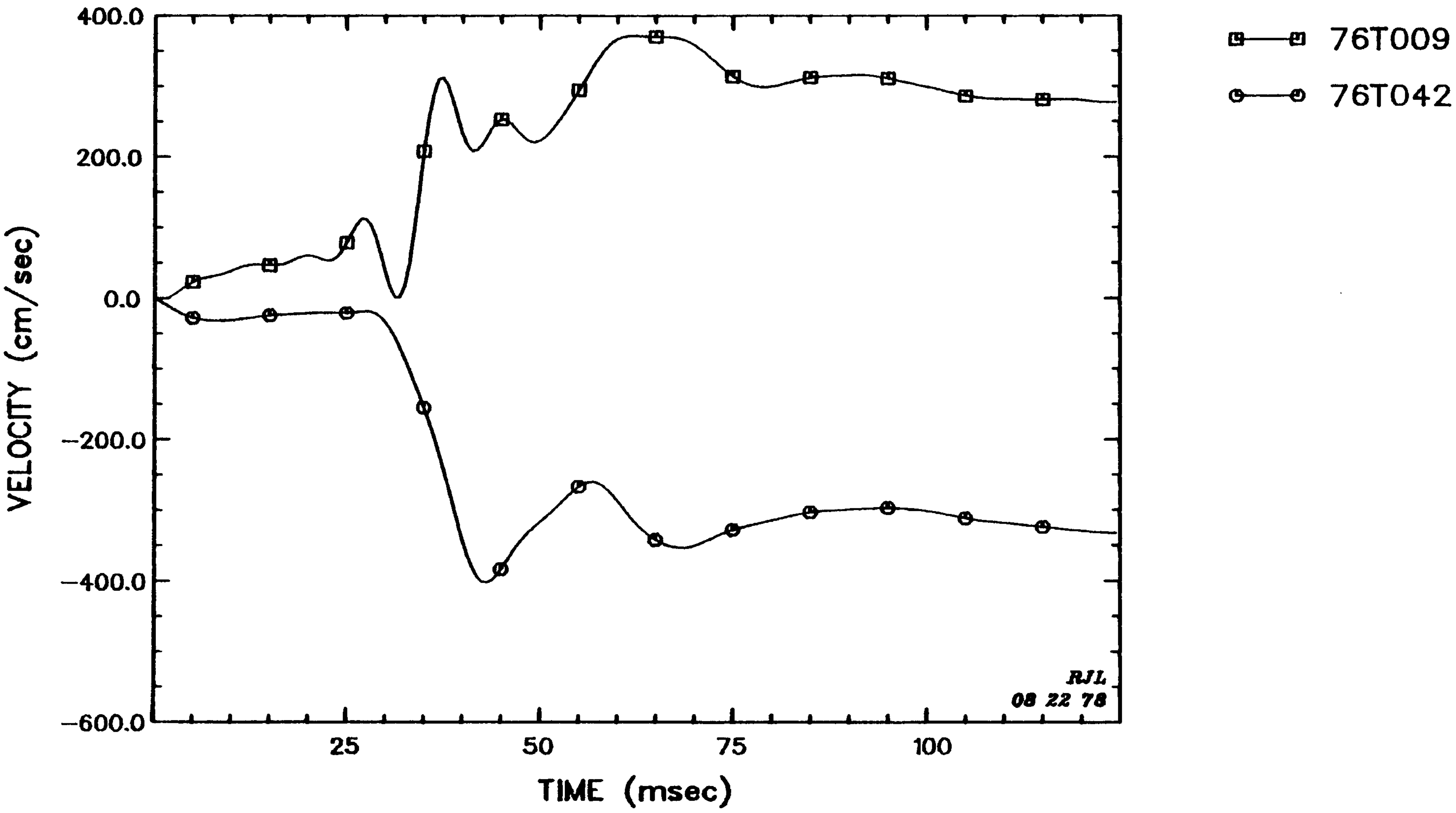
T-1 P-A -- SIDE TESTS (26-R,P)

Figure 132



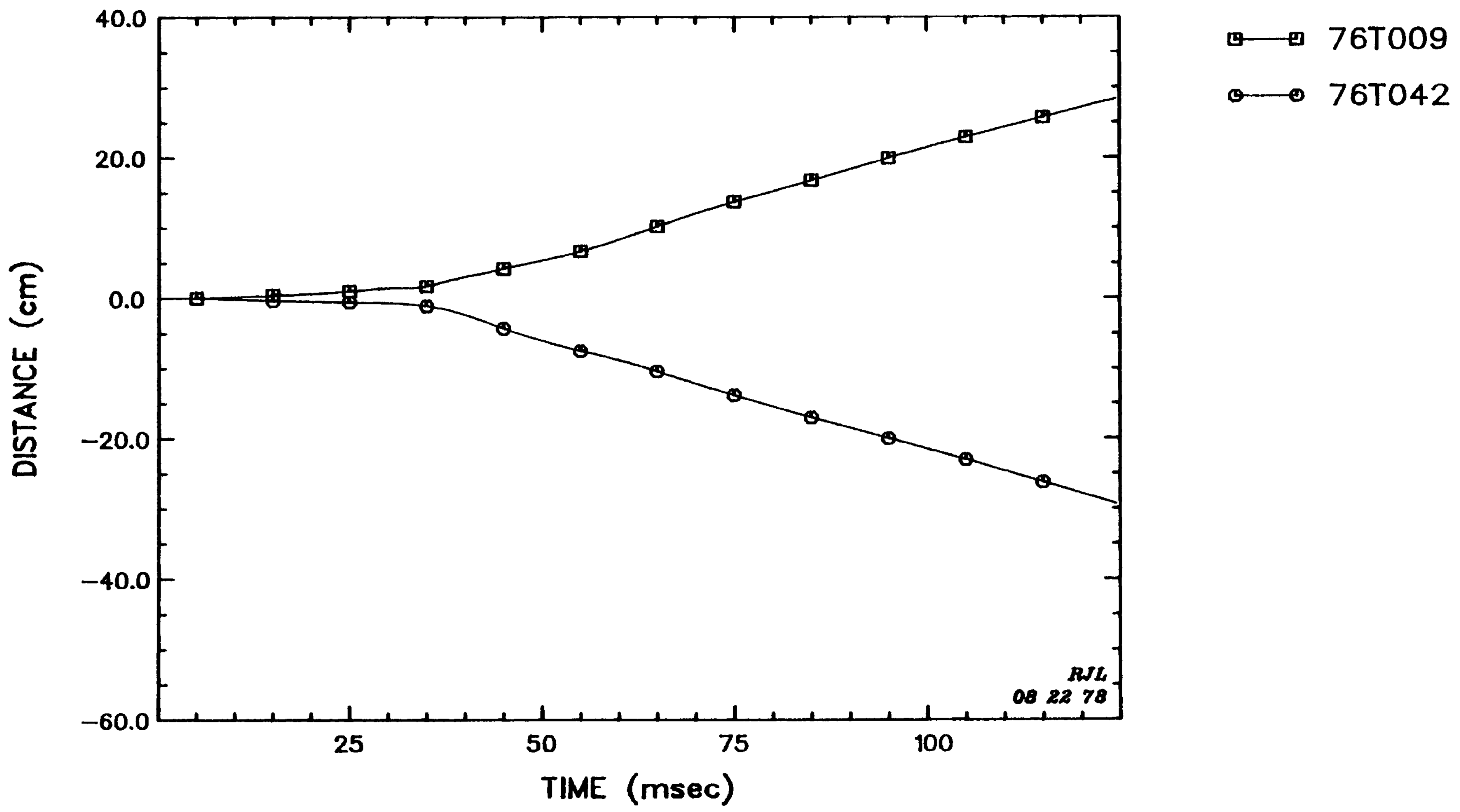
T-12 P-A -- SIDE TESTS (26-R,P)

Figure 133



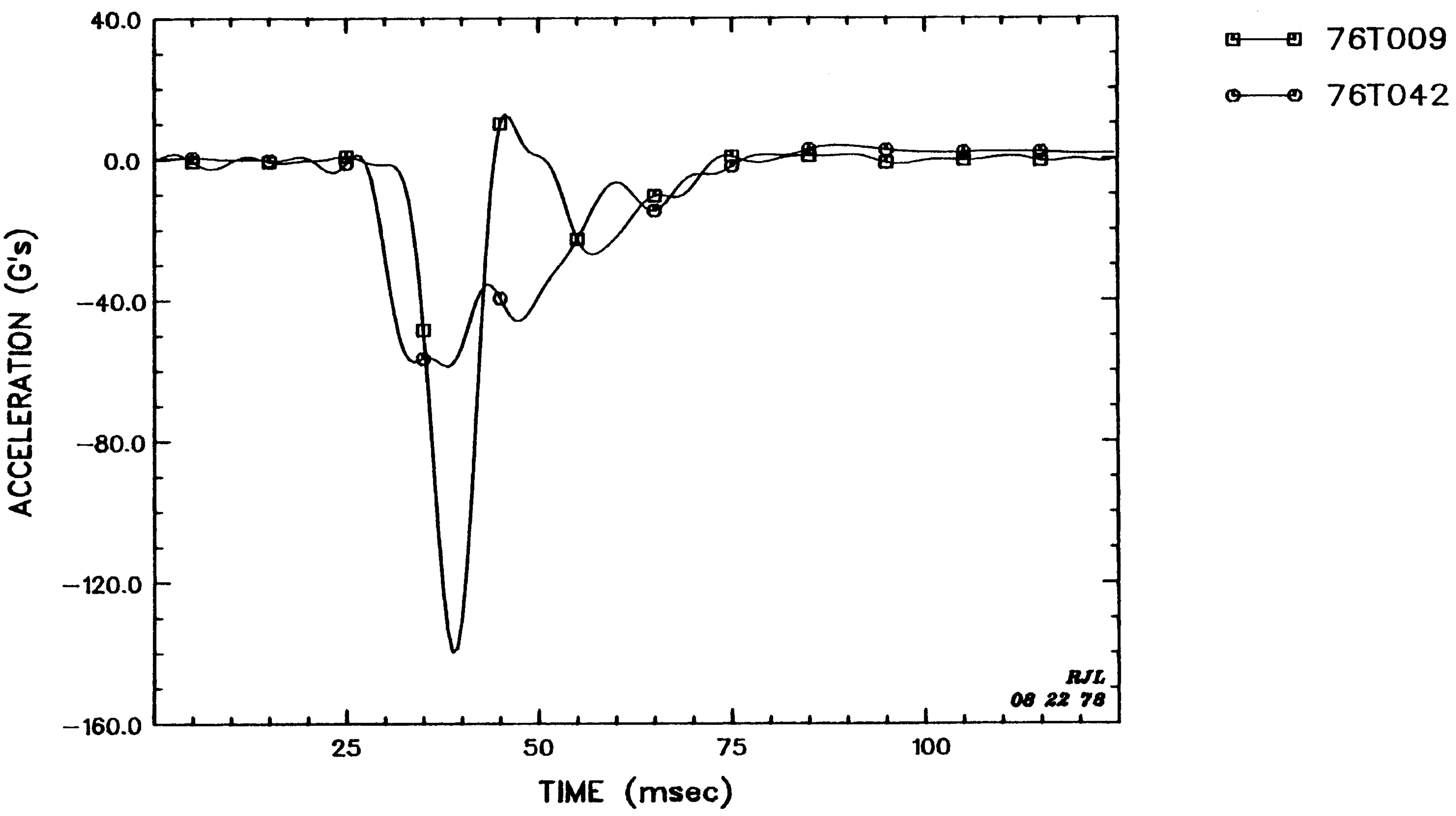
T-12 P-A -- SIDE TESTS (26-R,P)

Figure 134



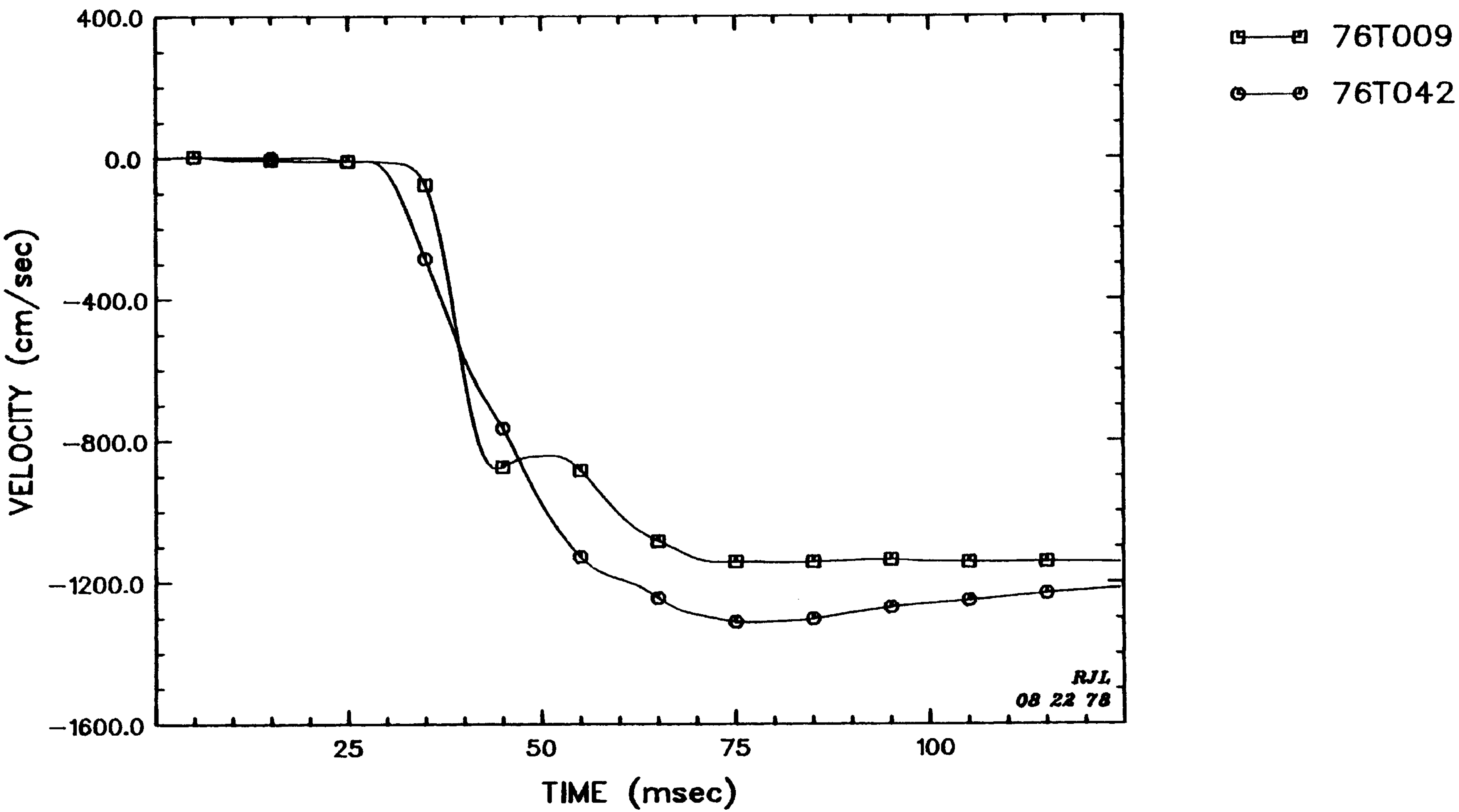
T-12 P-A -- SIDE TESTS (26-R,P)

Figure 135



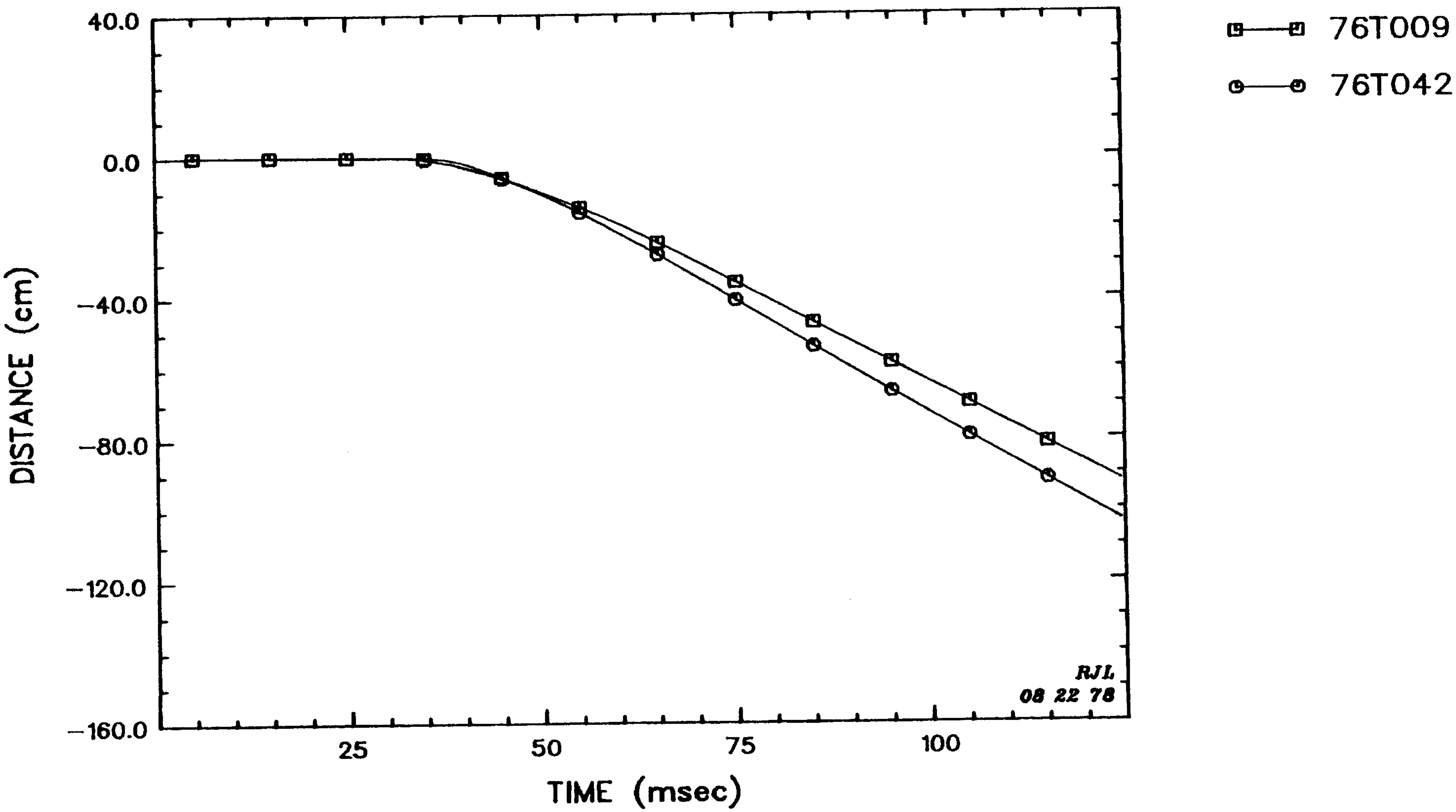
T-12 R-L -- SIDE TESTS (26-R,P)

Figure 136



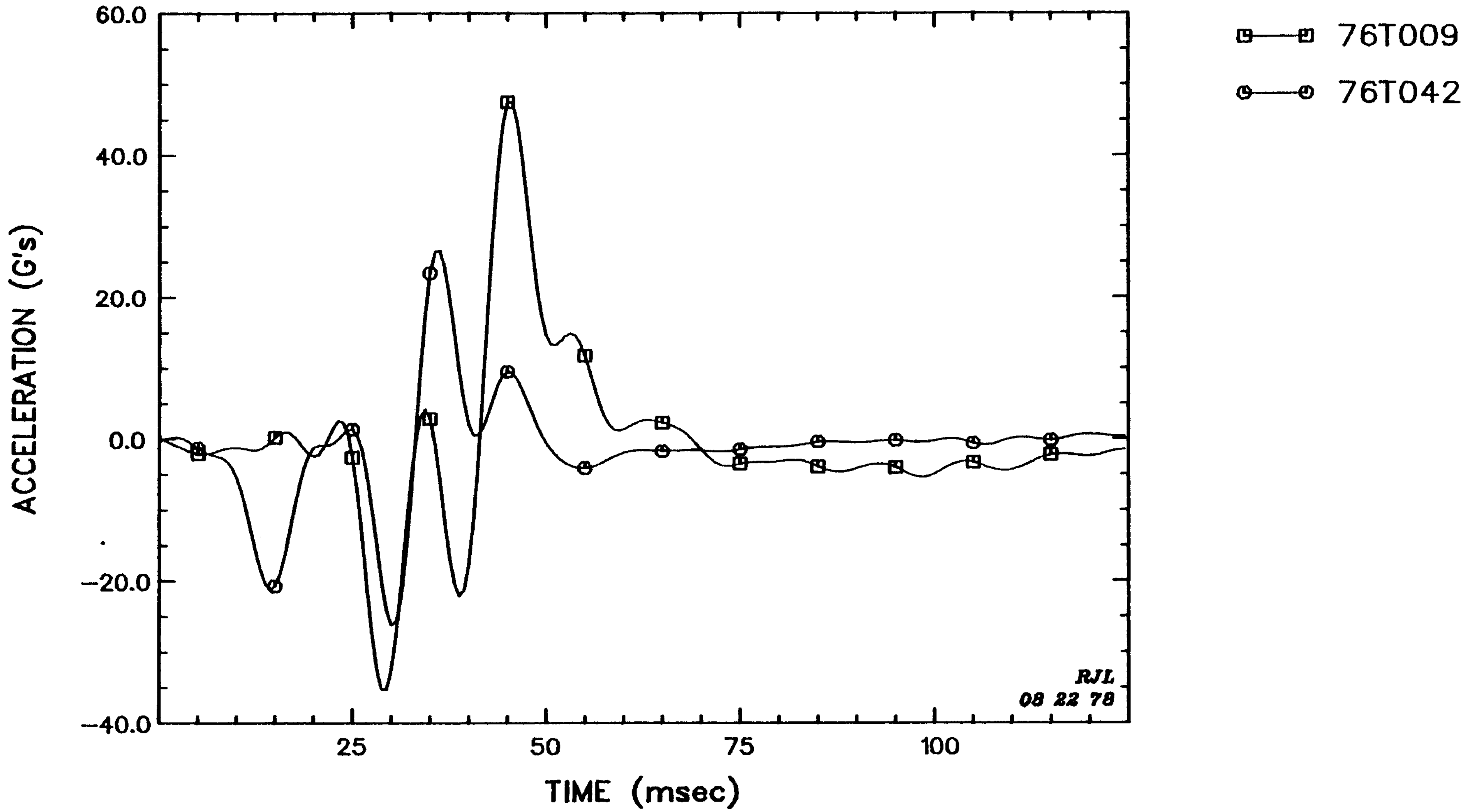
T-12 R-L -- SIDE TESTS (26-R,P)

Figure 137



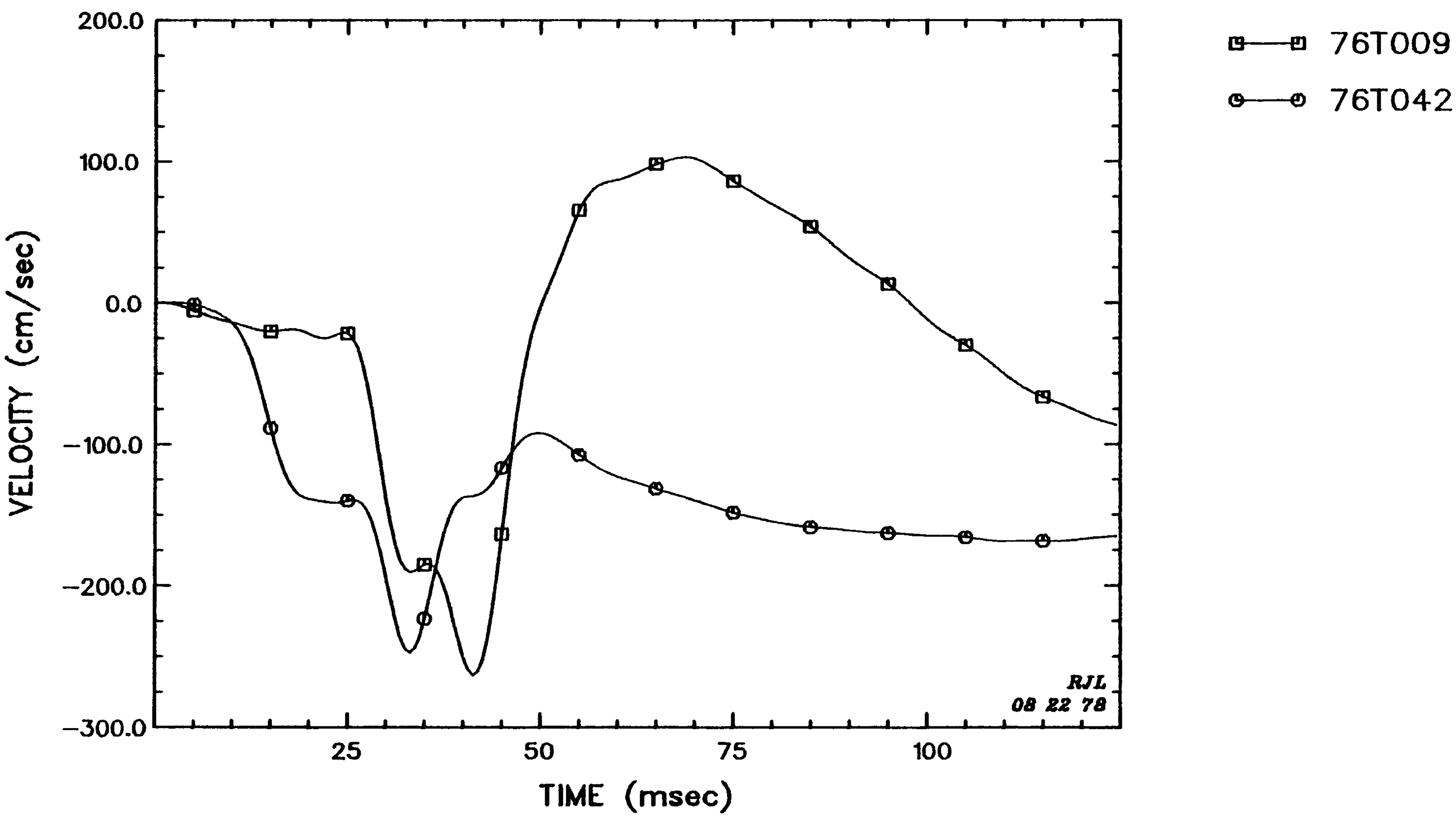
T-12 R-L -- SIDE TESTS (26-R,P)

Figure 138



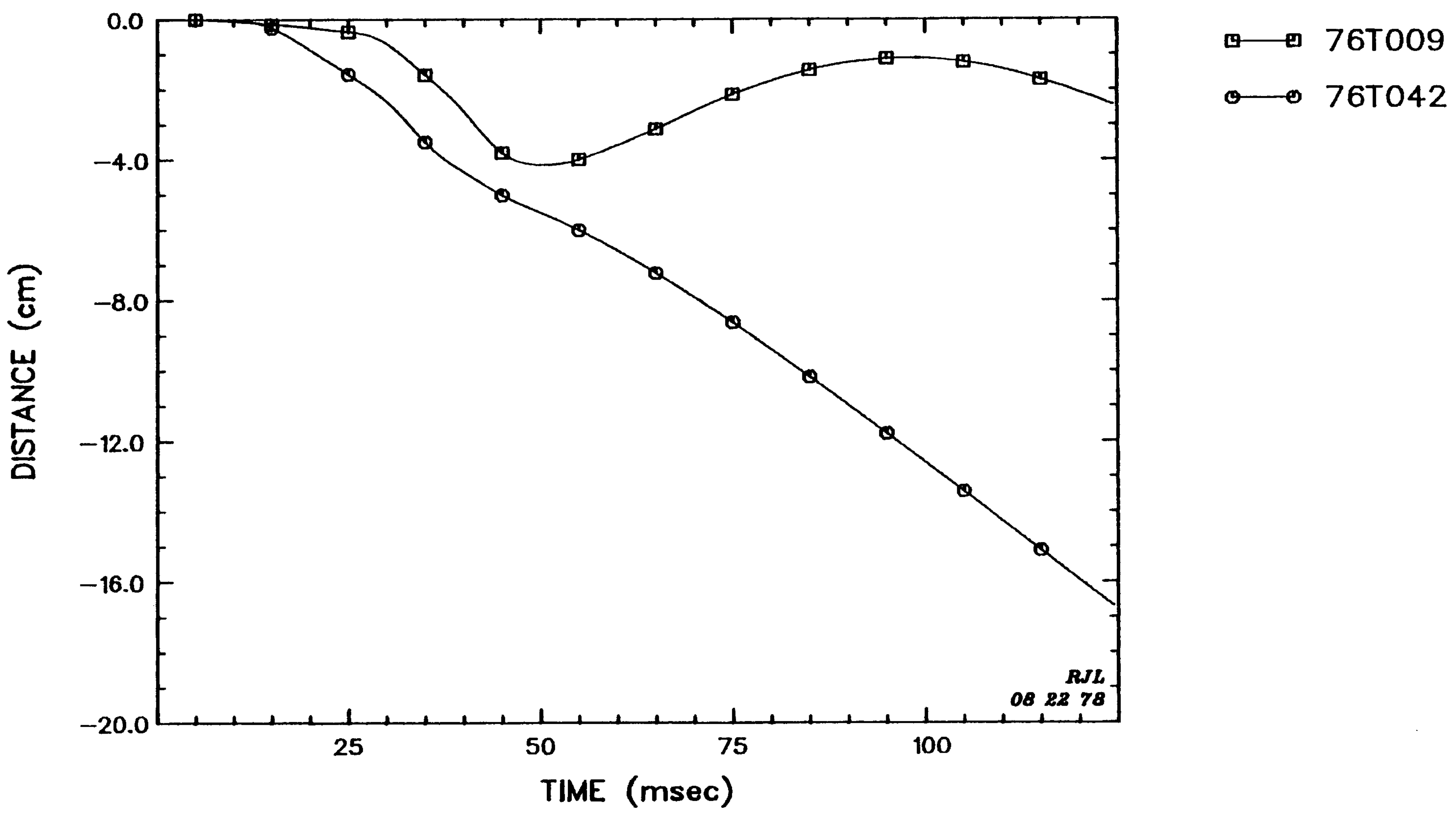
PELVIS P–A –– SIDE TESTS (26–R,P)

Figure 139



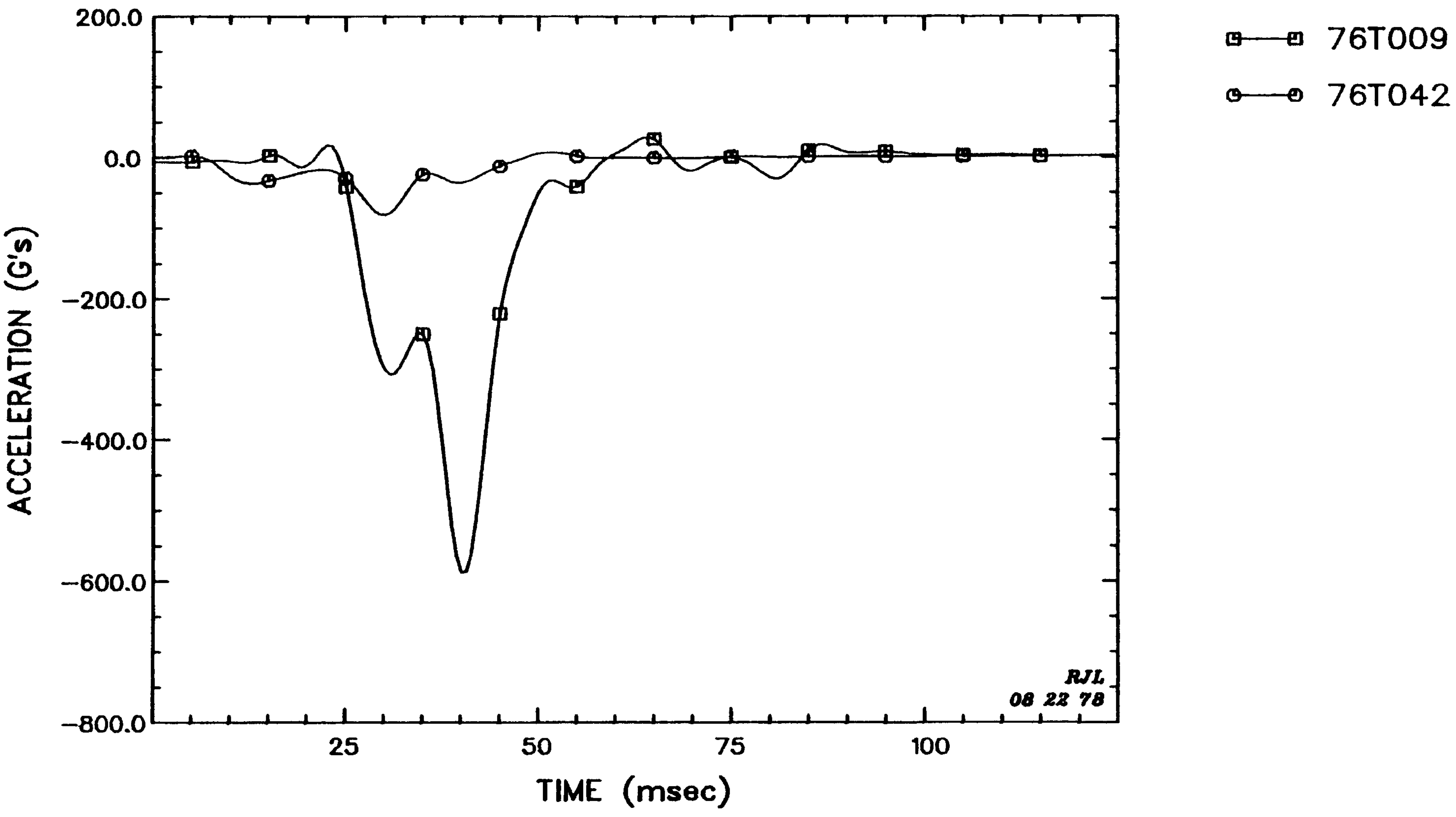
PELVIS P—A –– SIDE TESTS (26—R,P)

Figure 140



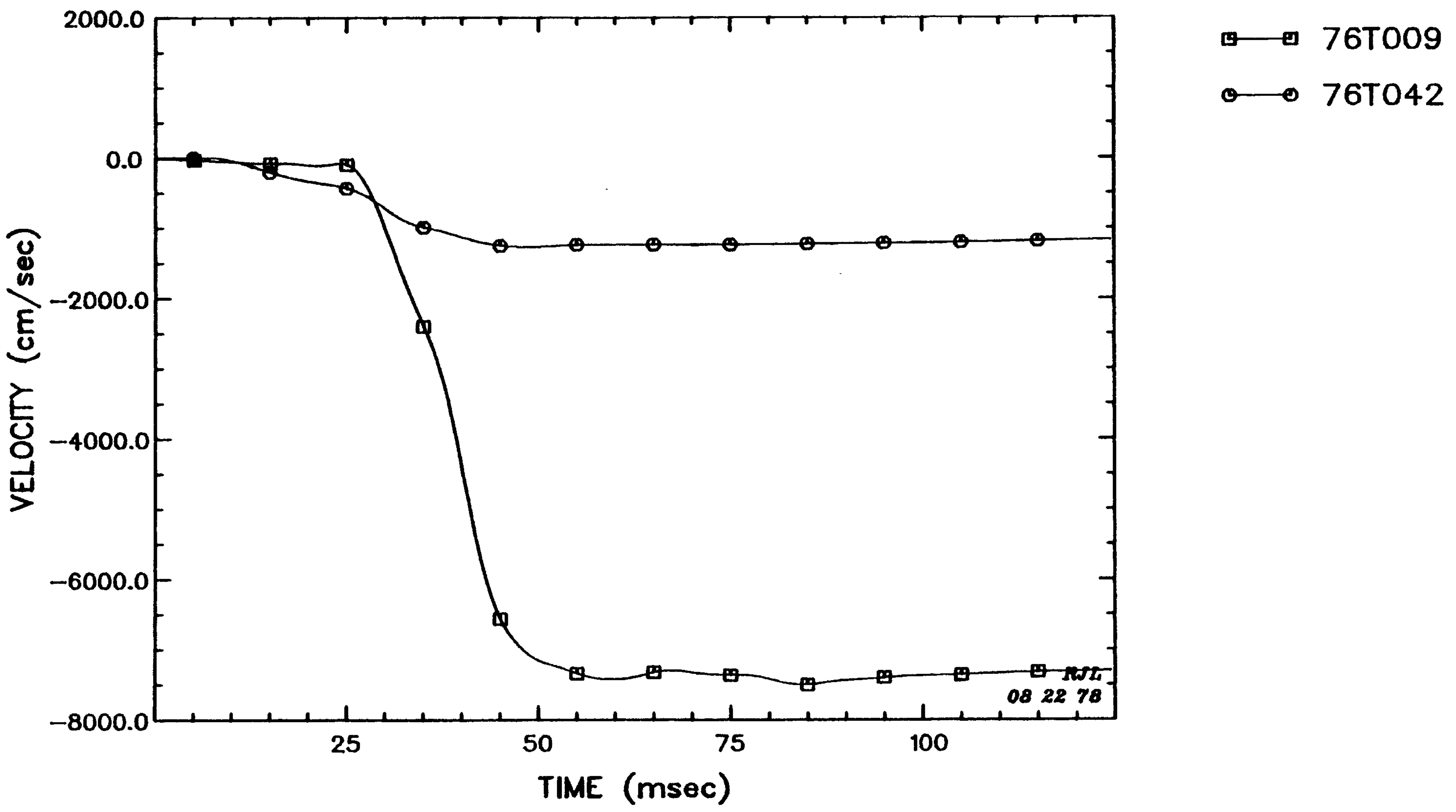
PELVIS P-A -- SIDE TESTS (26-R,P)

Figure 141



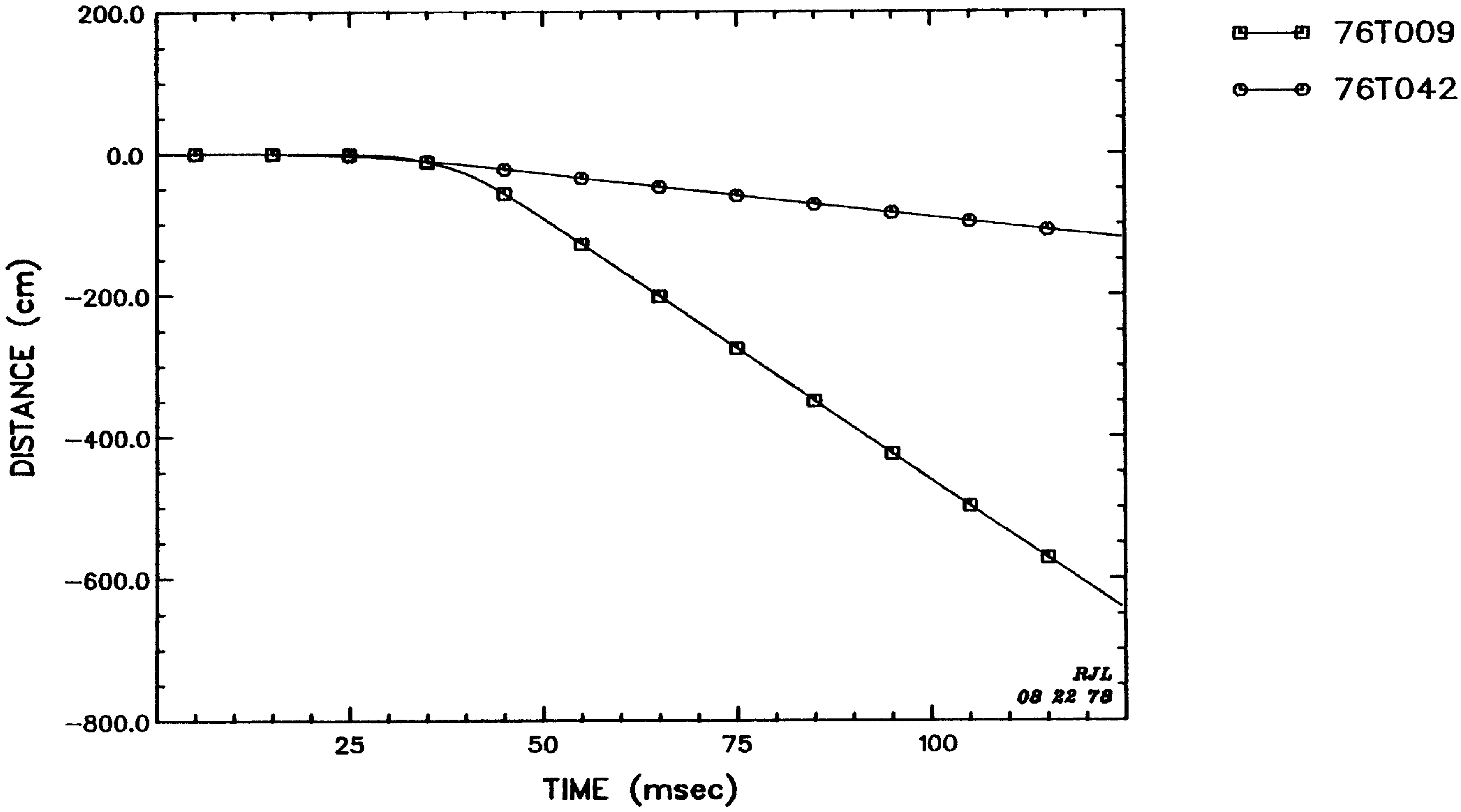
PELVIS R-L -- SIDE TESTS (26-R,P)

Figure 142



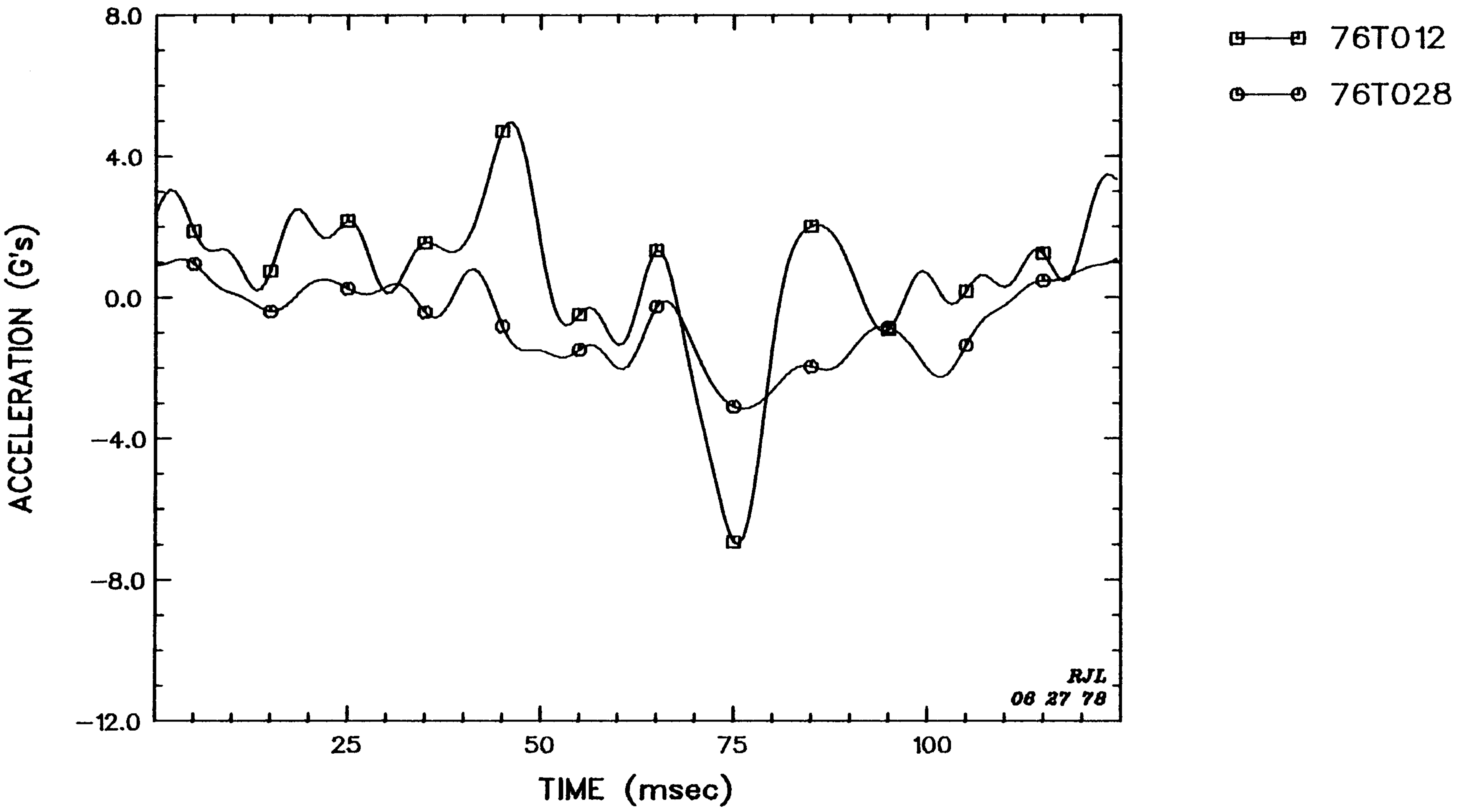
PELVIS R-L -- SIDE TESTS (26-R,P)

Figure 143



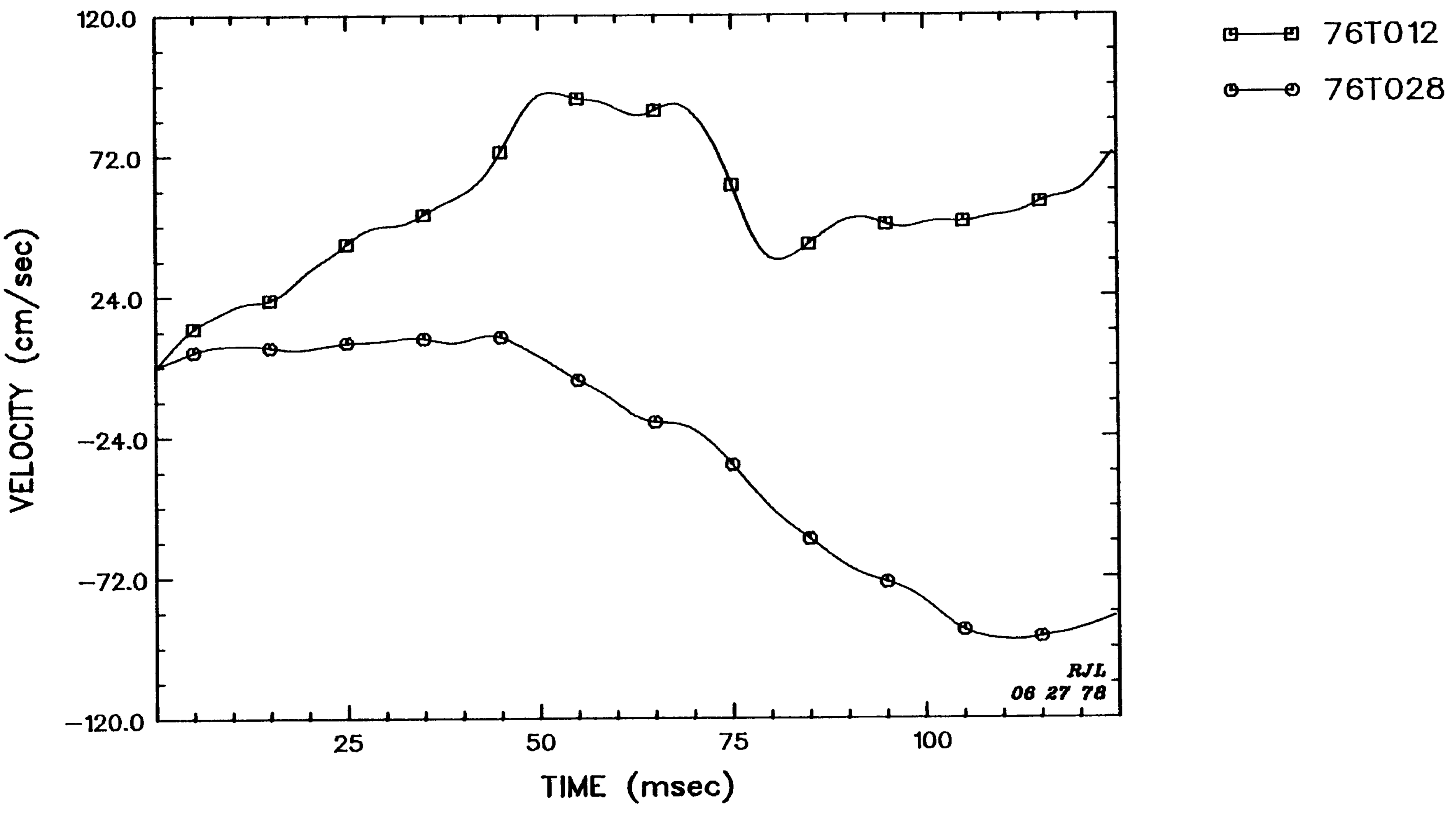
PELVIS R-L -- SIDE TESTS (26-R,P)

Figure 144



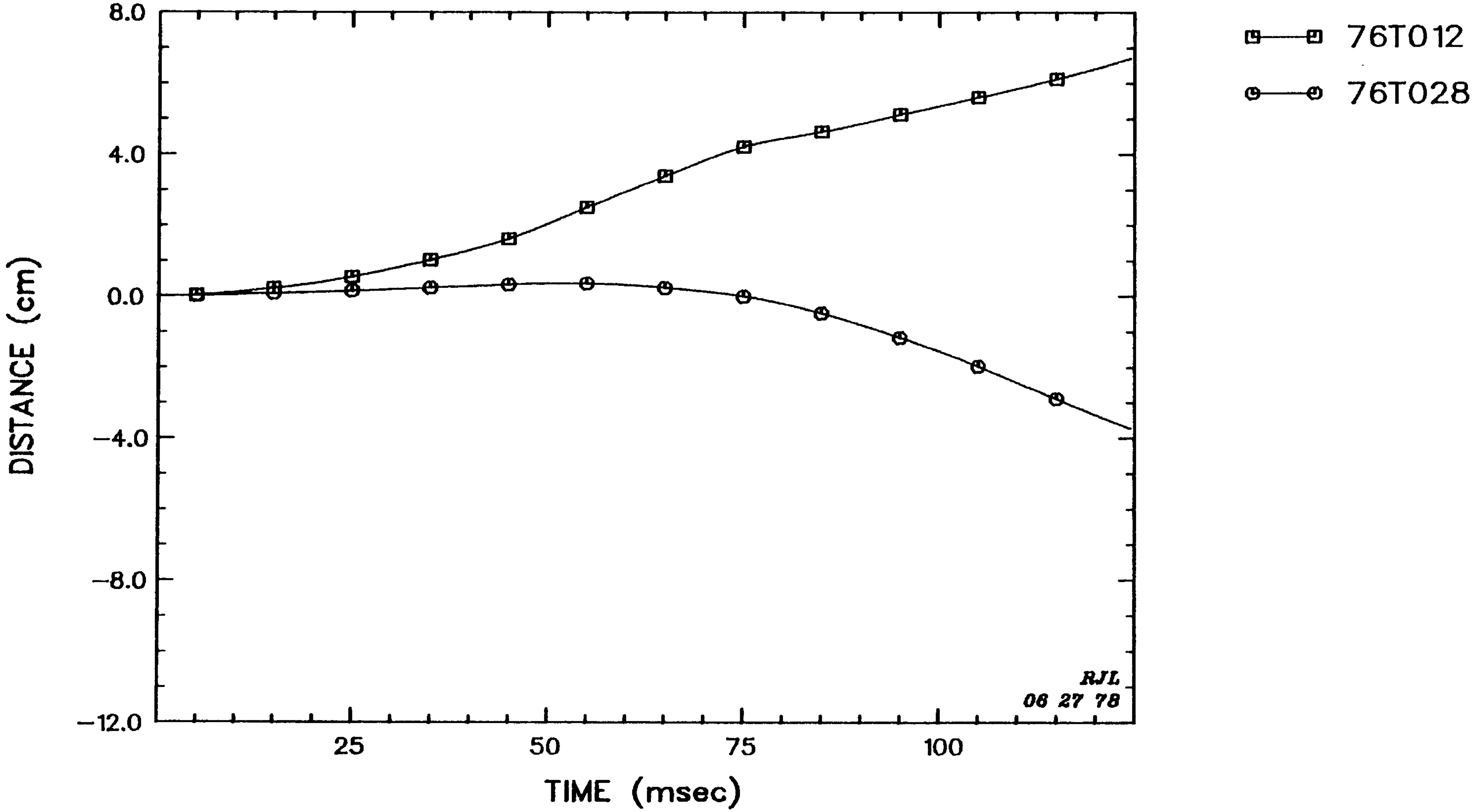
HEAD P—A —— DUMMY TESTS (15—R,P)

Figure 145



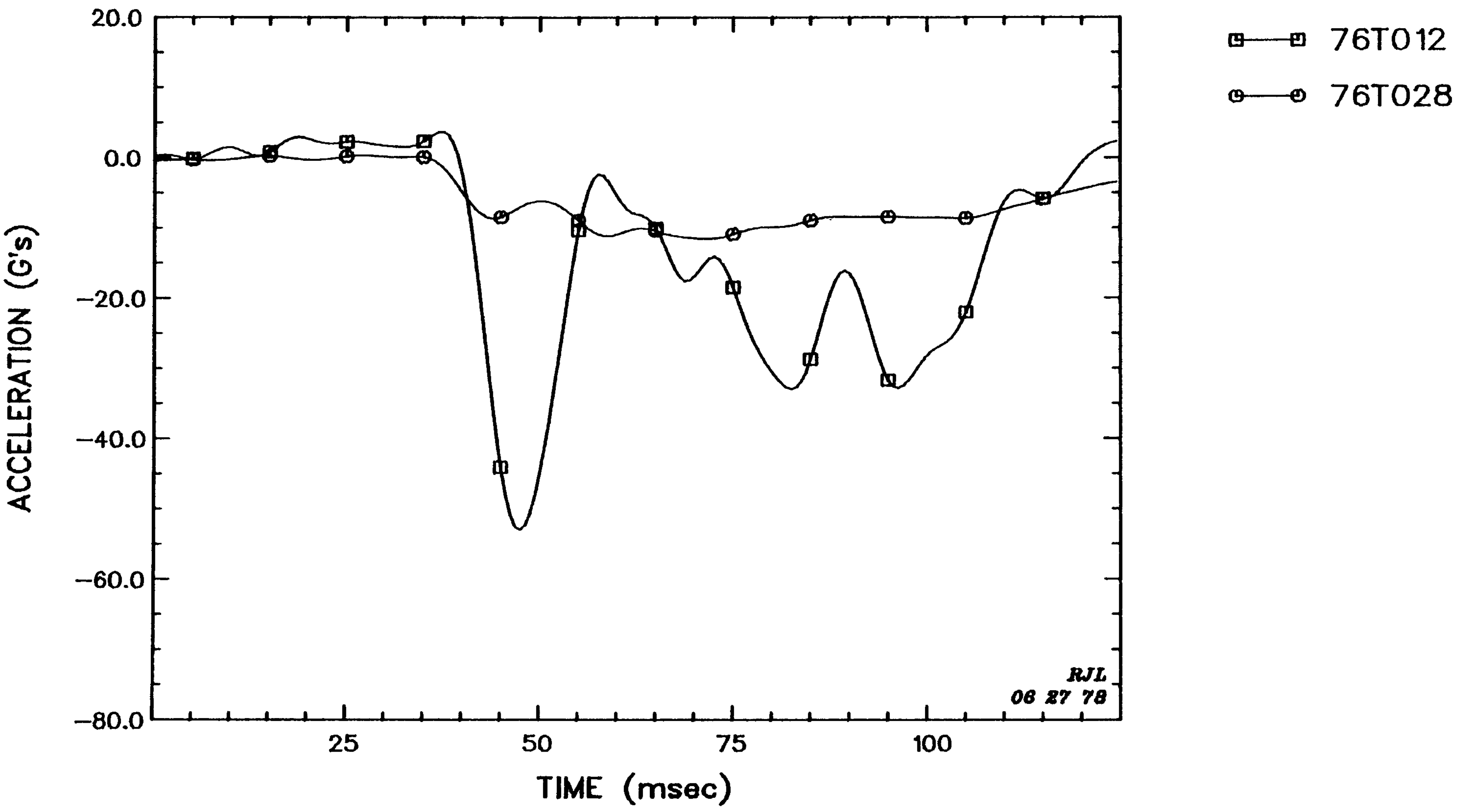
HEAD P-A -- DUMMY TESTS (15-R,P)

Figure 146



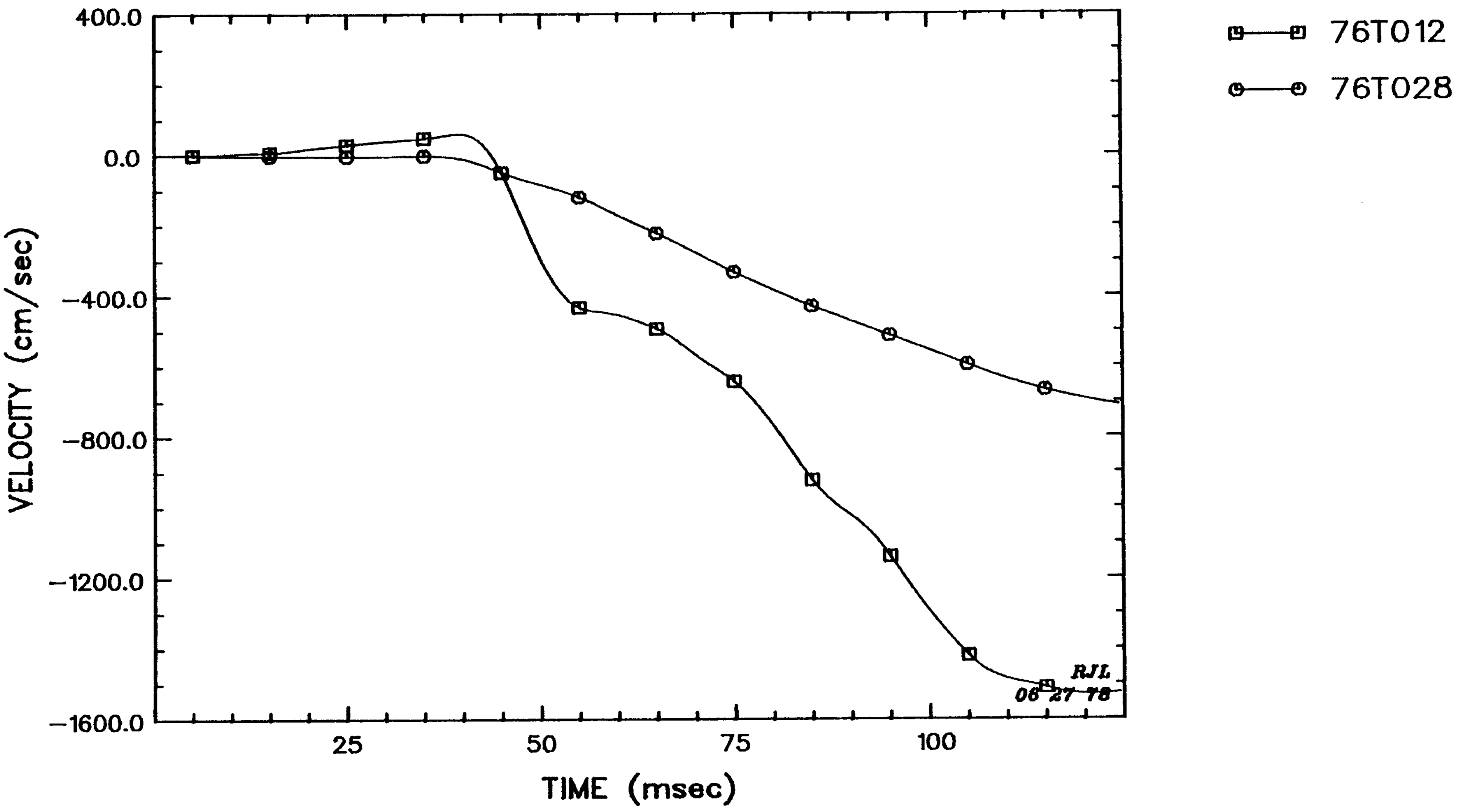
HEAD P-A -- DUMMY TESTS (15-R,P)

Figure 147



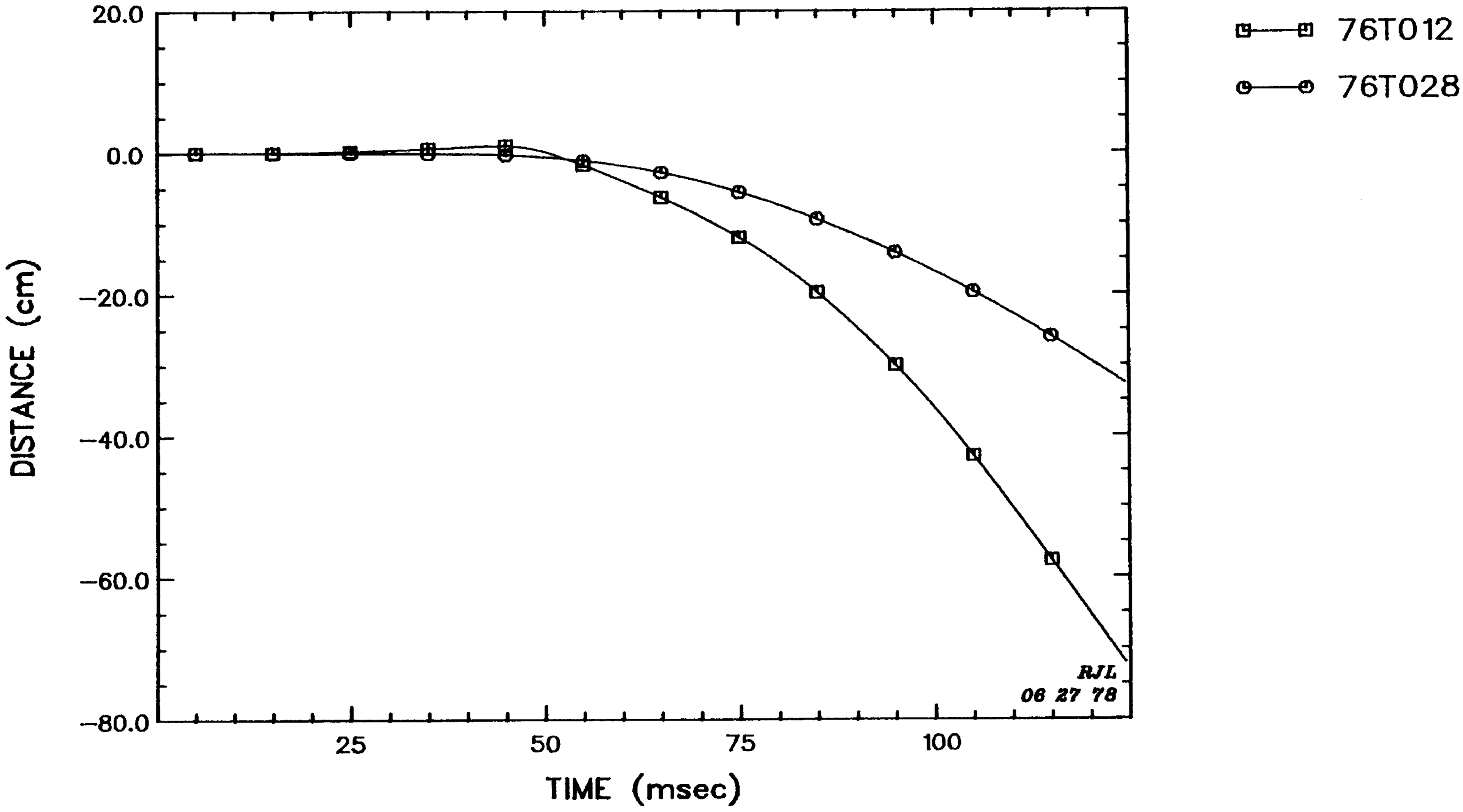
HEAD R-L -- DUMMY TESTS (15-R,P)

Figure 148



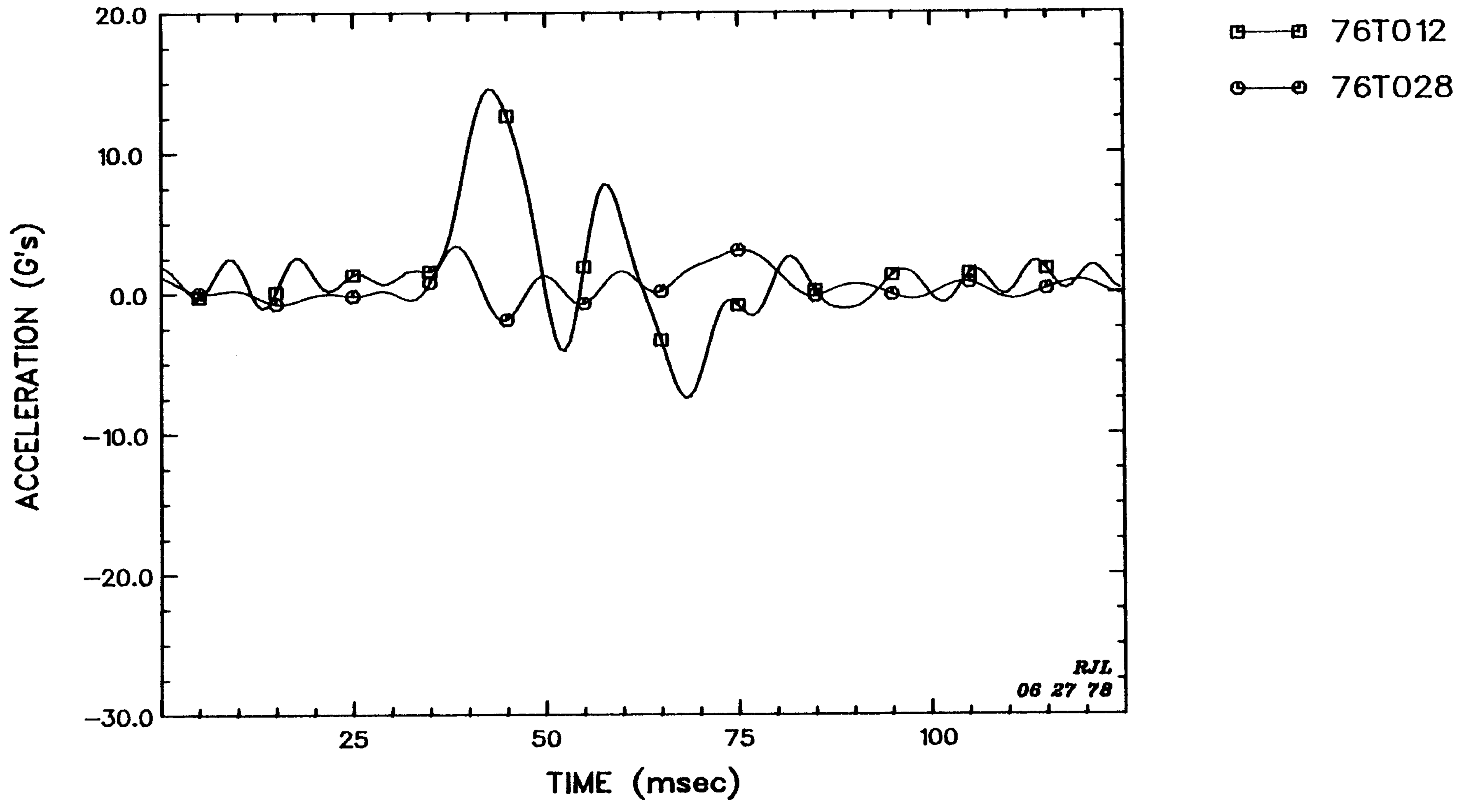
HEAD R-L -- DUMMY TESTS (15-R,P)

Figure 149



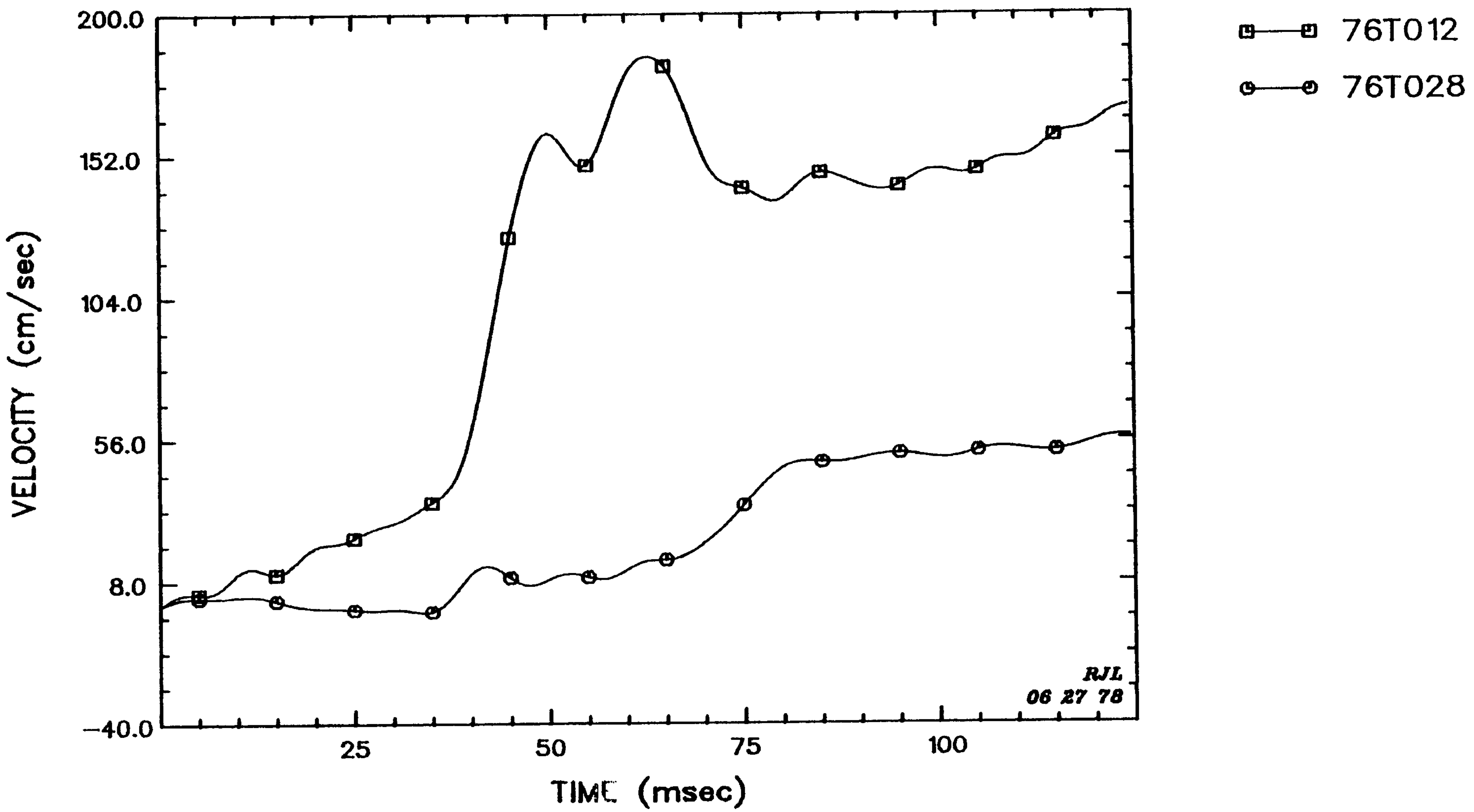
HEAD R–L –– DUMMY TESTS (15–R,P)

Figure 150



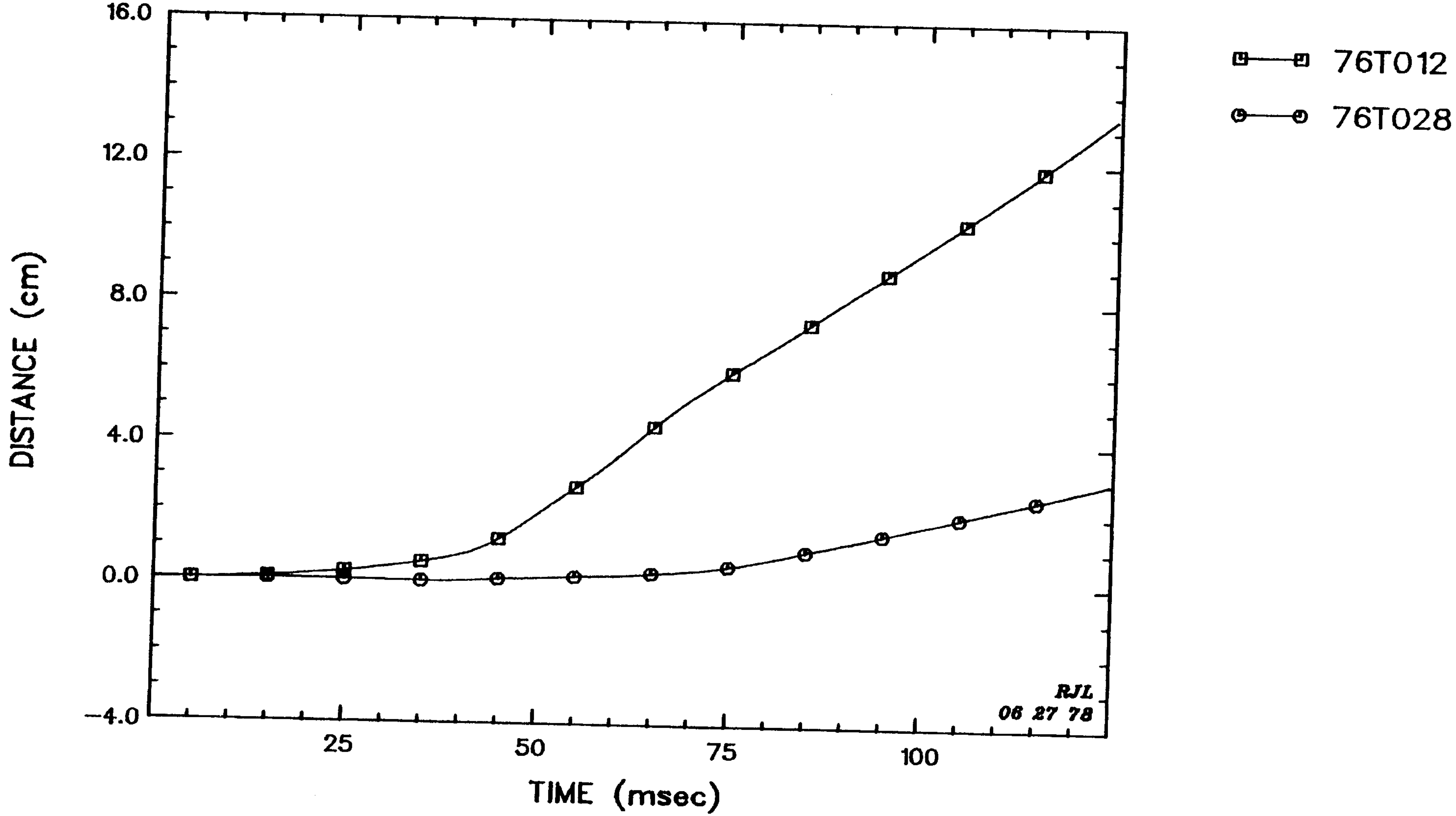
THORAX P—A —— DUMMY TESTS (15—R,P)

Figure 151



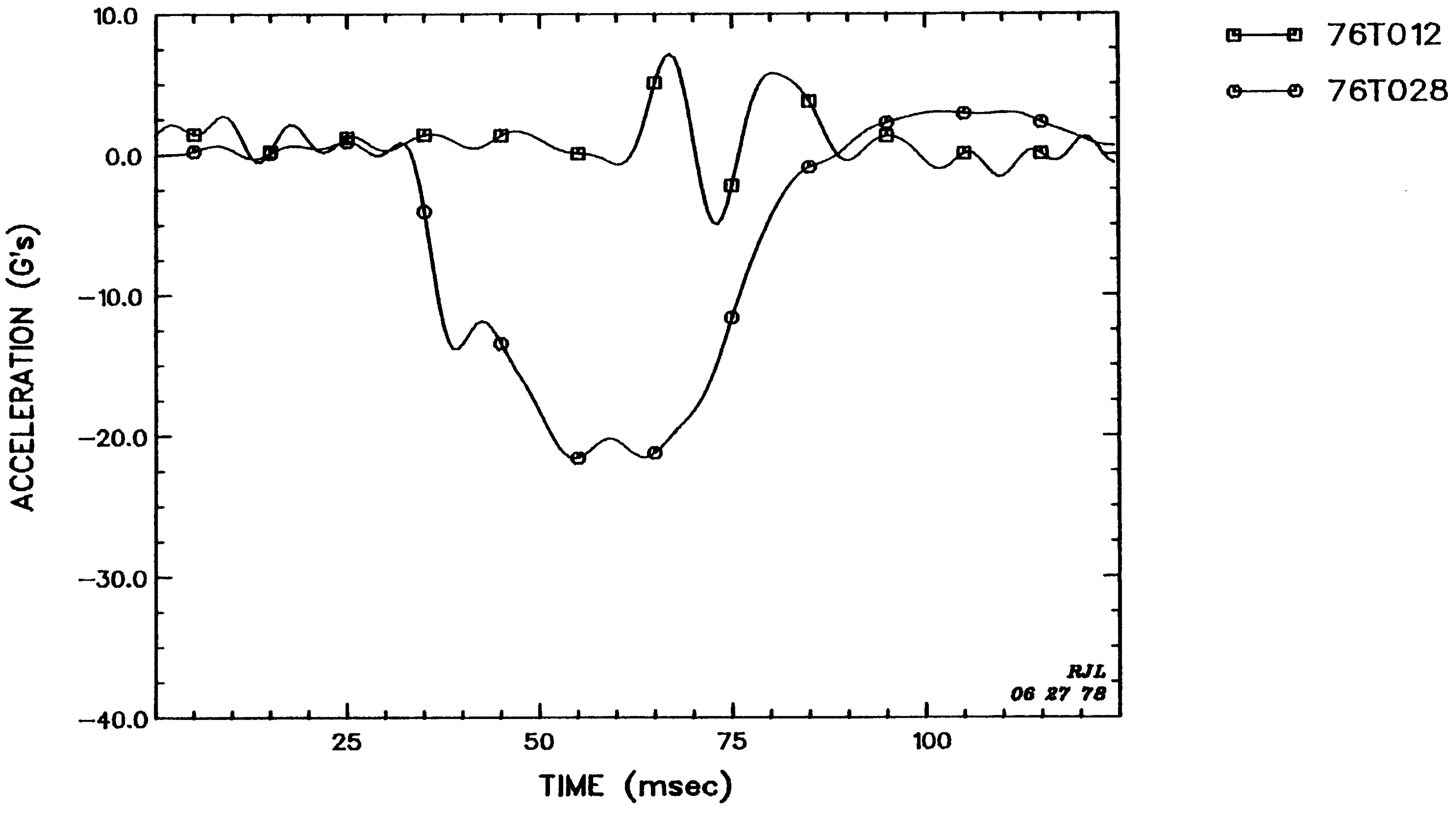
THORAX P-A -- DUMMY TESTS (15-R,P)

Figure 152



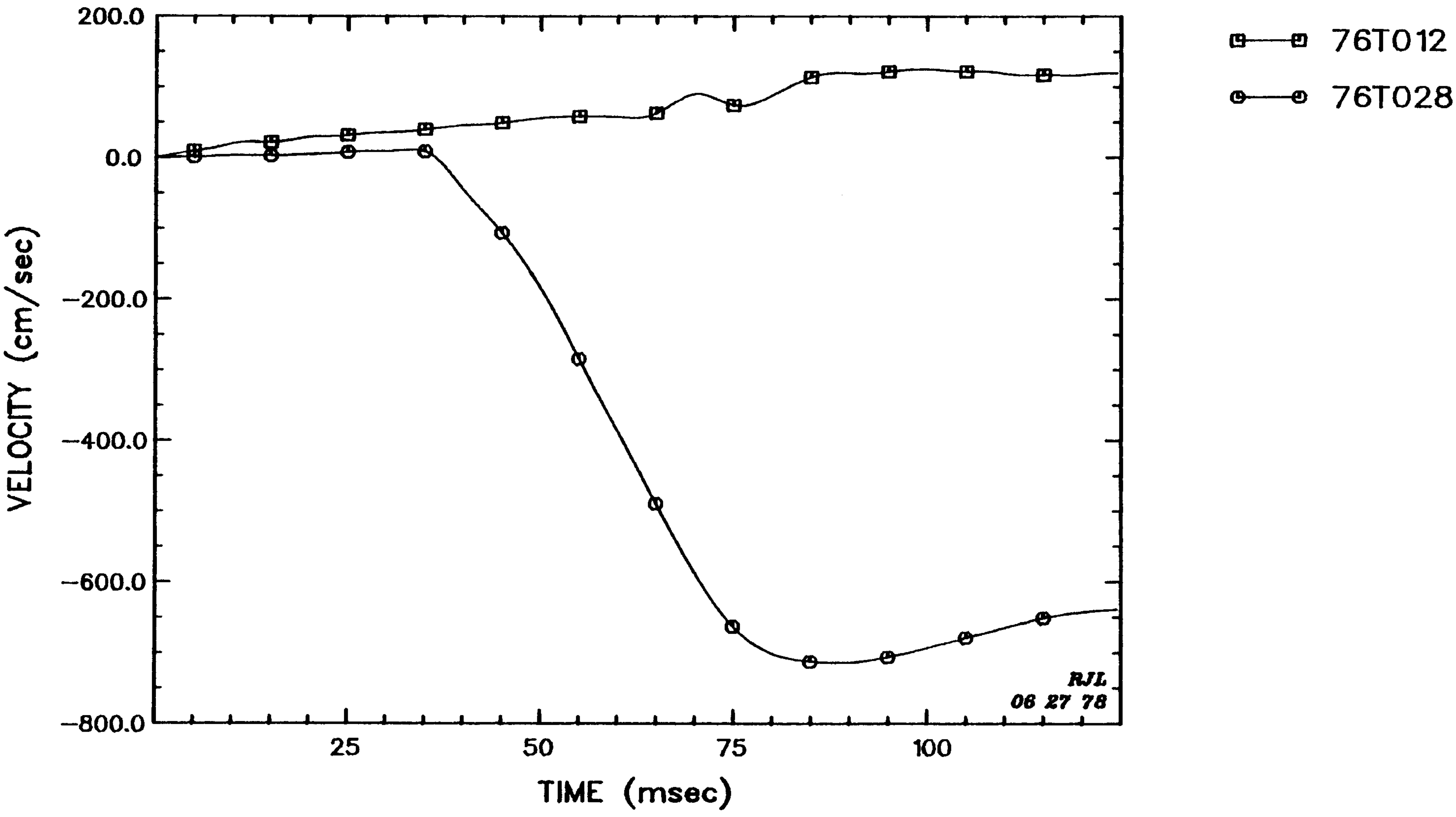
THORAX P-A -- DUMMY TESTS (15-R,P)

Figure 153



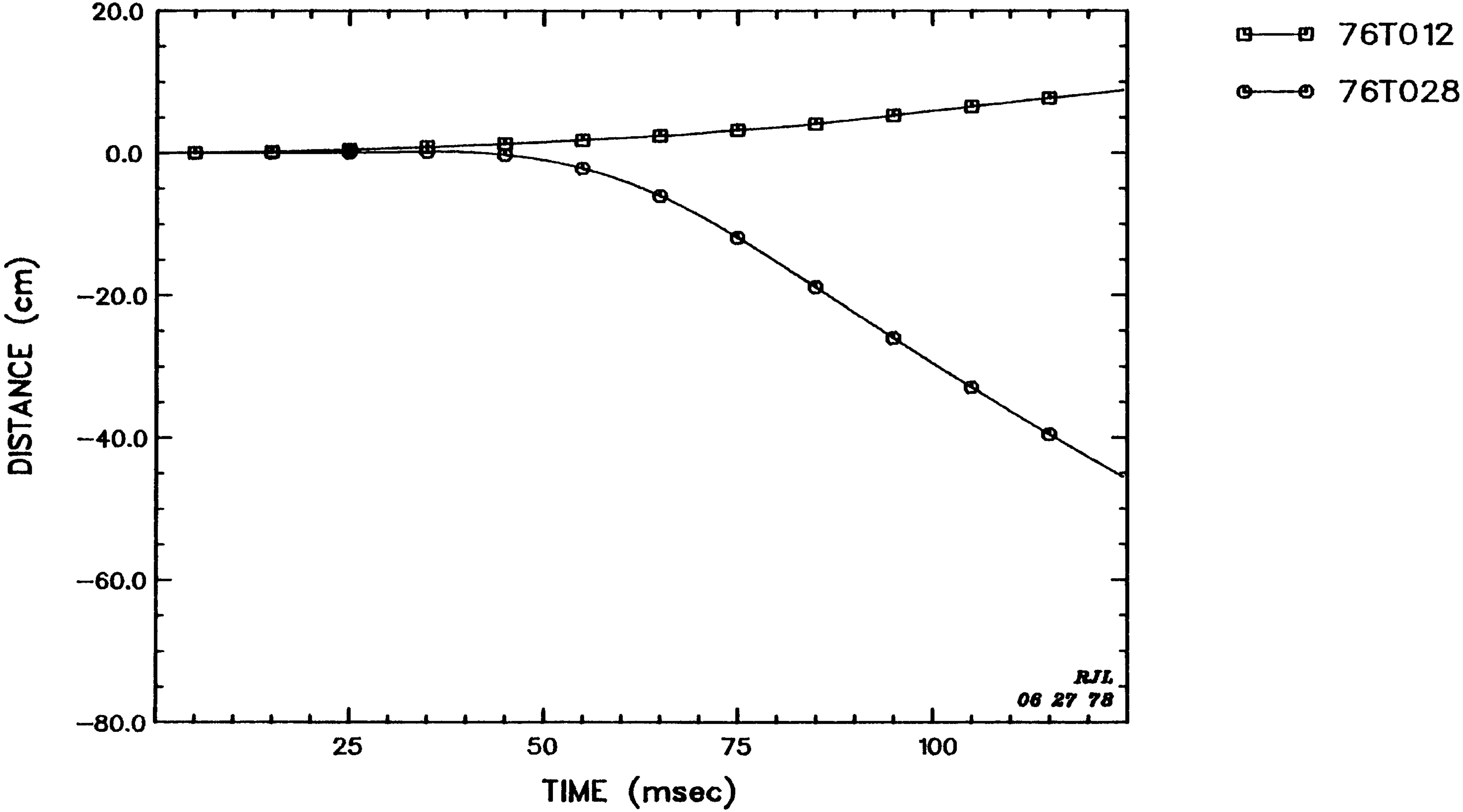
THORAX R–L –– DUMMY TESTS (15–R,P)

Figure 154



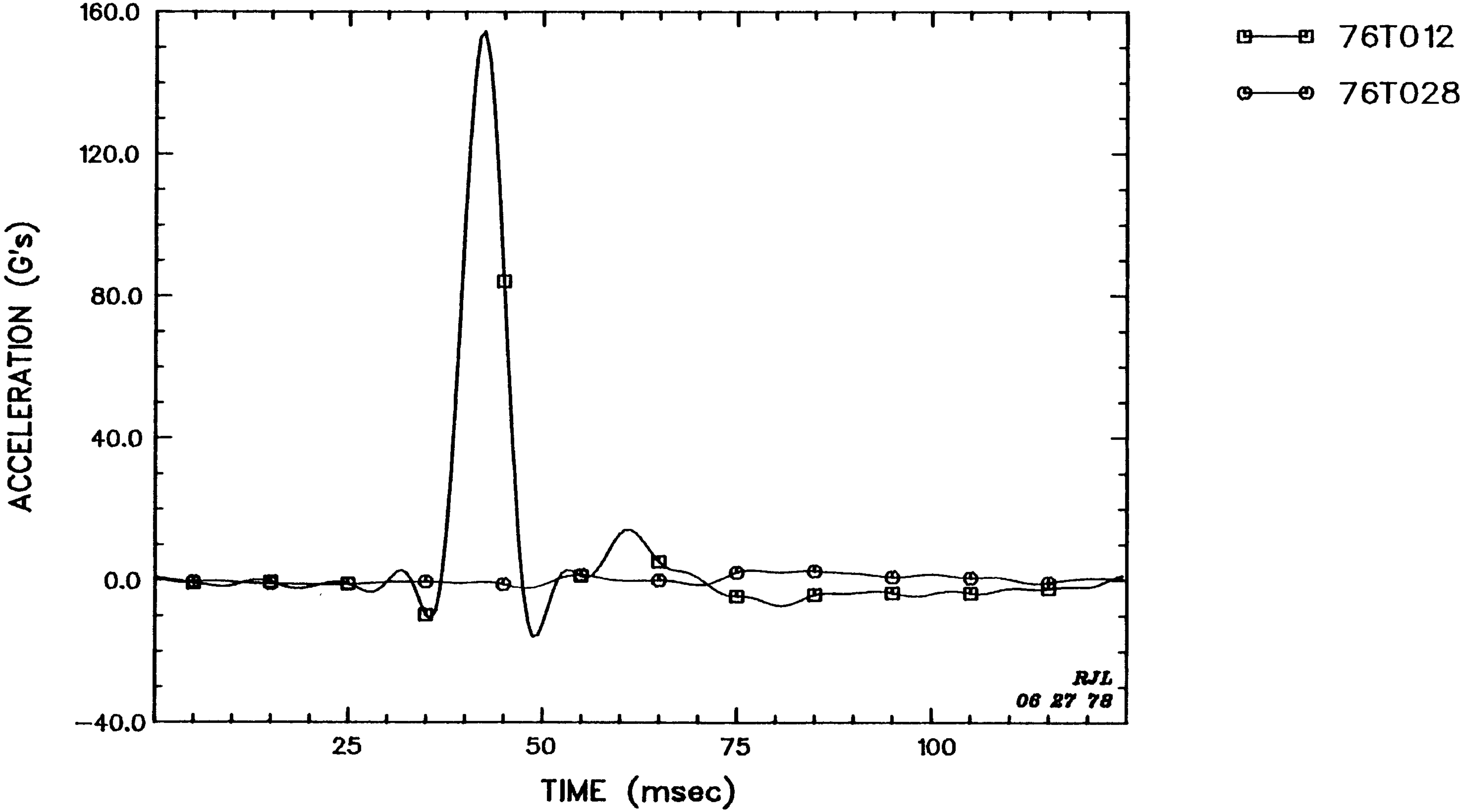
THORAX R-L -- DUMMY TESTS (15-R,P)

Figure 155



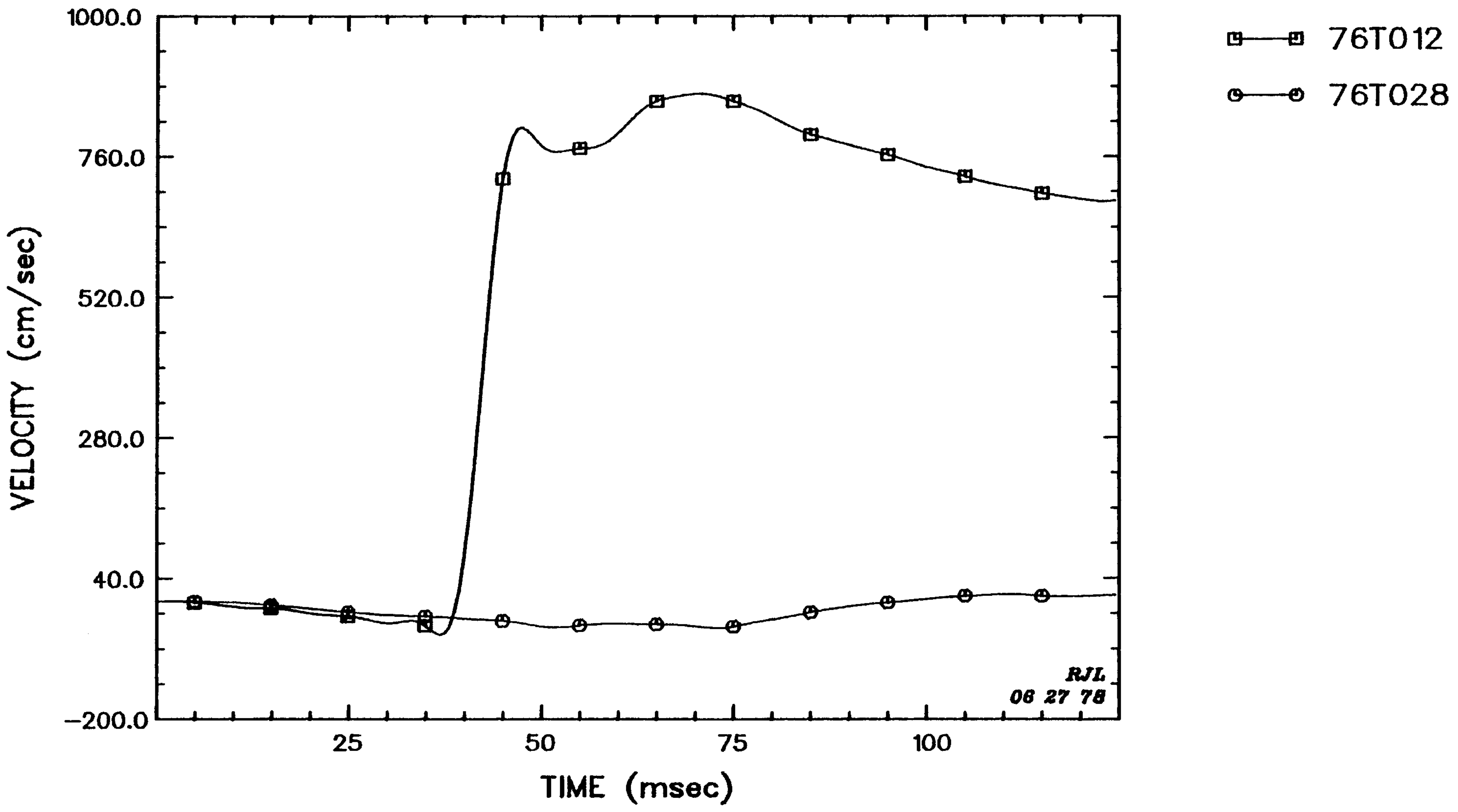
THORAX R-L -- DUMMY TESTS (15-R,P)

Figure 156



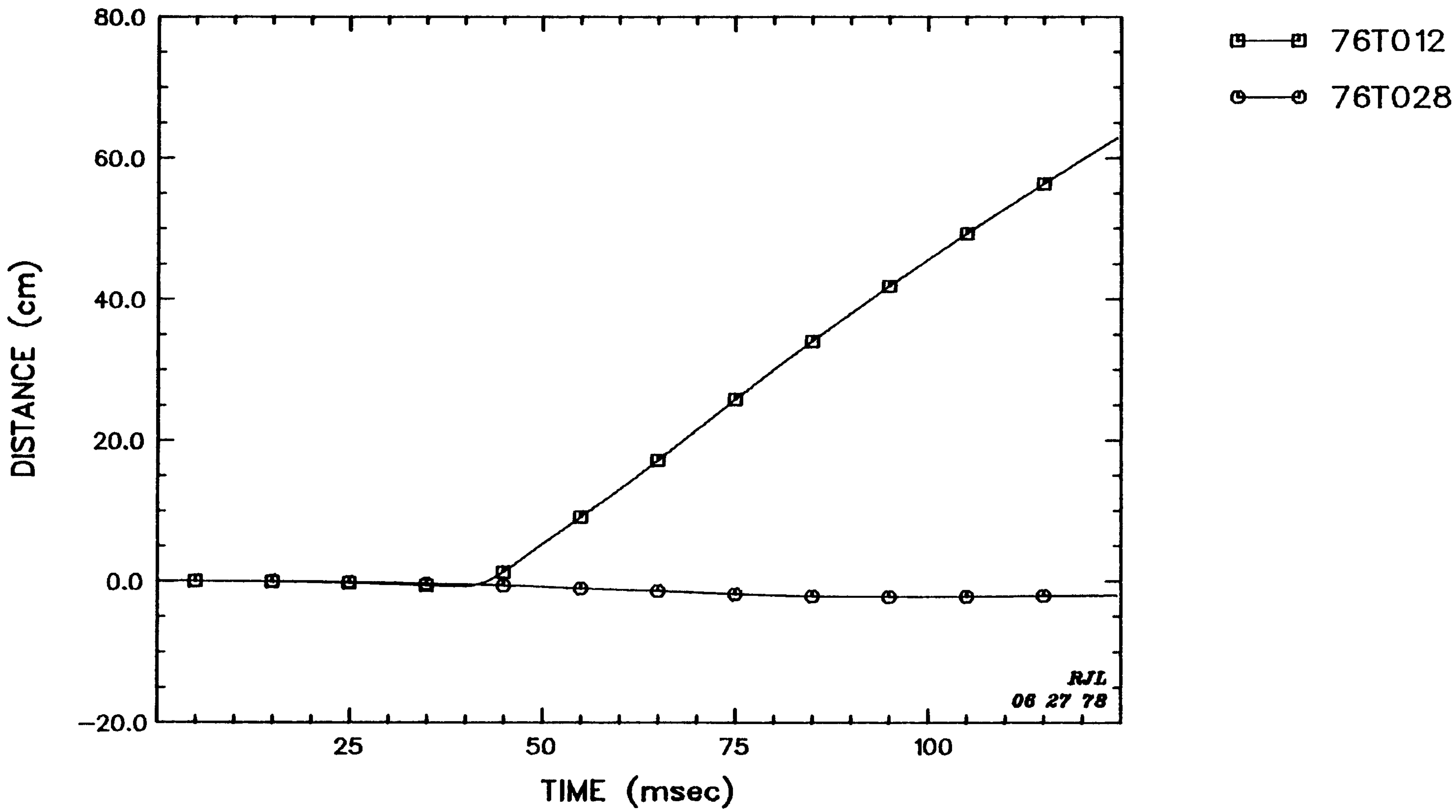
PELVIS P-A -- DUMMY TESTS (15-R,P)

Figure 157



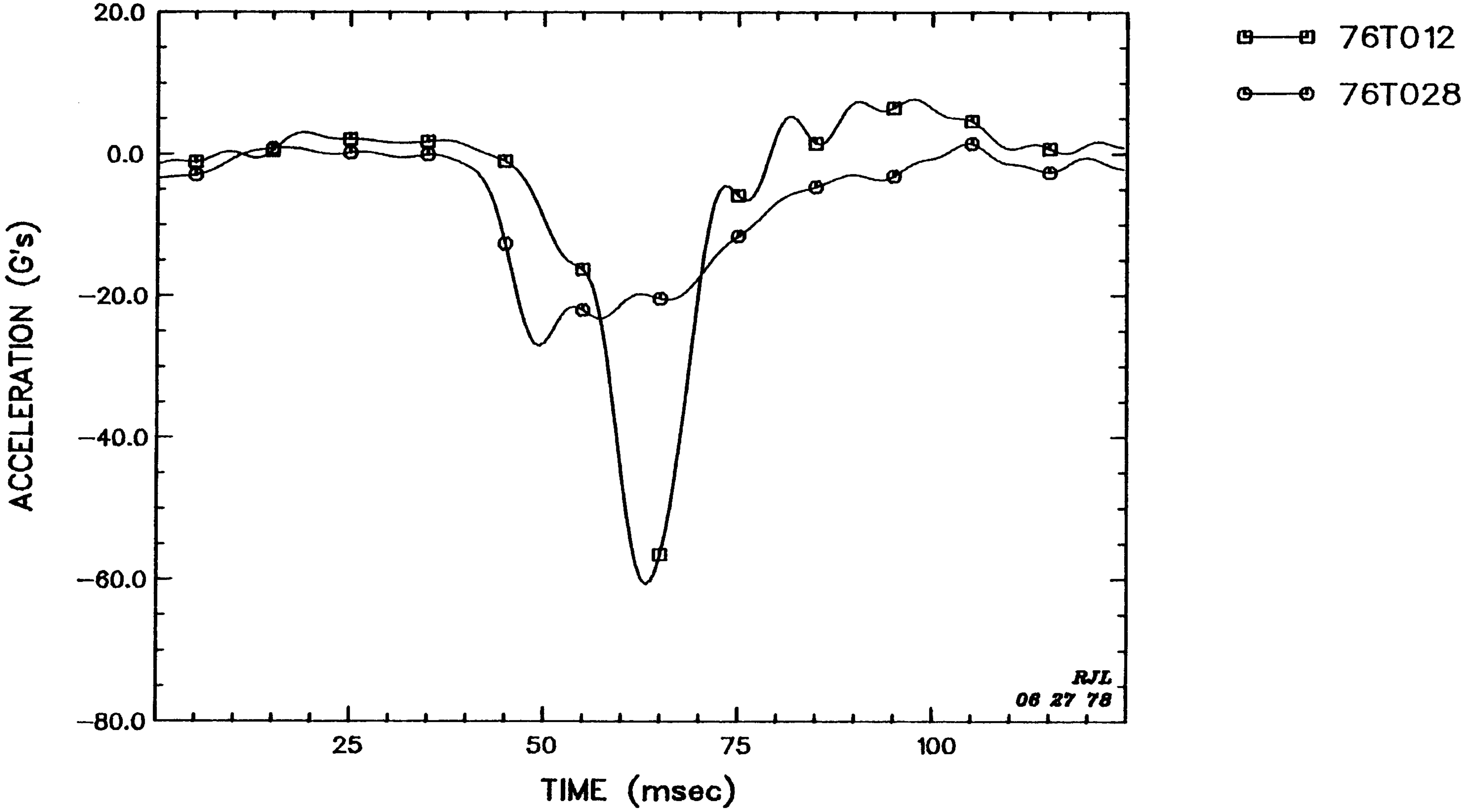
PELVIS P-A -- DUMMY TESTS (15-R,P)

Figure 158



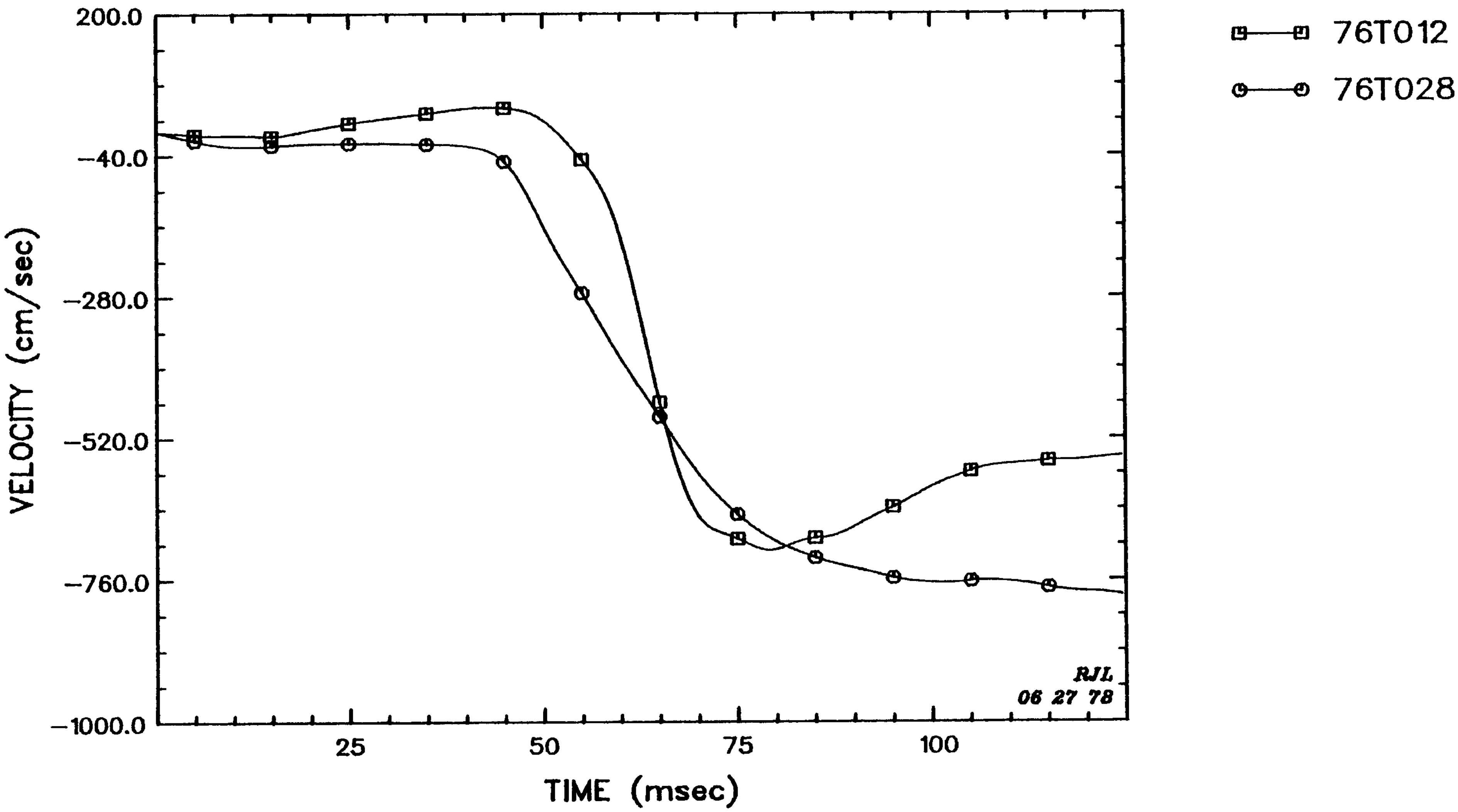
PELVIS P-A -- DUMMY TESTS (15-R,P)

Figure 159



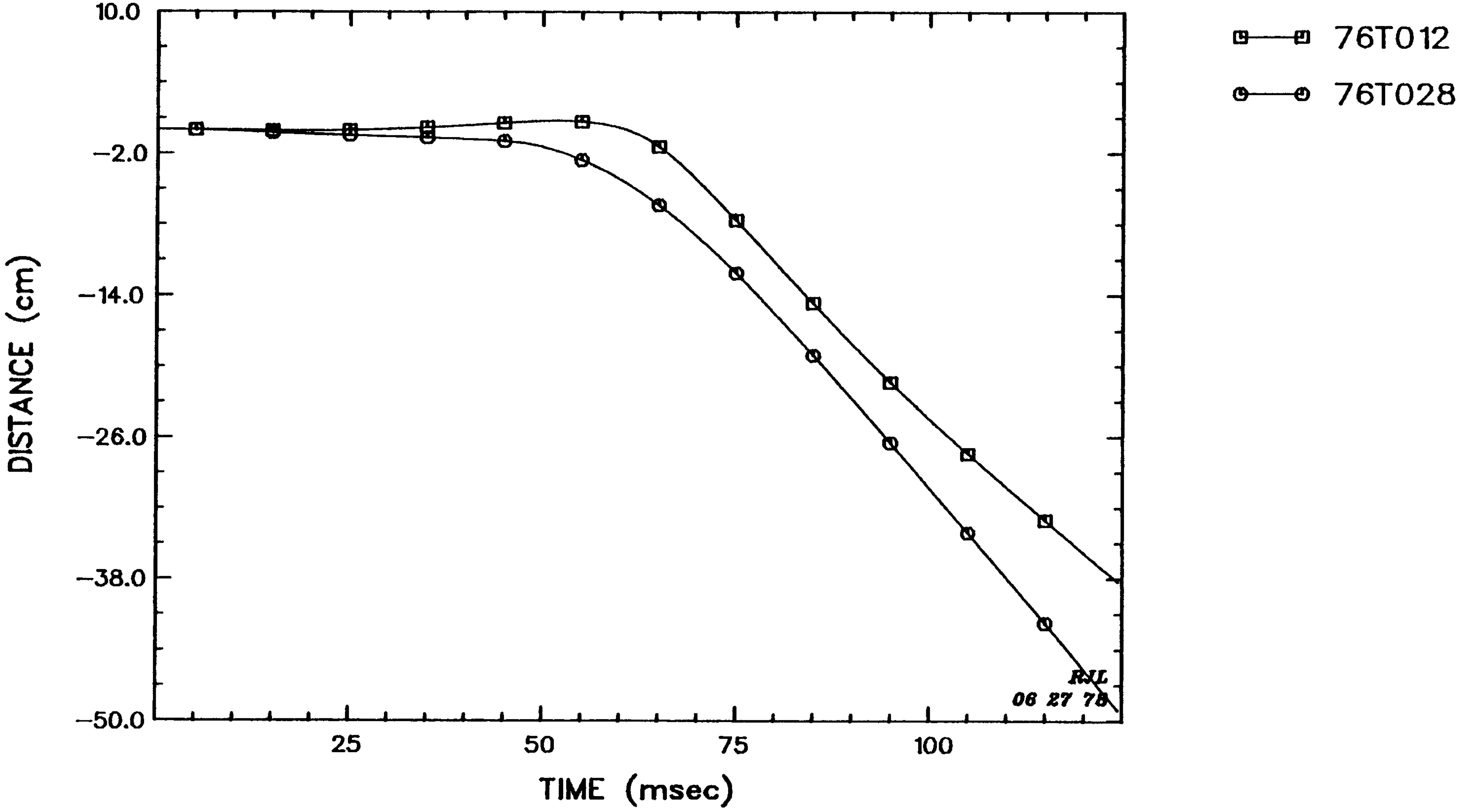
PELVIS R–L –– DUMMY TESTS (15–R,P)

Figure 160



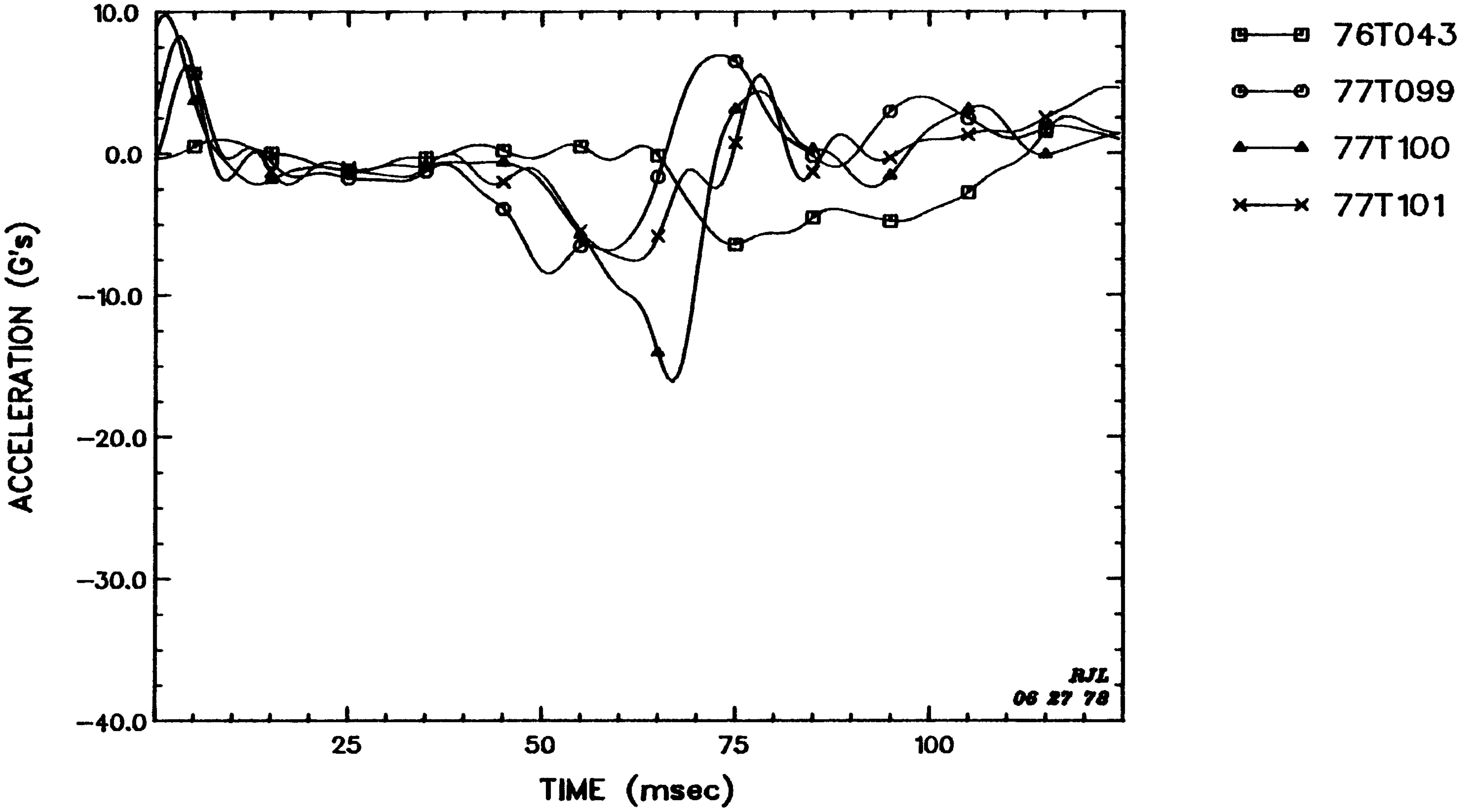
PELVIS R-L -- DUMMY TESTS (15-R,P)

Figure 161



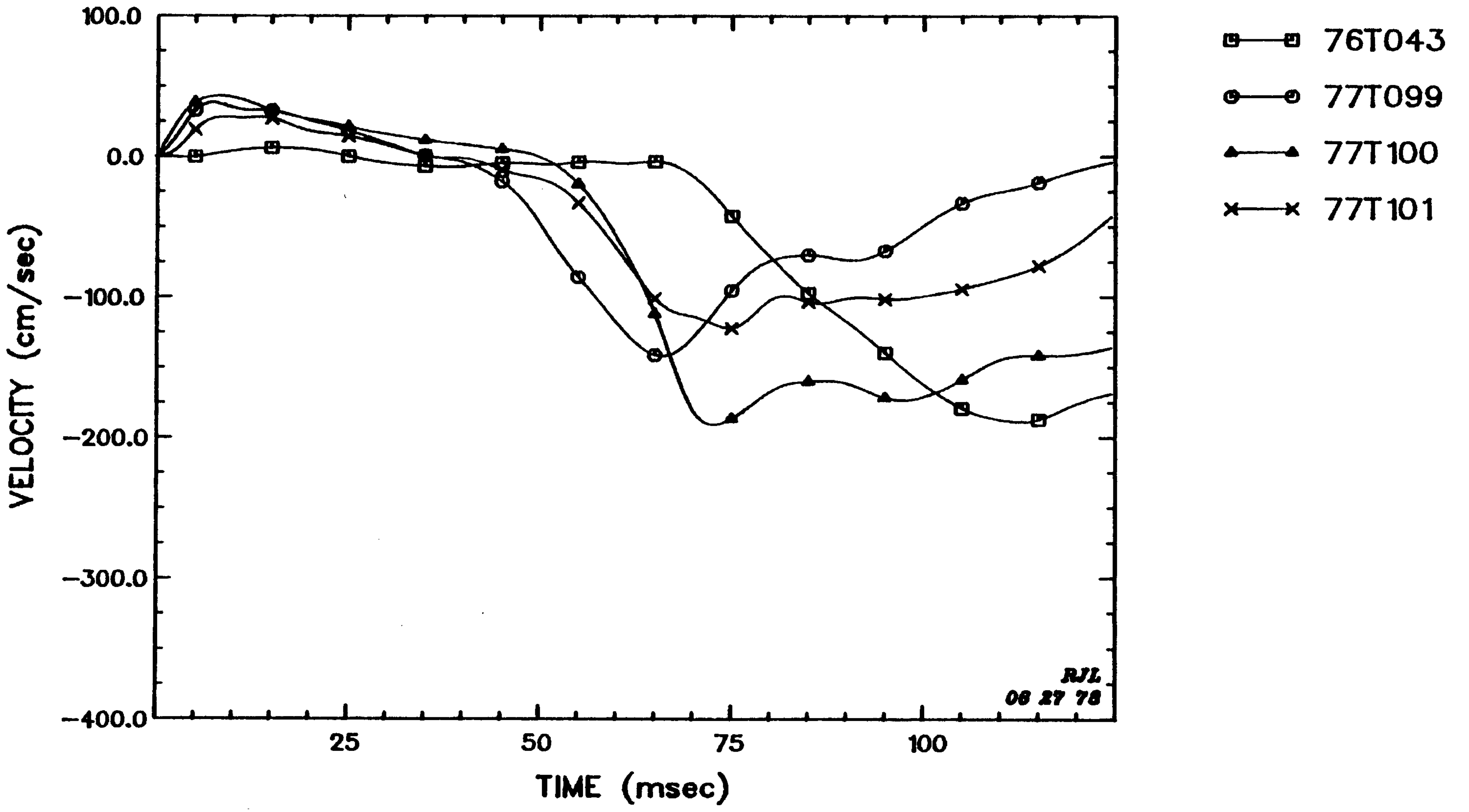
PELVIS R-L -- DUMMY TESTS (15-R,P)

Figure 162



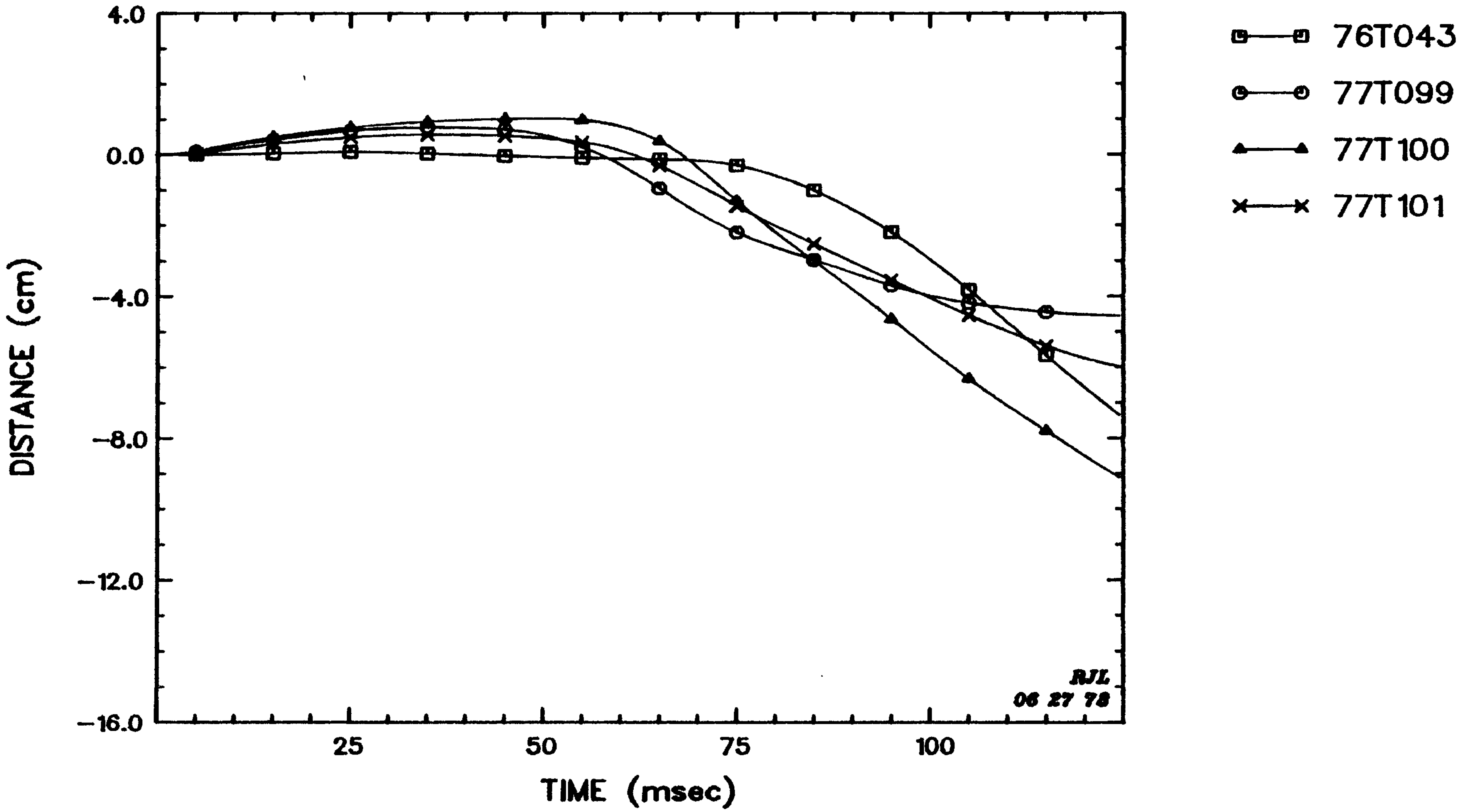
HEAD P-A -- DUMMY TESTS (P-20)

Figure 163



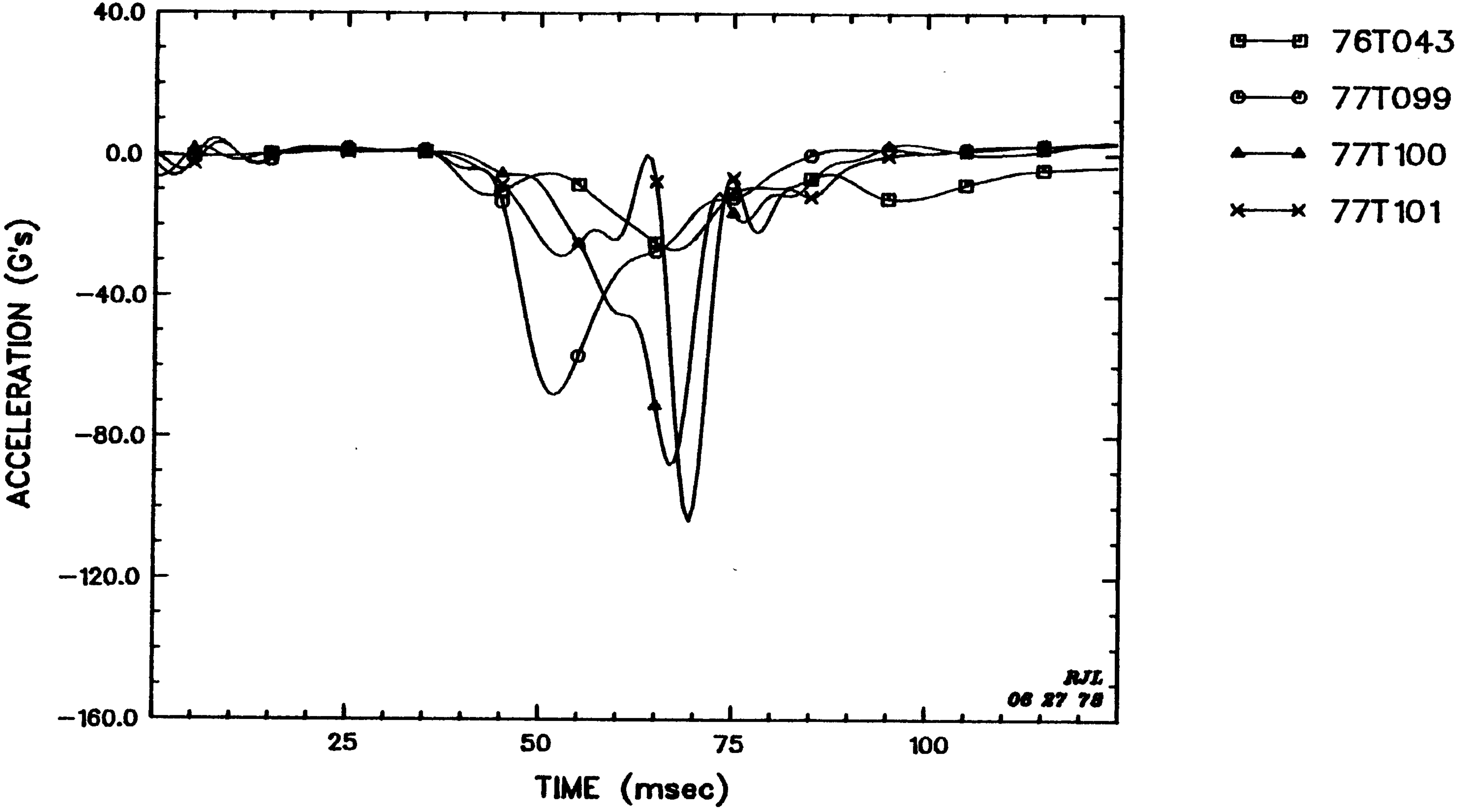
HEAD P–A –– DUMMY TESTS (P–20)

Figure 164



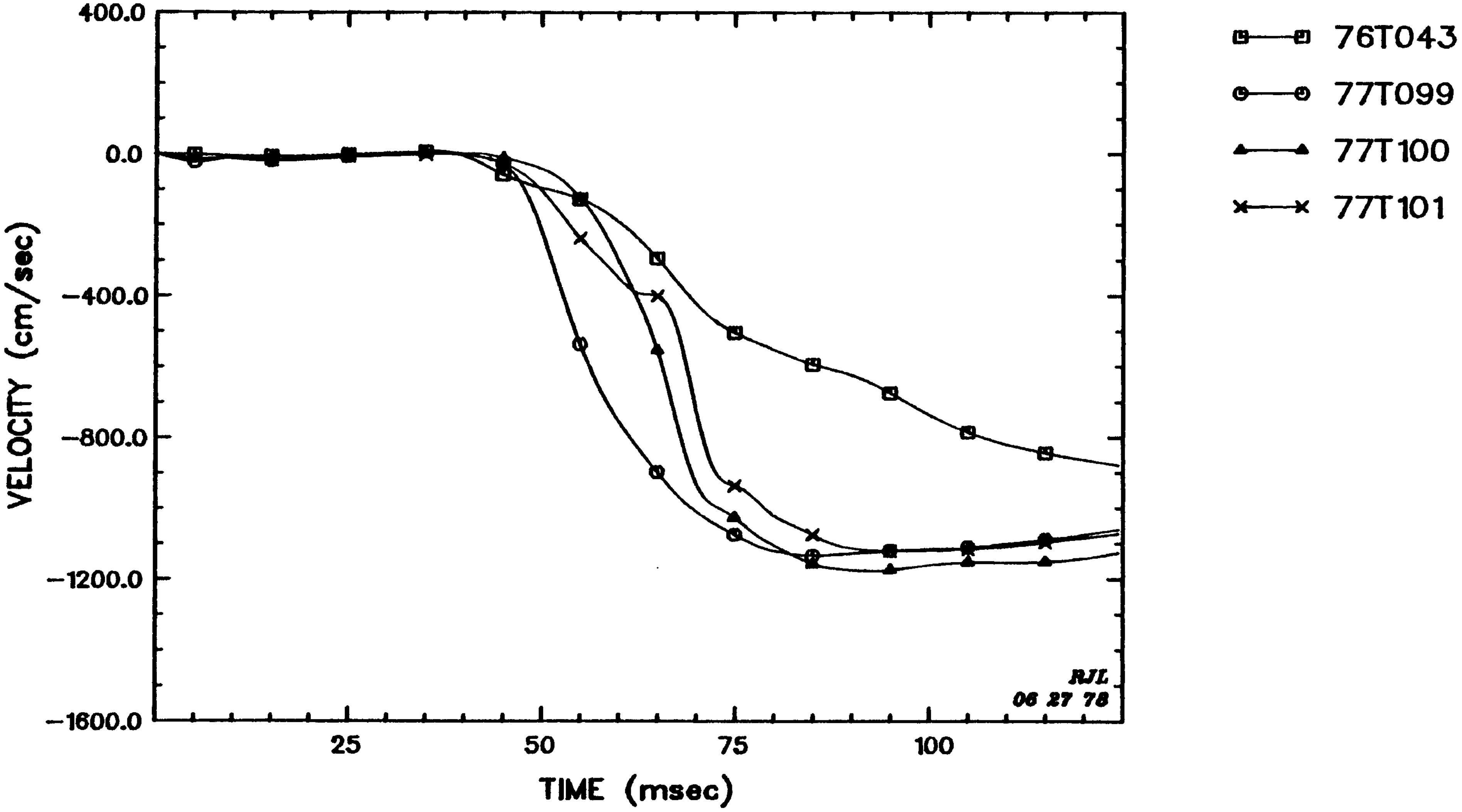
HEAD P-A -- DUMMY TESTS (P-20)

Figure 165



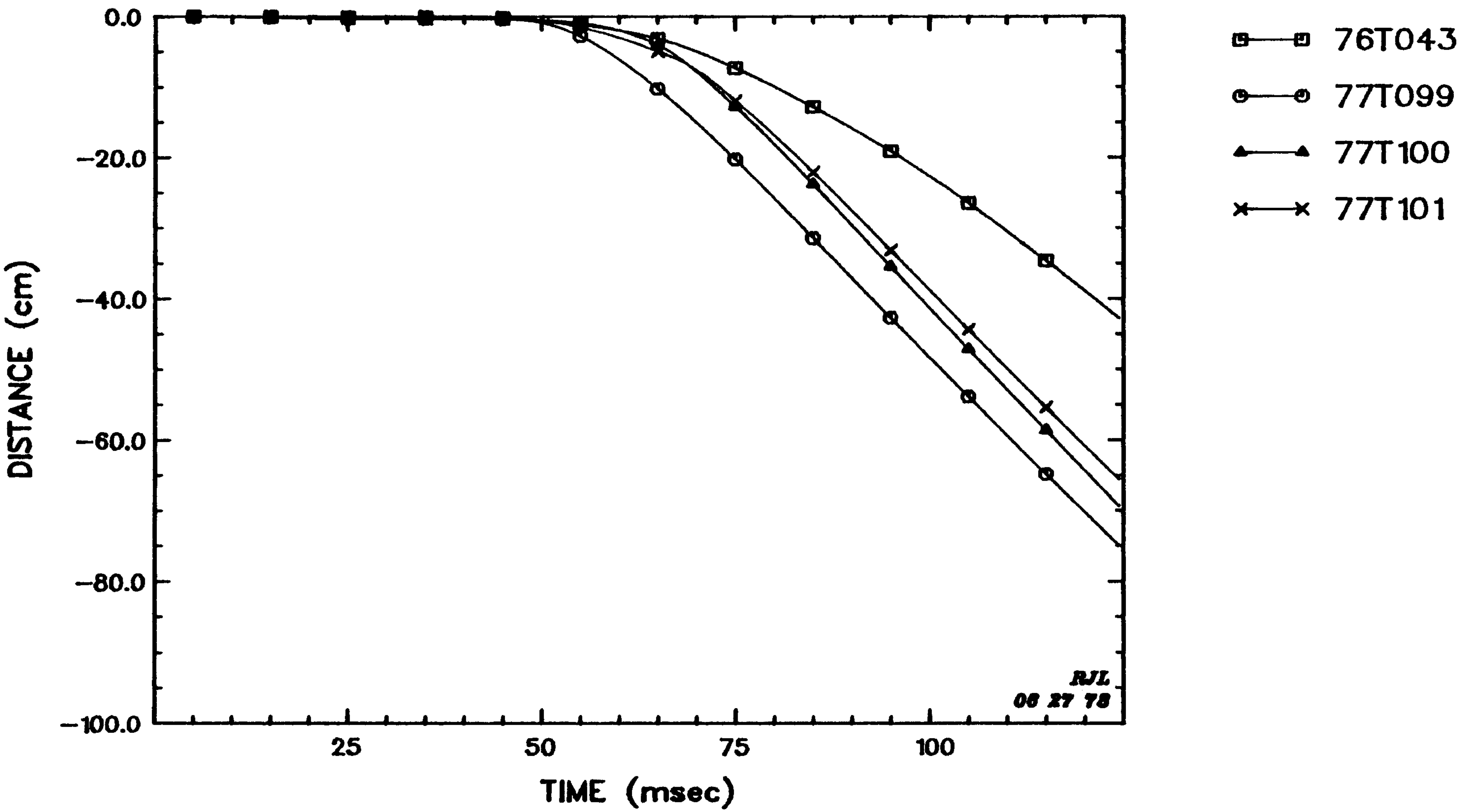
HEAD R-L -- DUMMY TESTS (P-20)

Figure 166



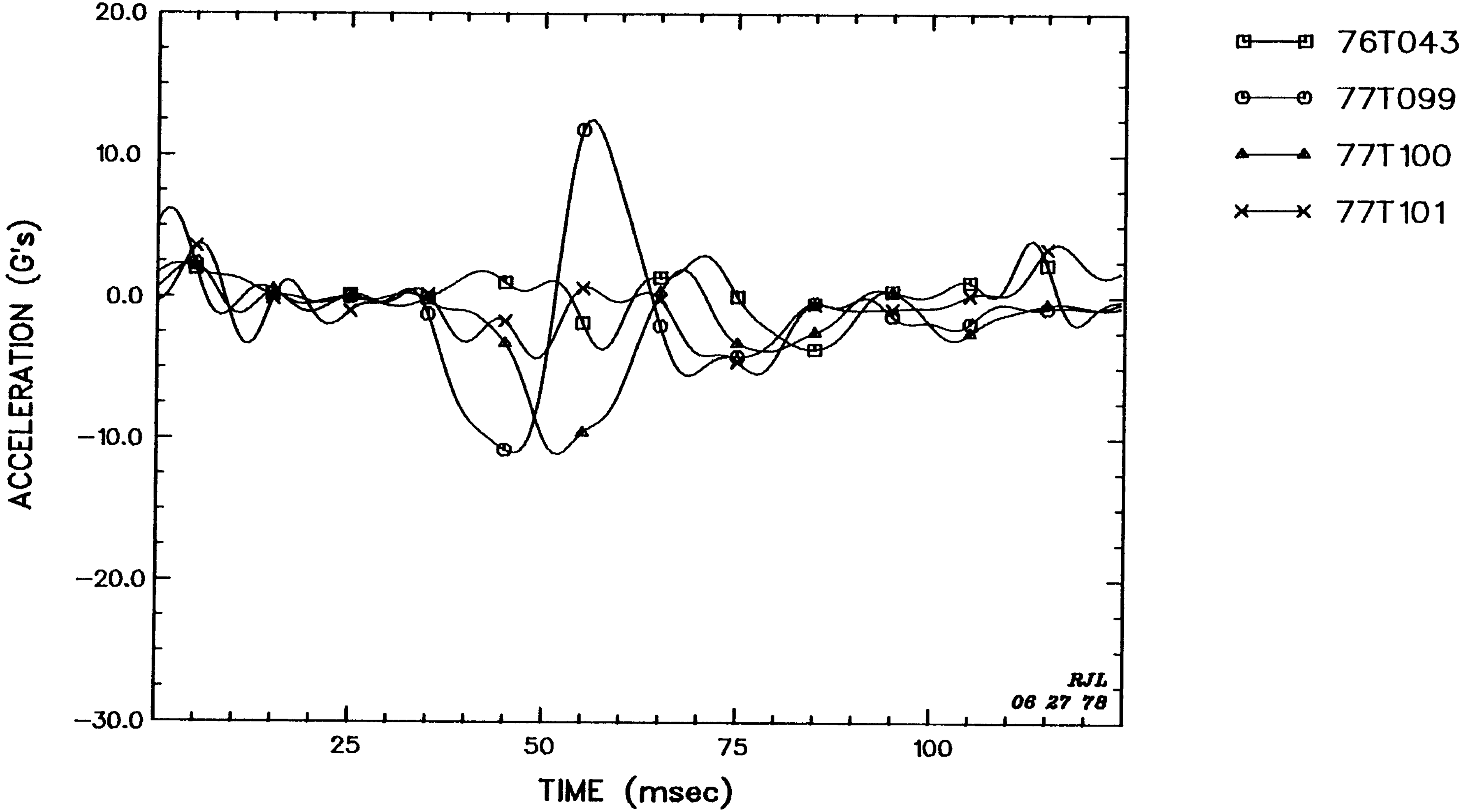
HEAD R-L -- DUMMY TESTS (P-20)

Figure 167



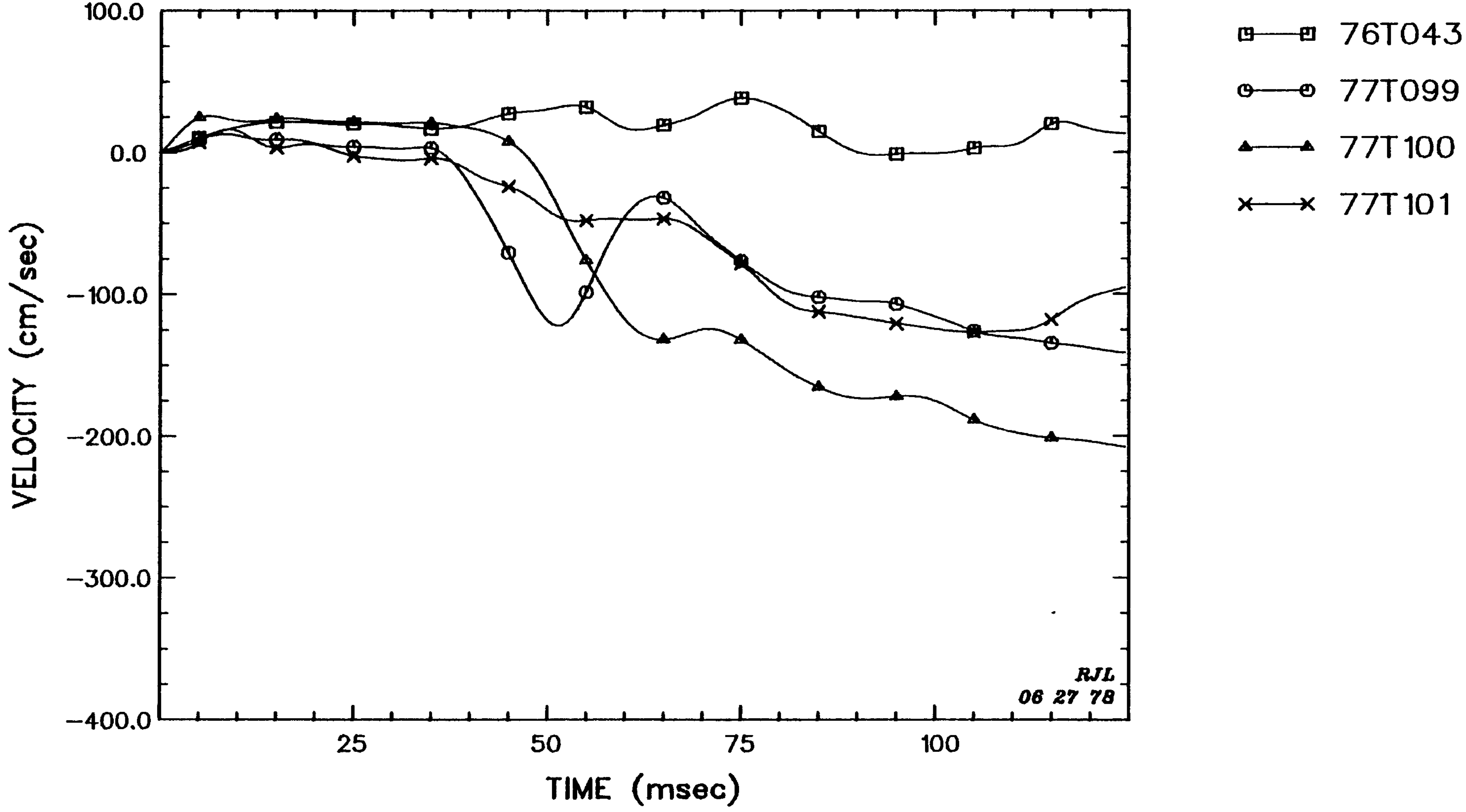
HEAD R-L -- DUMMY TESTS (P-20)

Figure 168



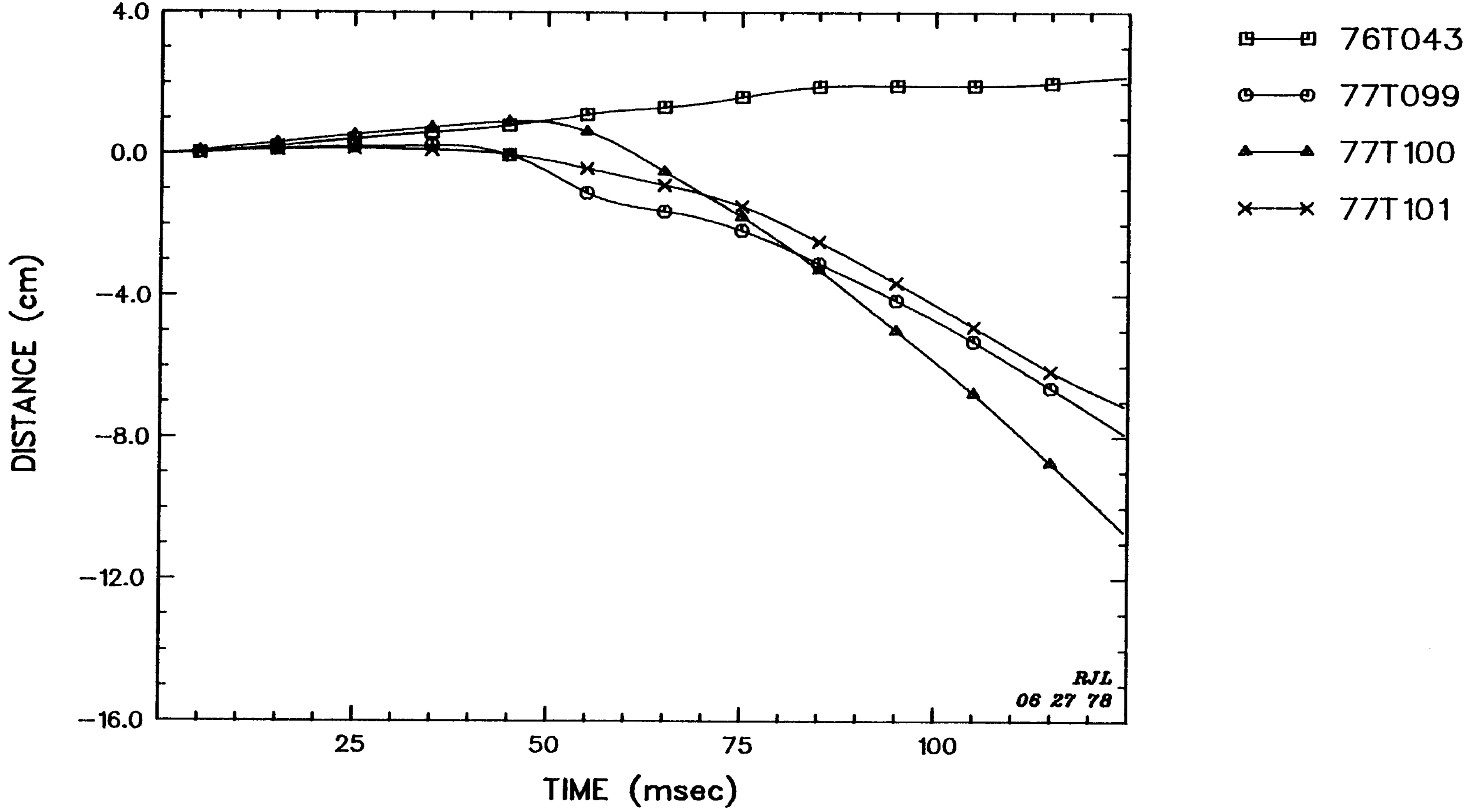
THORAX P—A —— DUMMY TESTS (P—20)

Figure 169



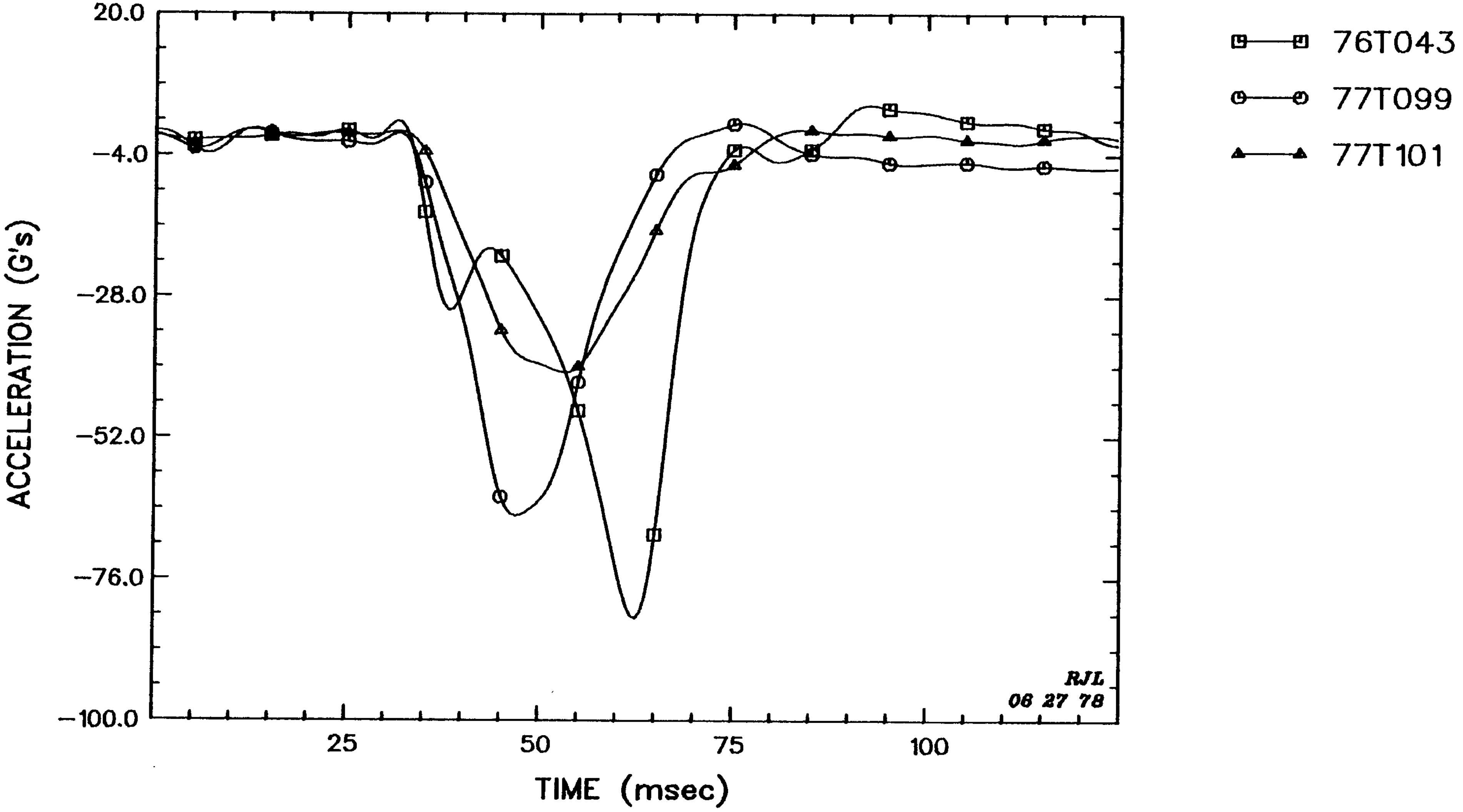
THORAX P-A -- DUMMY TESTS (P-20)

Figure 170



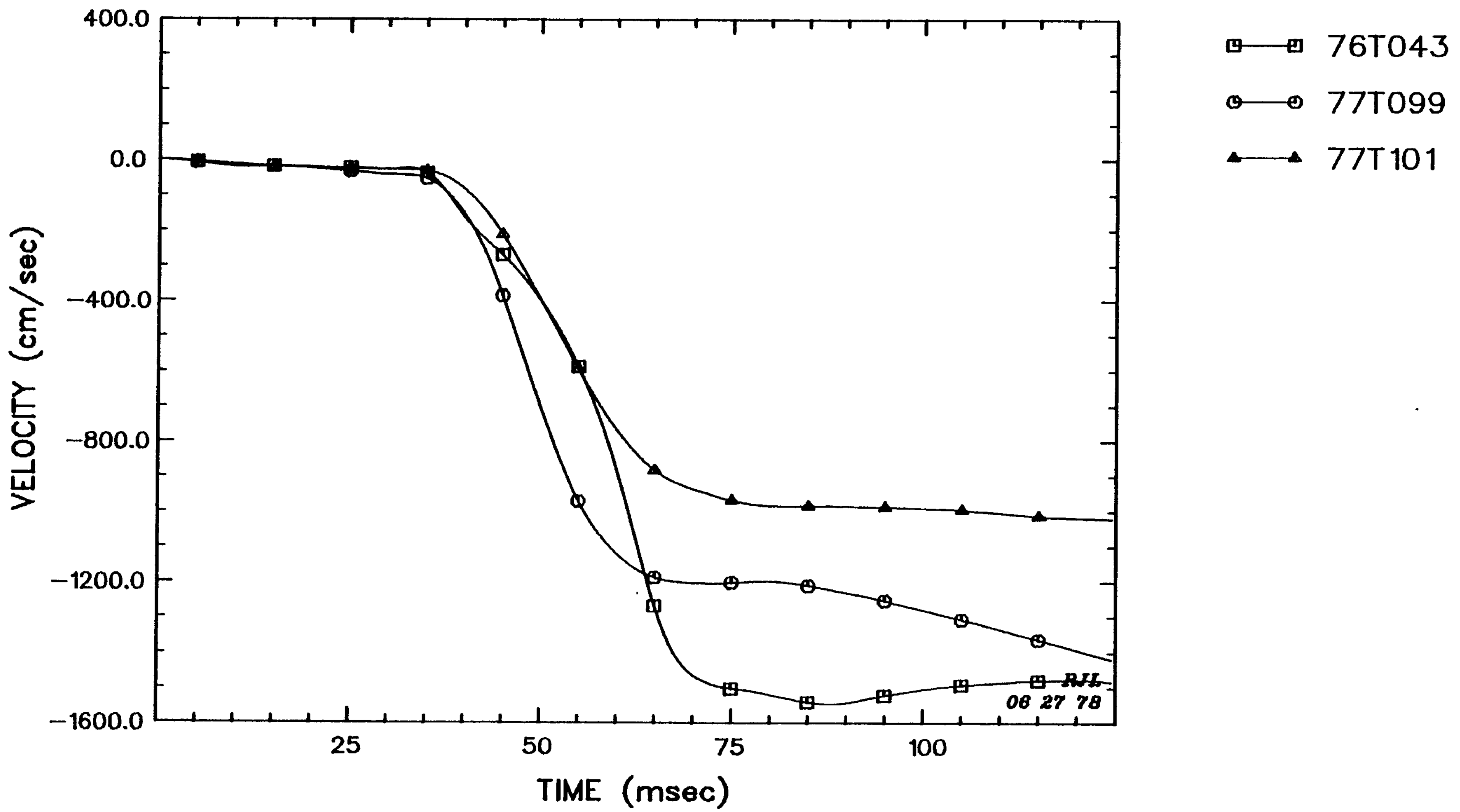
THORAX P–A –– DUMMY TESTS (P–20)

Figure 171



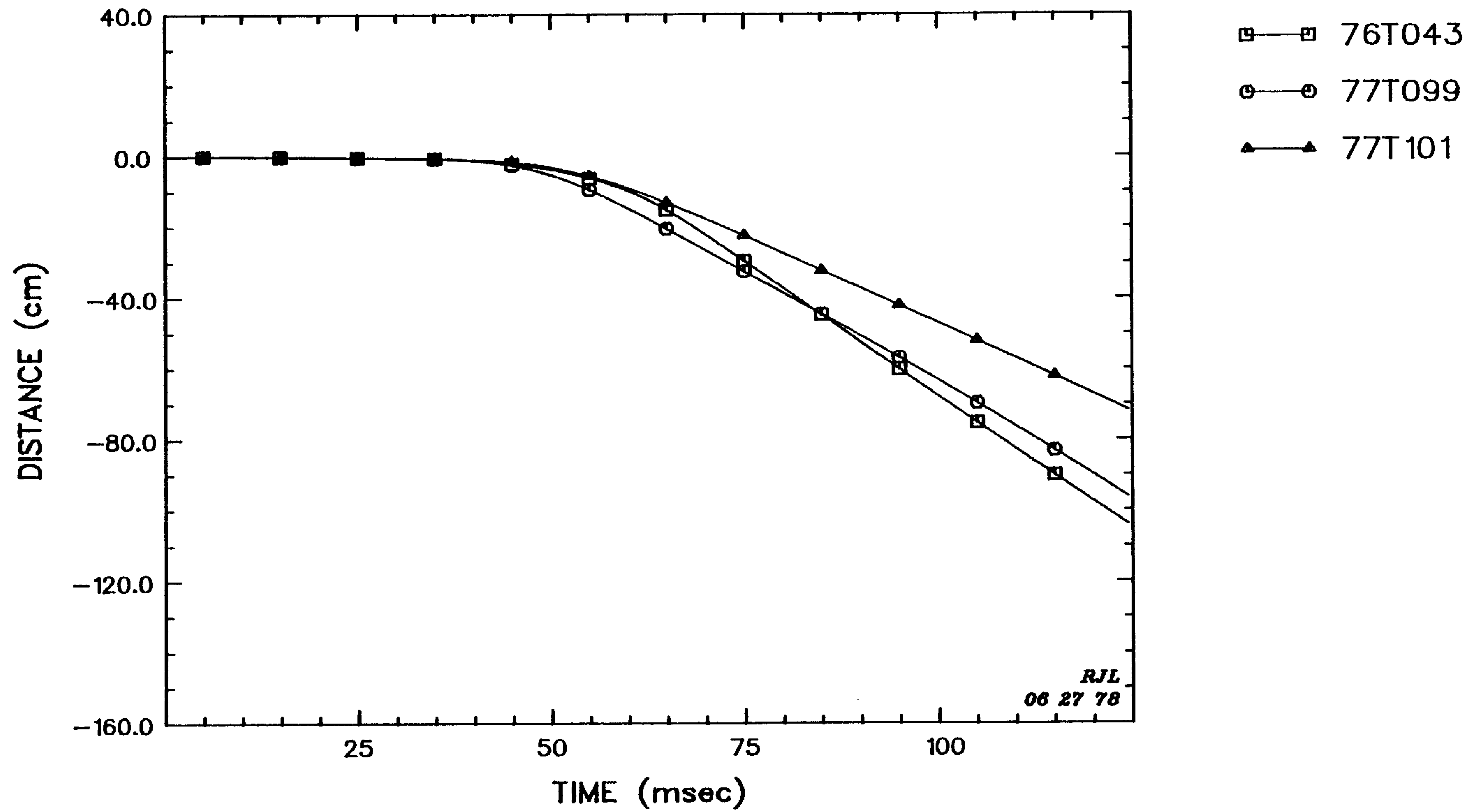
THORAX R-L -- DUMMY TESTS (P-20)

Figure 172



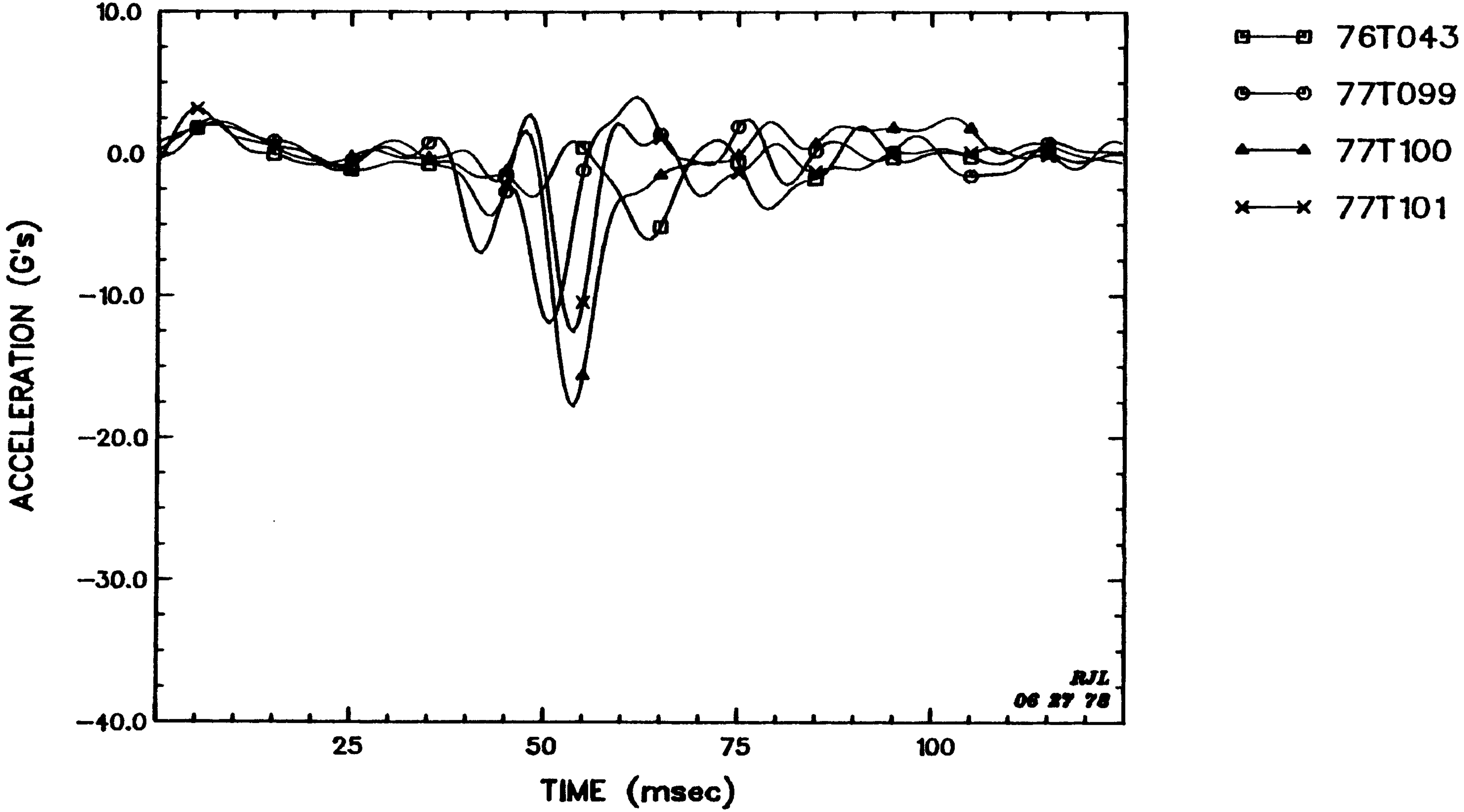
THORAX R–L –– DUMMY TESTS (P–20)

Figure 173



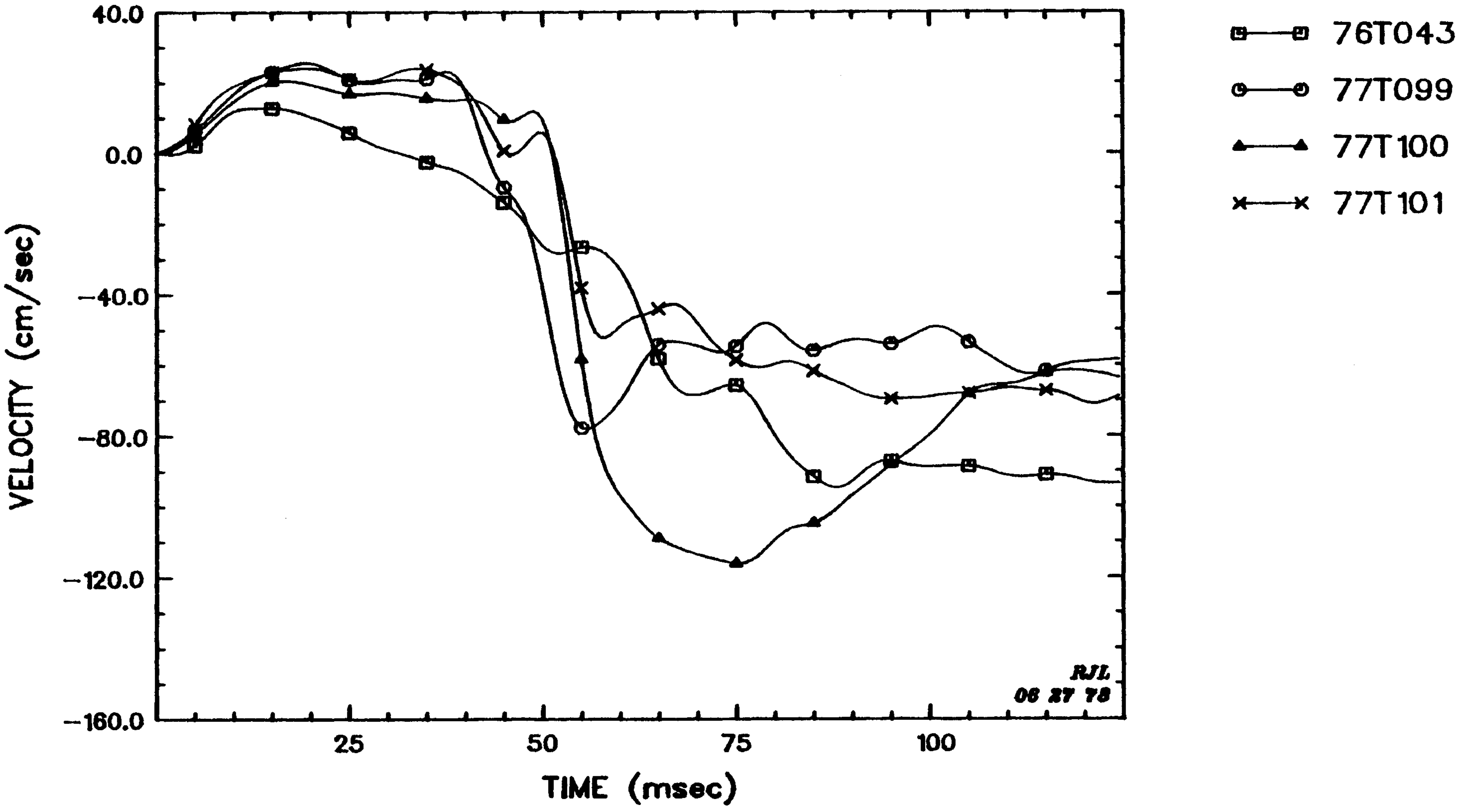
THORAX R–L –– DUMMY TESTS (P–20)

Figure 174



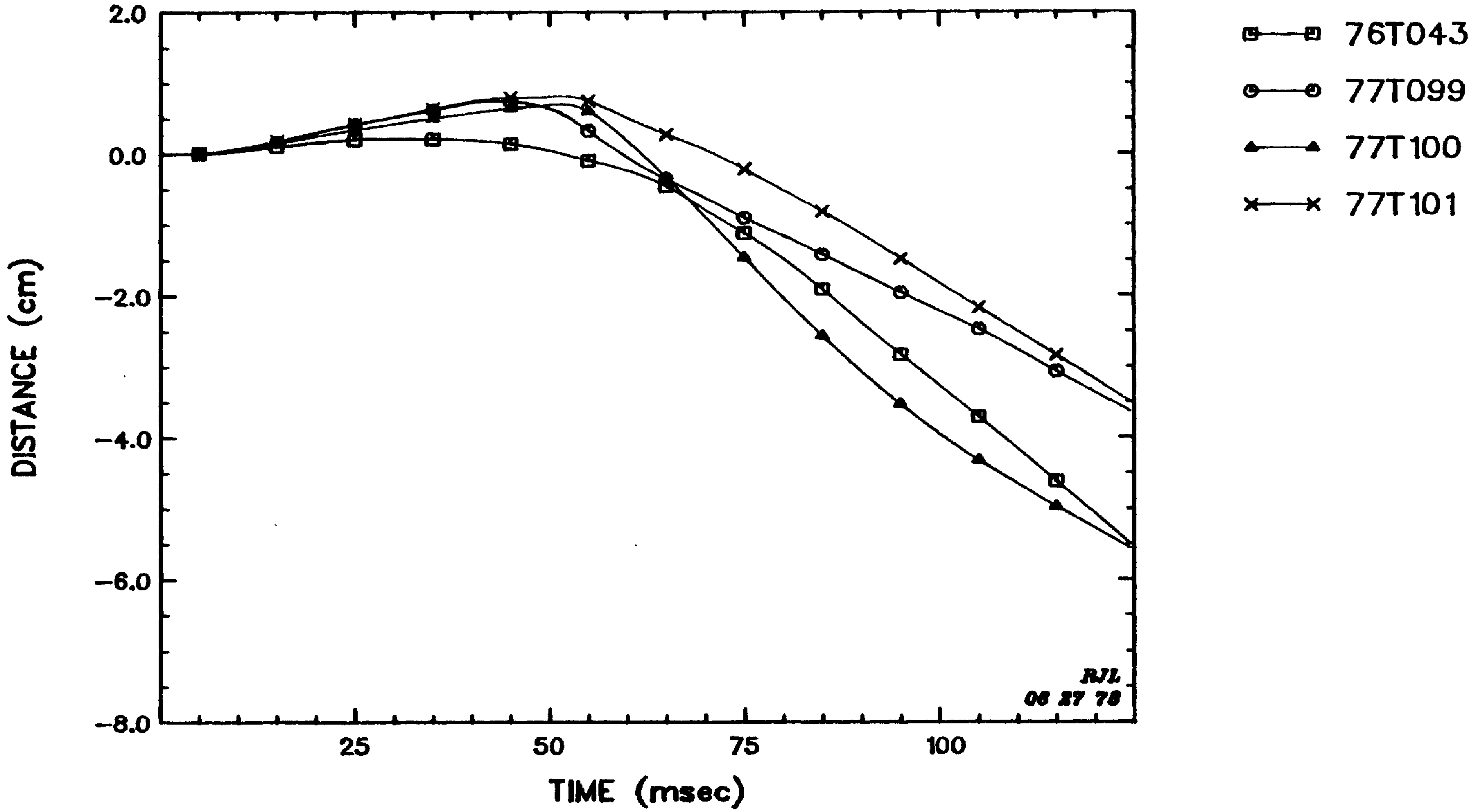
PELVIS P-A -- DUMMY TESTS (P-20)

Figure 175



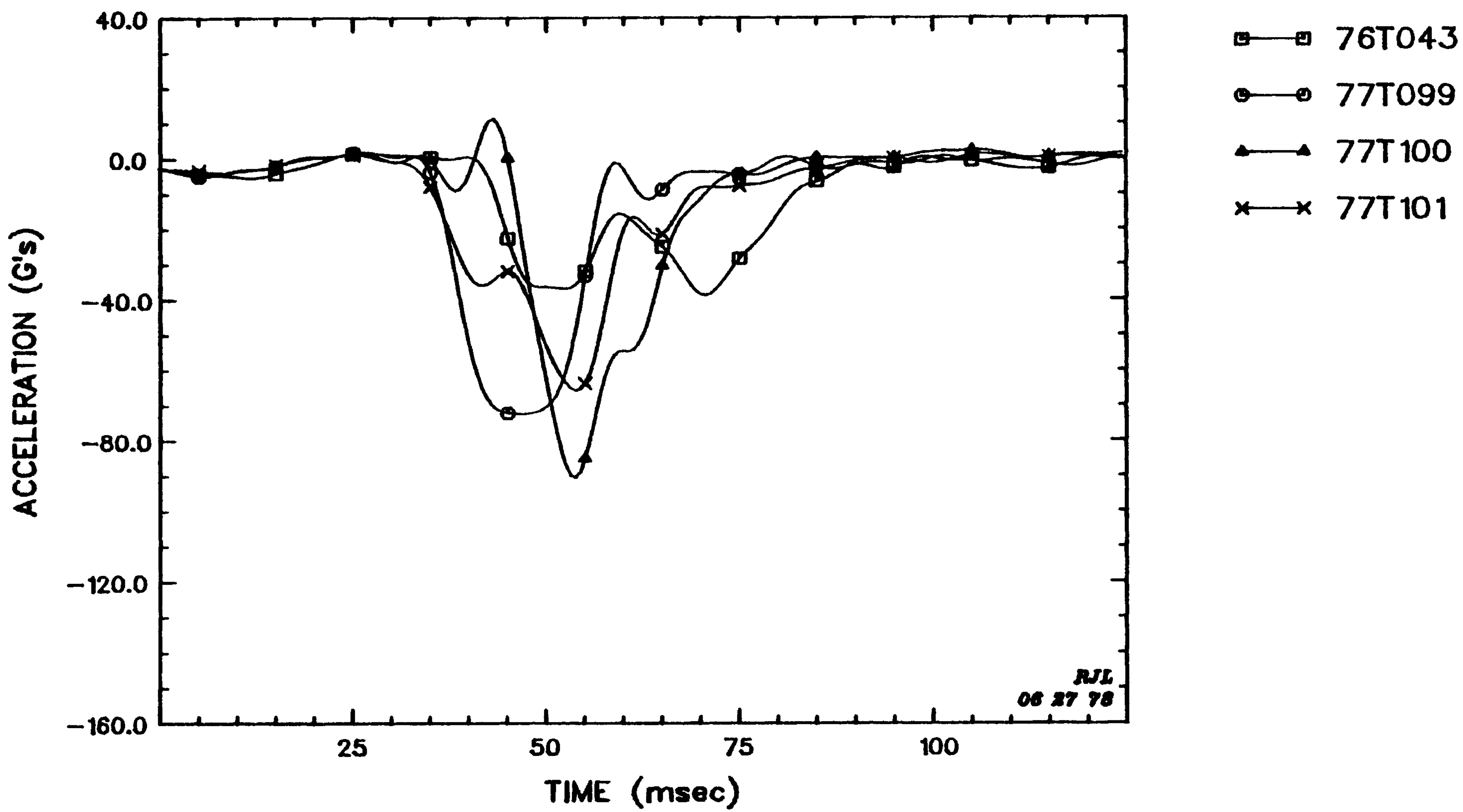
PELVIS P-A -- DUMMY TESTS (P-20)

Figure 176



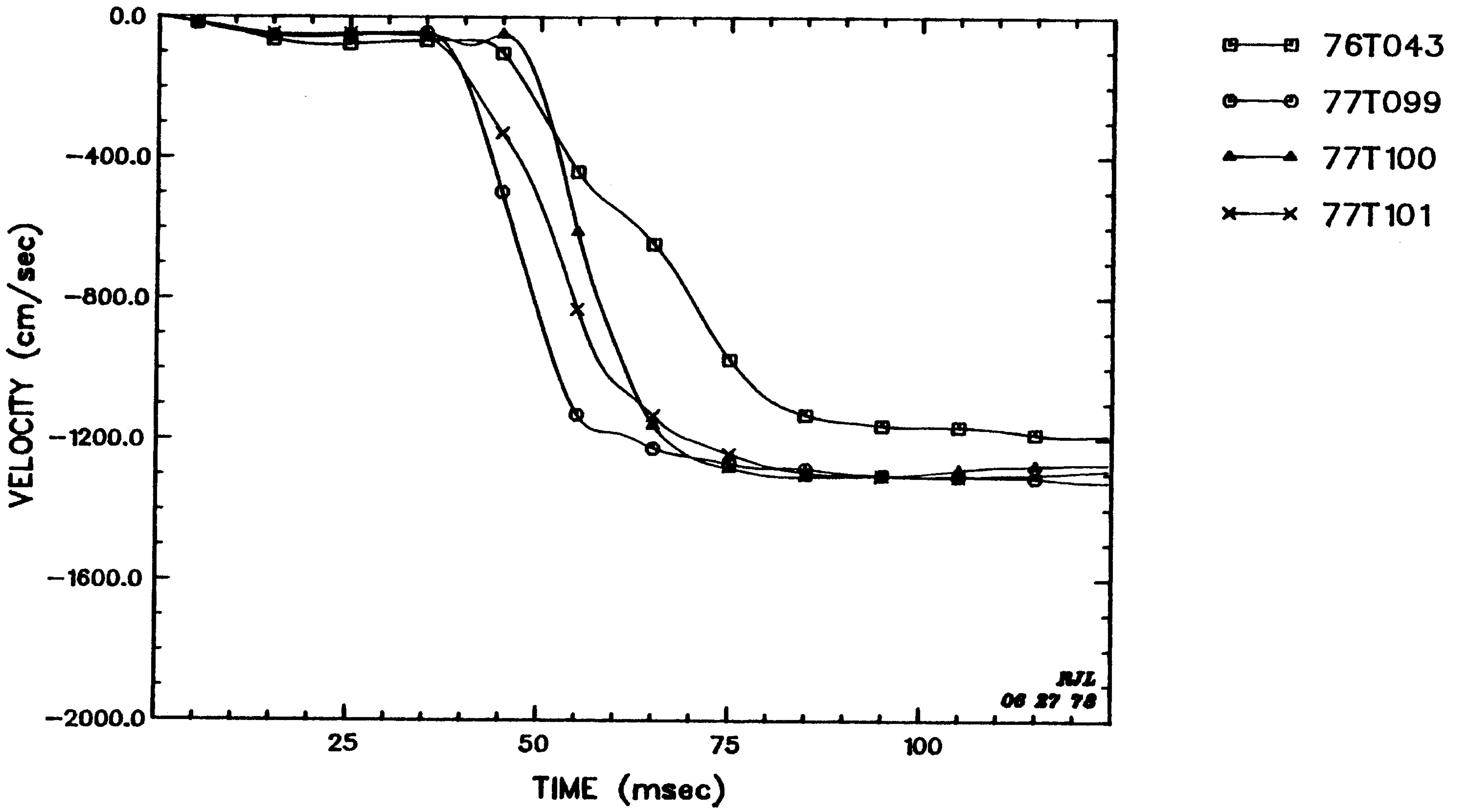
PELVIS P—A —— DUMMY TESTS (P—20)

Figure 177



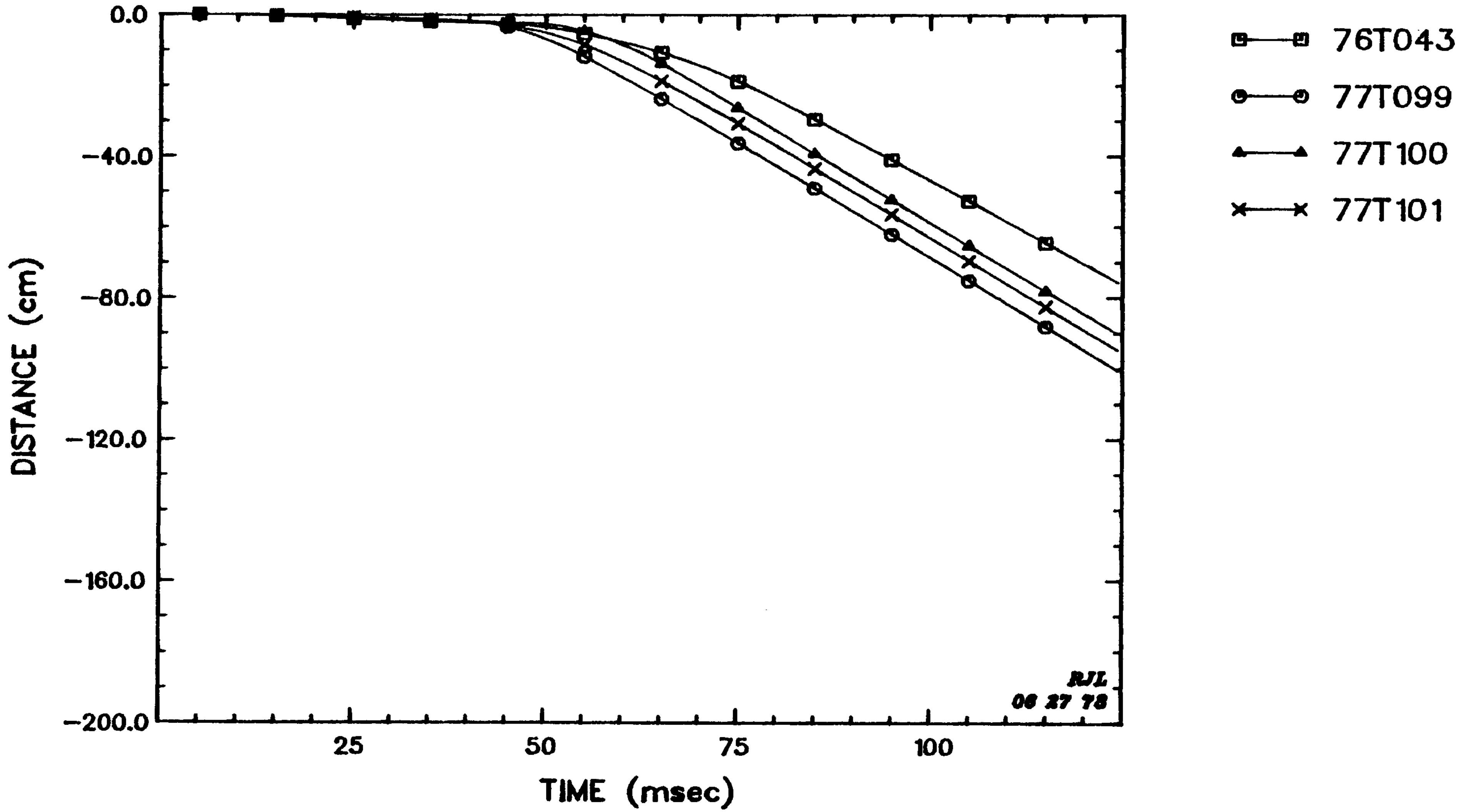
PELVIS R-L -- DUMMY TESTS (P-20)

Figure 178



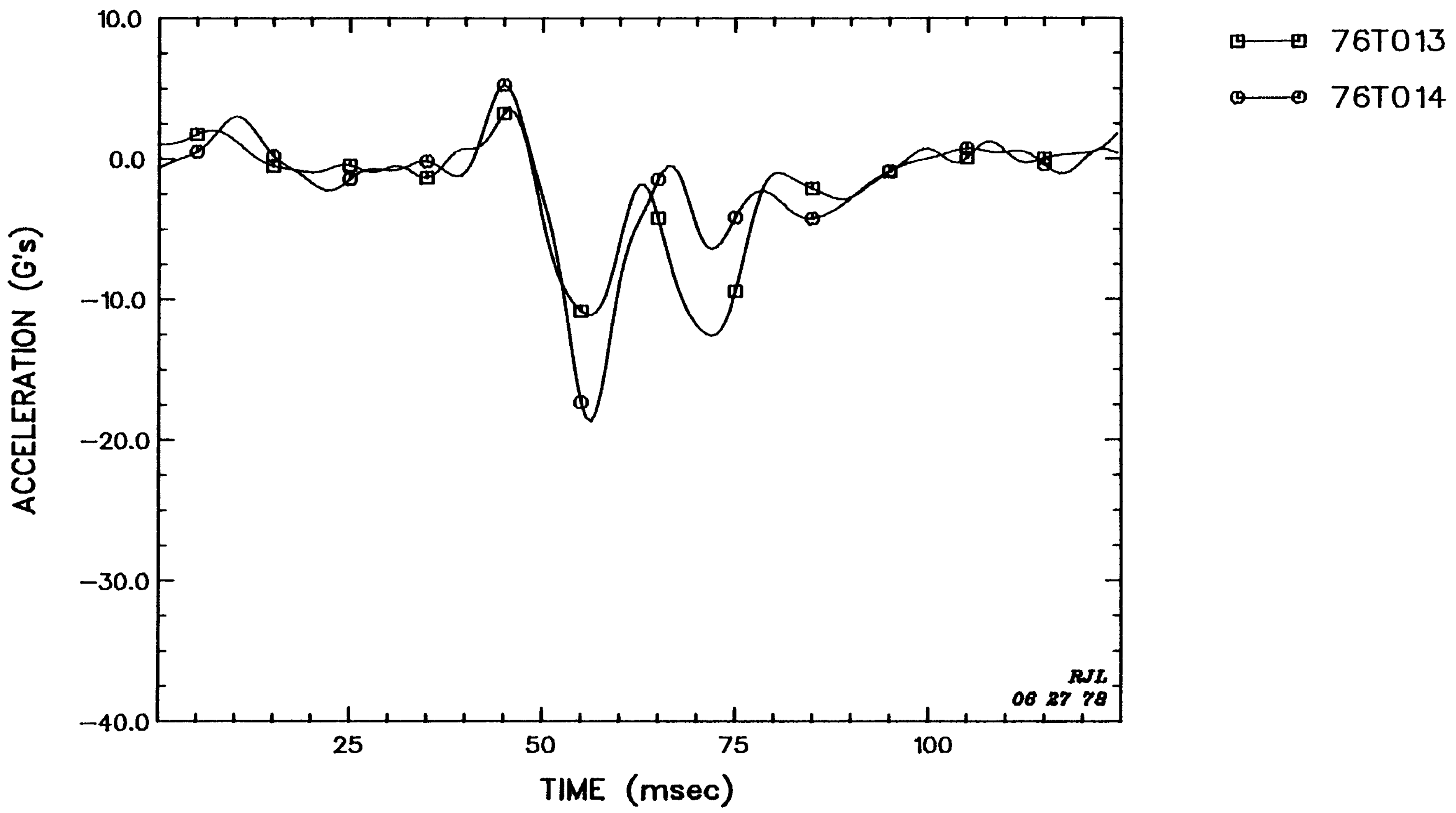
PELVIS R–L -- DUMMY TESTS (P–20)

Figure 179



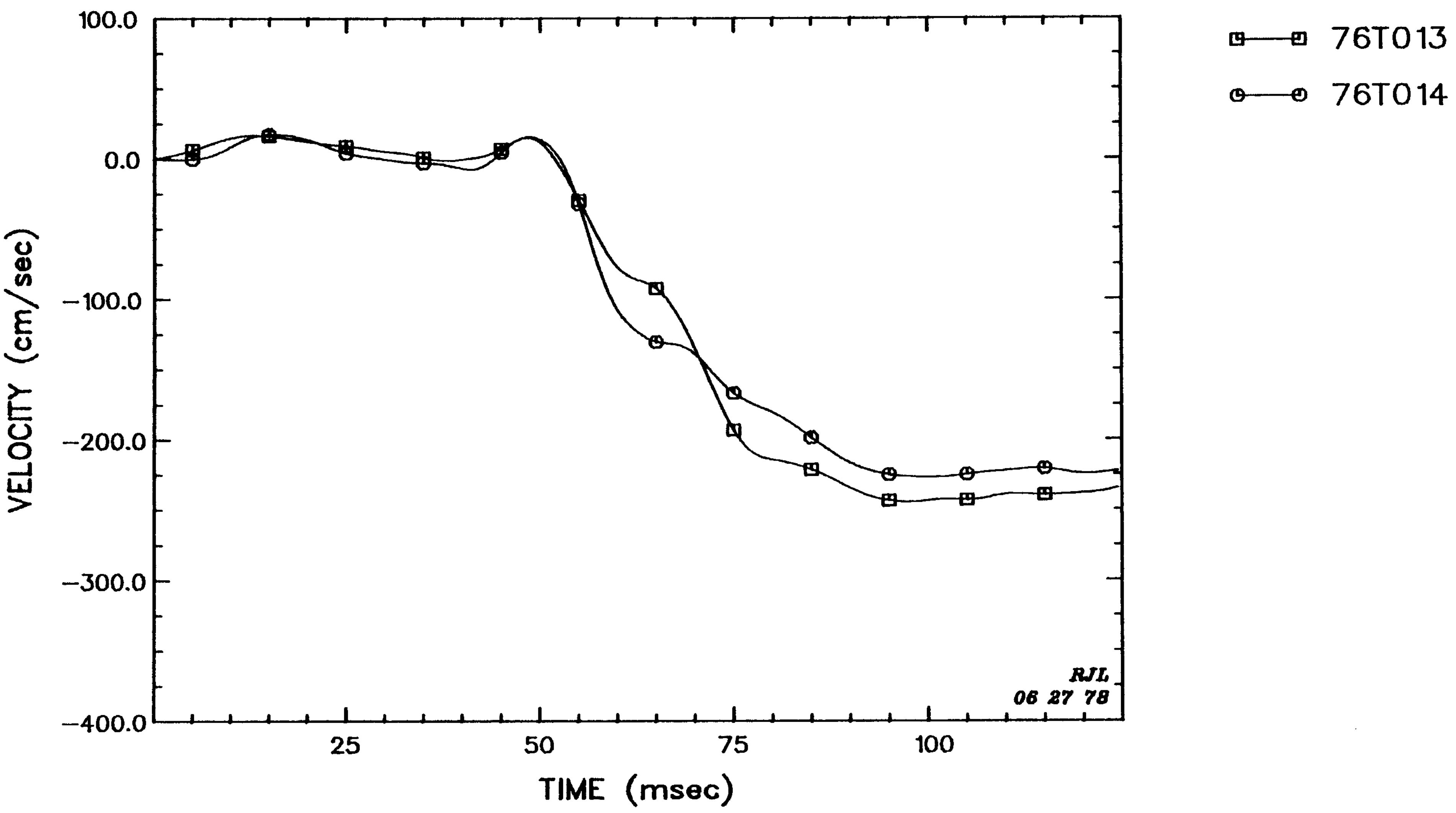
PELVIS R-L -- DUMMY TESTS (P-20)

Figure 180



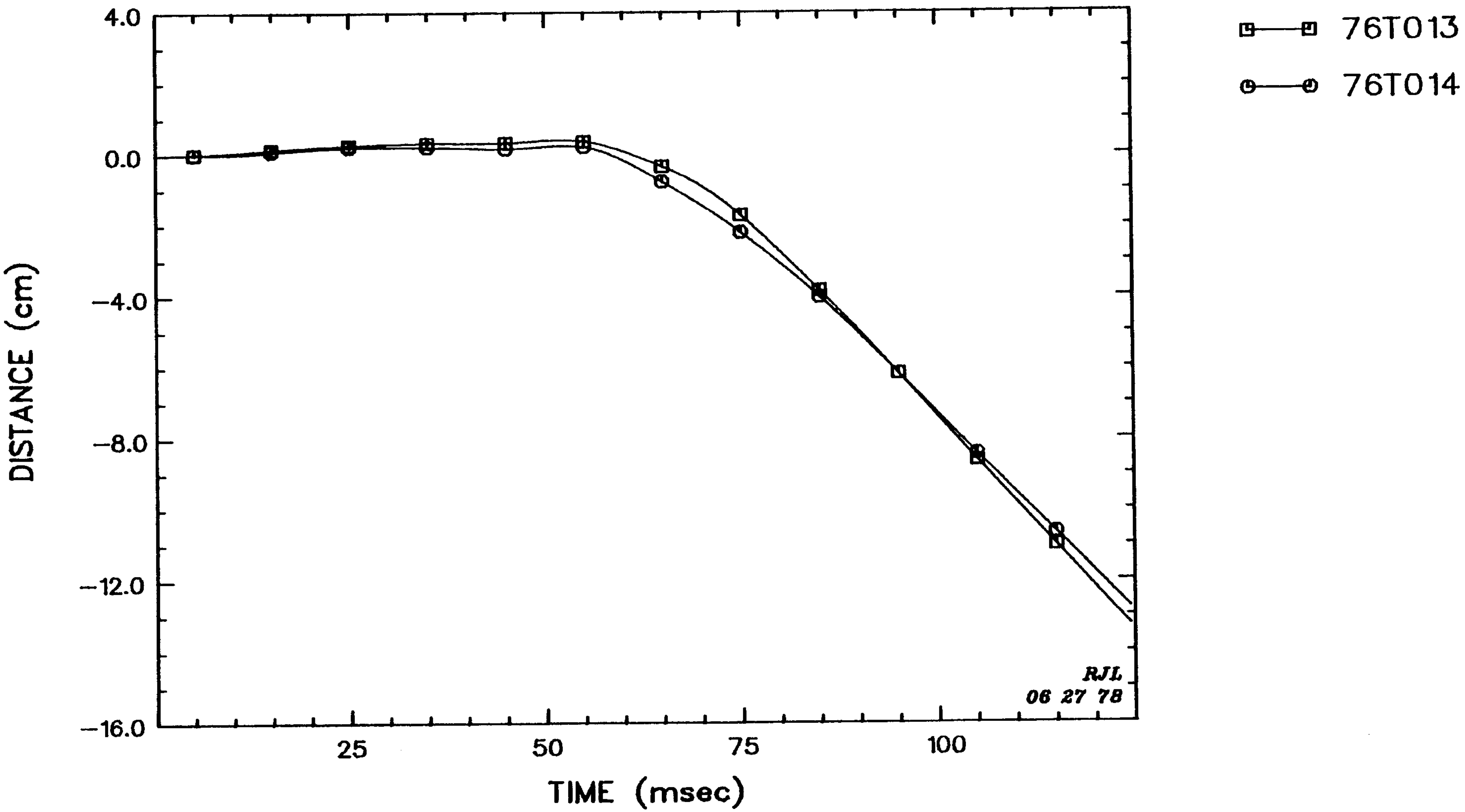
HEAD P–A –– DUMMY TESTS (R–20)

Figure 181



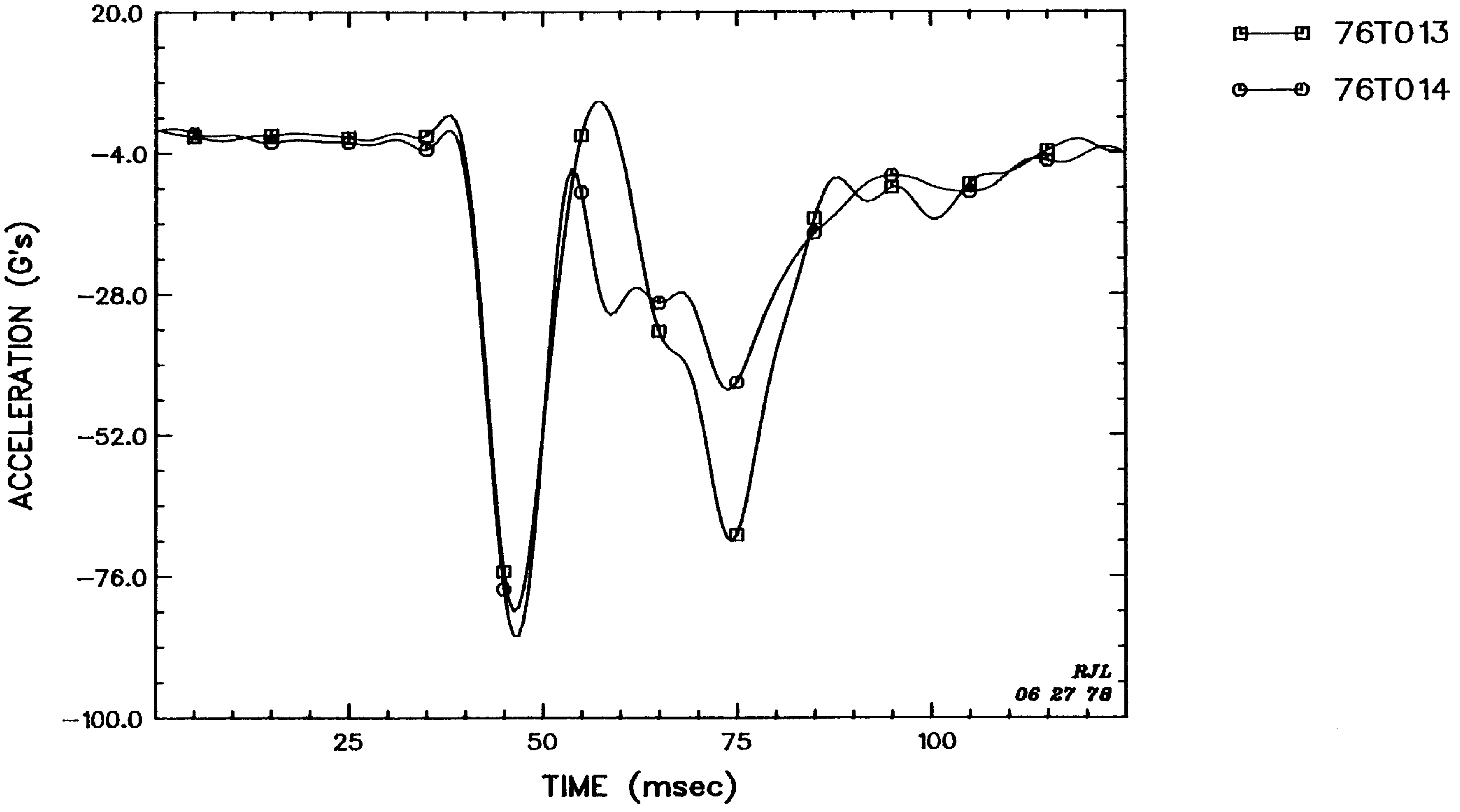
HEAD P-A -- DUMMY TESTS (R-20)

Figure 182



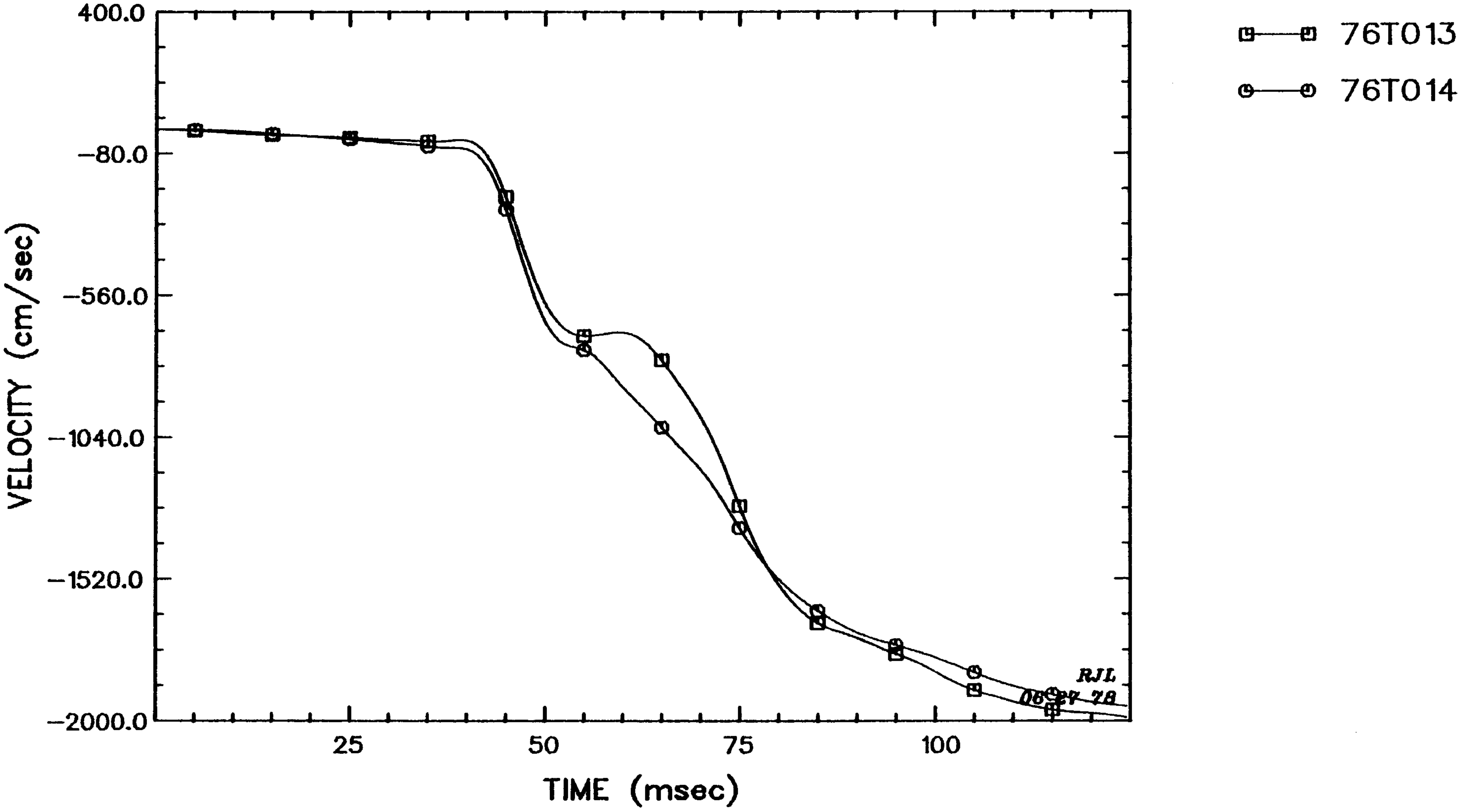
HEAD P-A -- DUMMY TESTS (R-20)

Figure 183



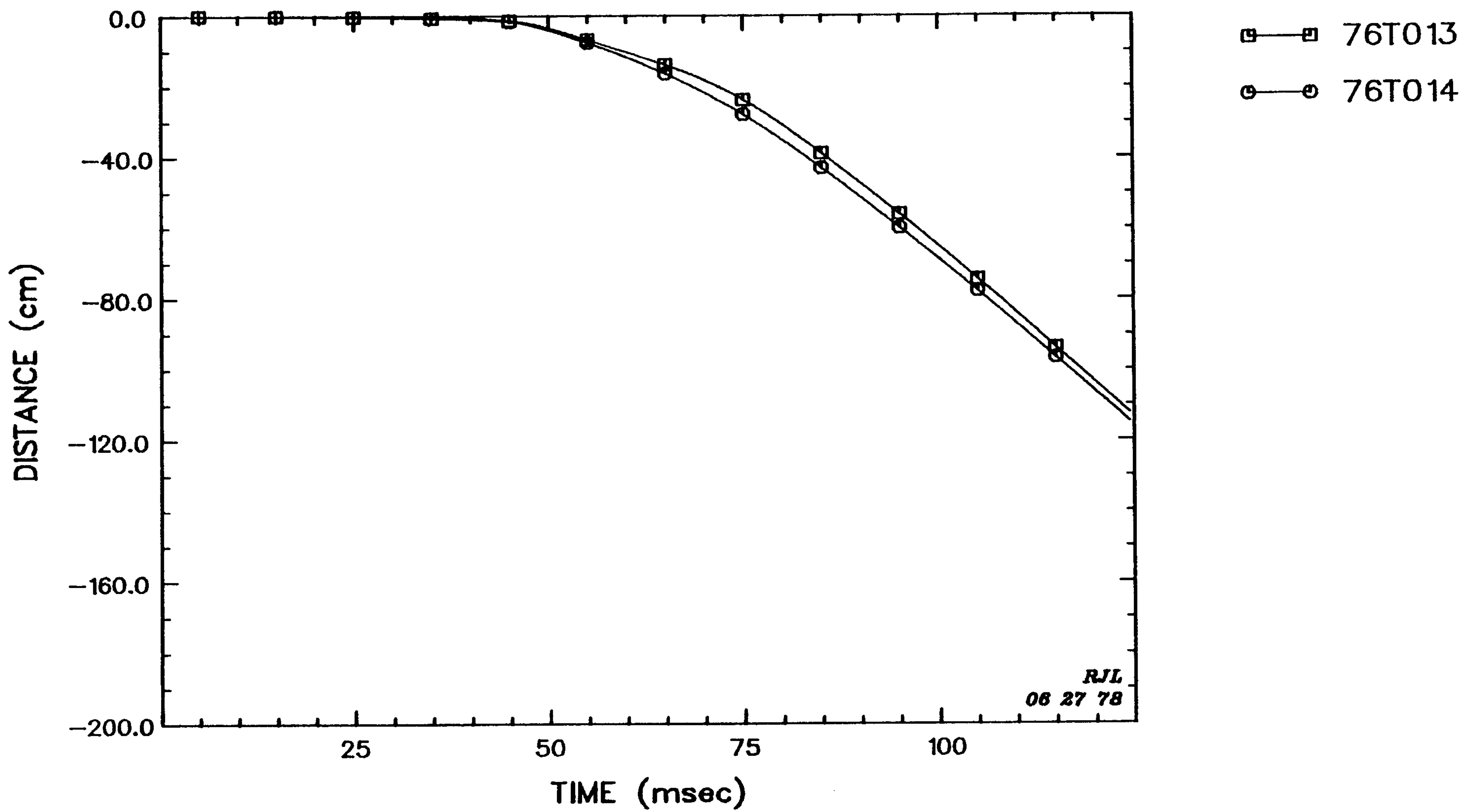
HEAD R-L -- DUMMY TESTS (R-20)

Figure 184



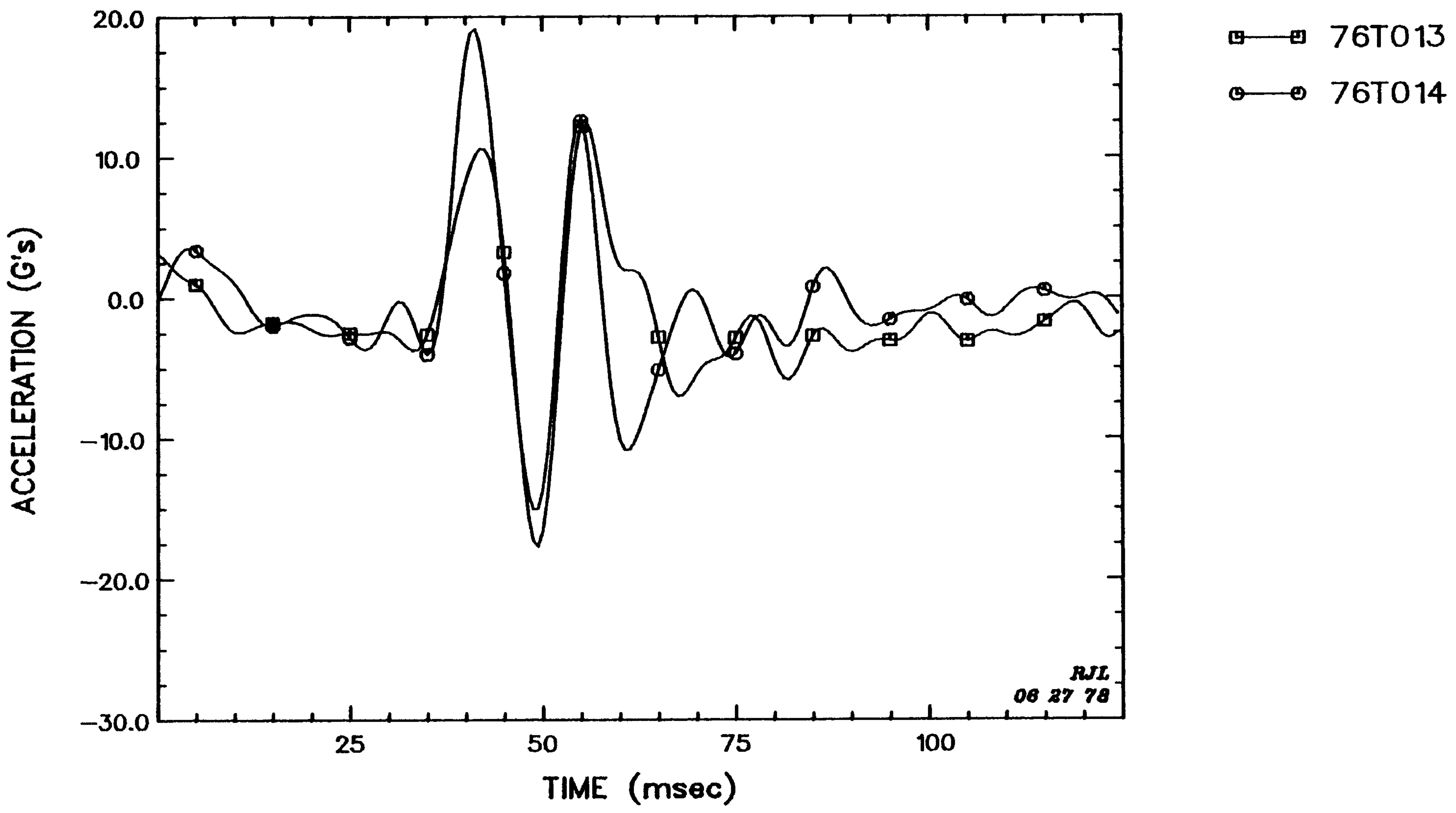
HEAD R–L –– DUMMY TESTS (R–20)

Figure 185



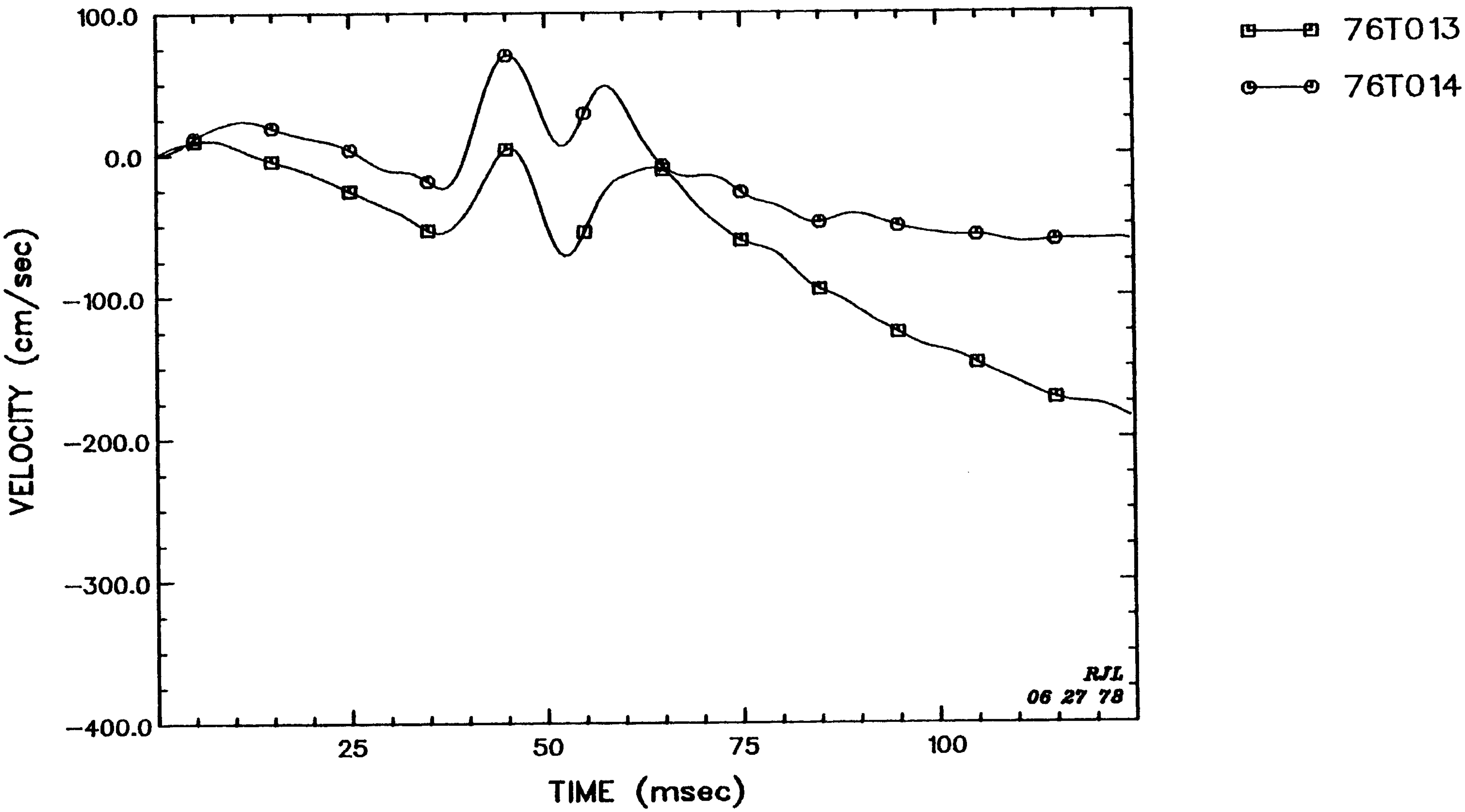
HEAD R-L -- DUMMY TESTS (R-20)

Figure 186



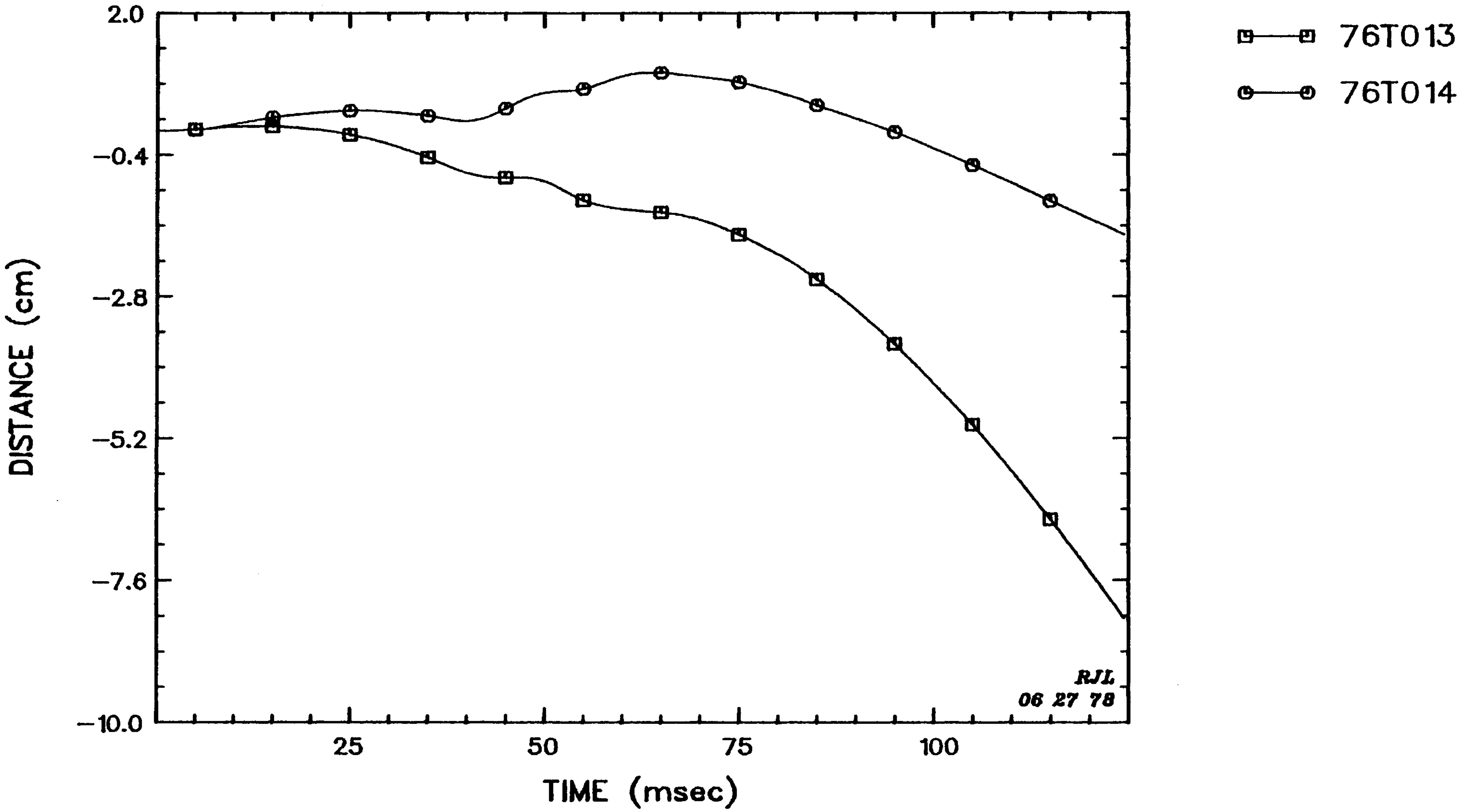
THORAX P–A –– DUMMY TESTS (R–20)

Figure 187



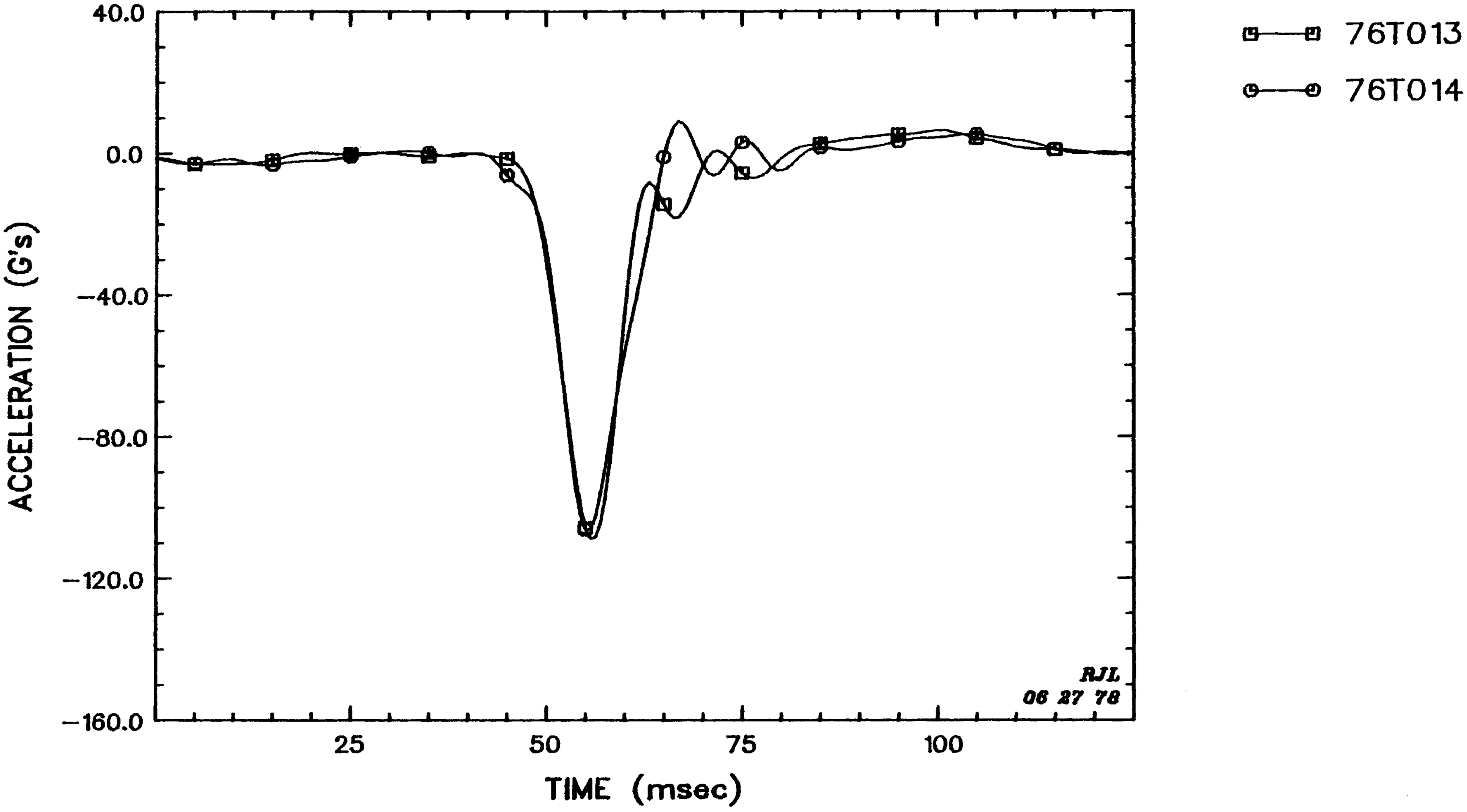
THORAX P-A -- DUMMY TESTS (R-20)

Figure 188



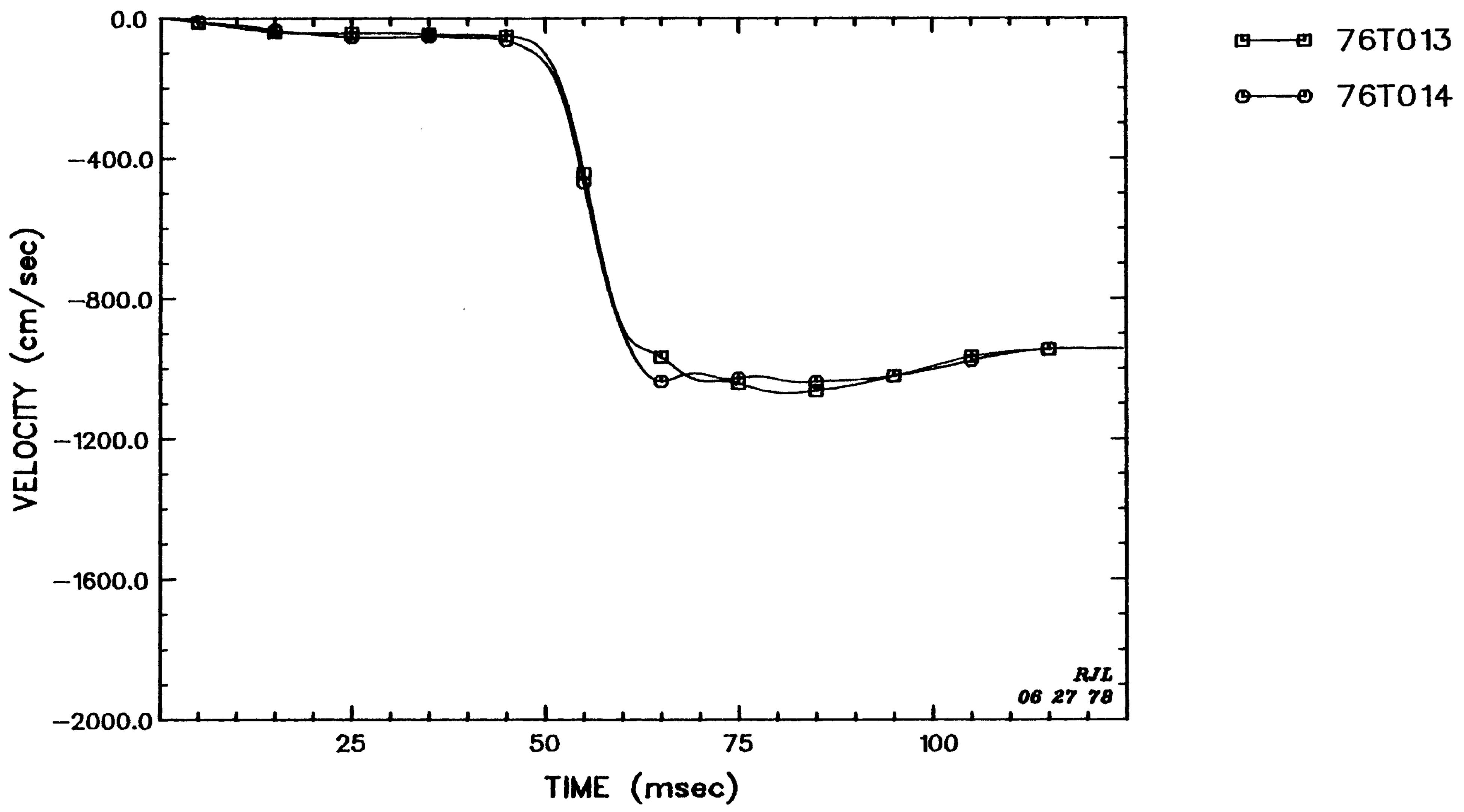
THORAX P-A -- DUMMY TESTS (R-20)

Figure 189



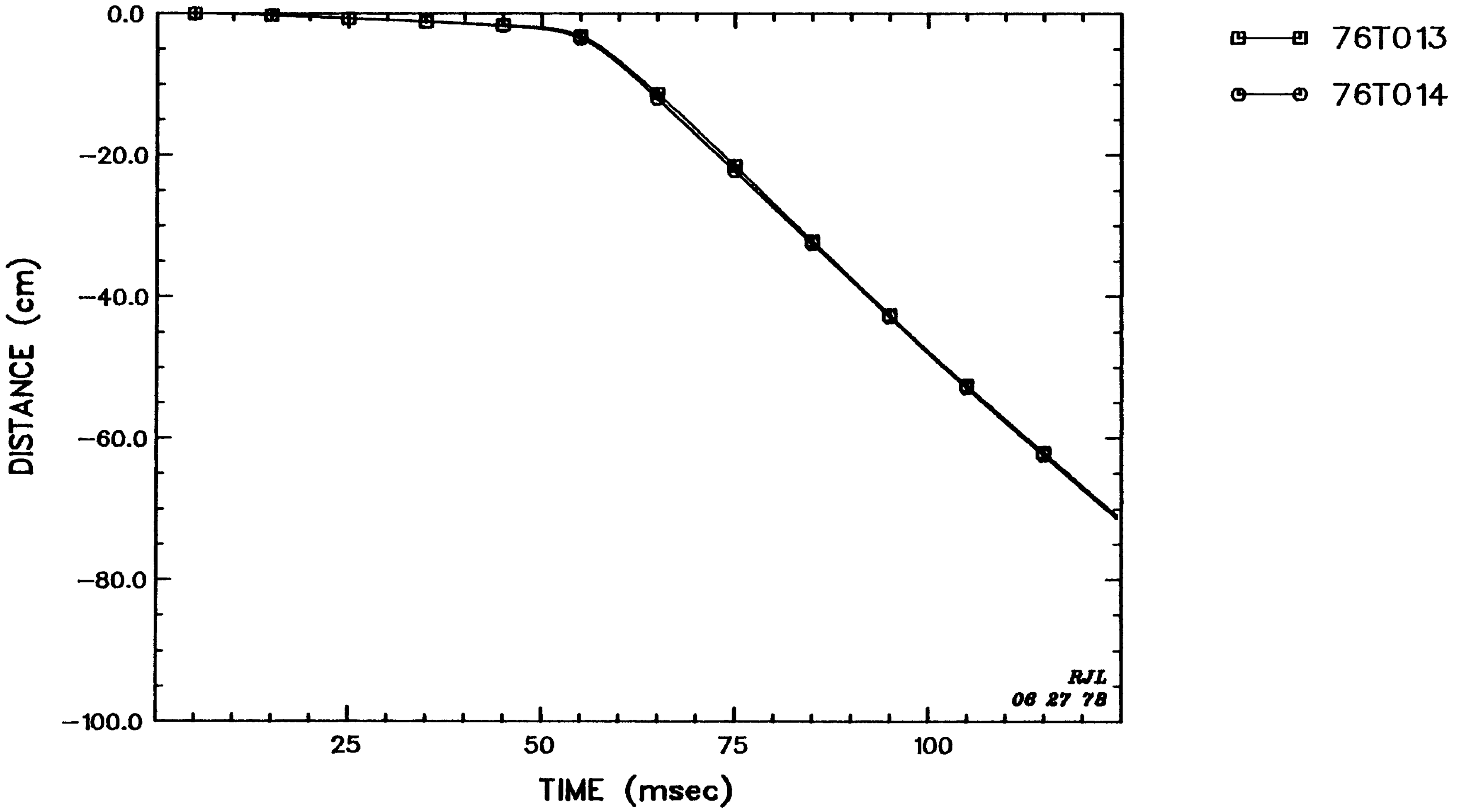
THORAX R–L –– DUMMY TESTS (R–20)

Figure 190



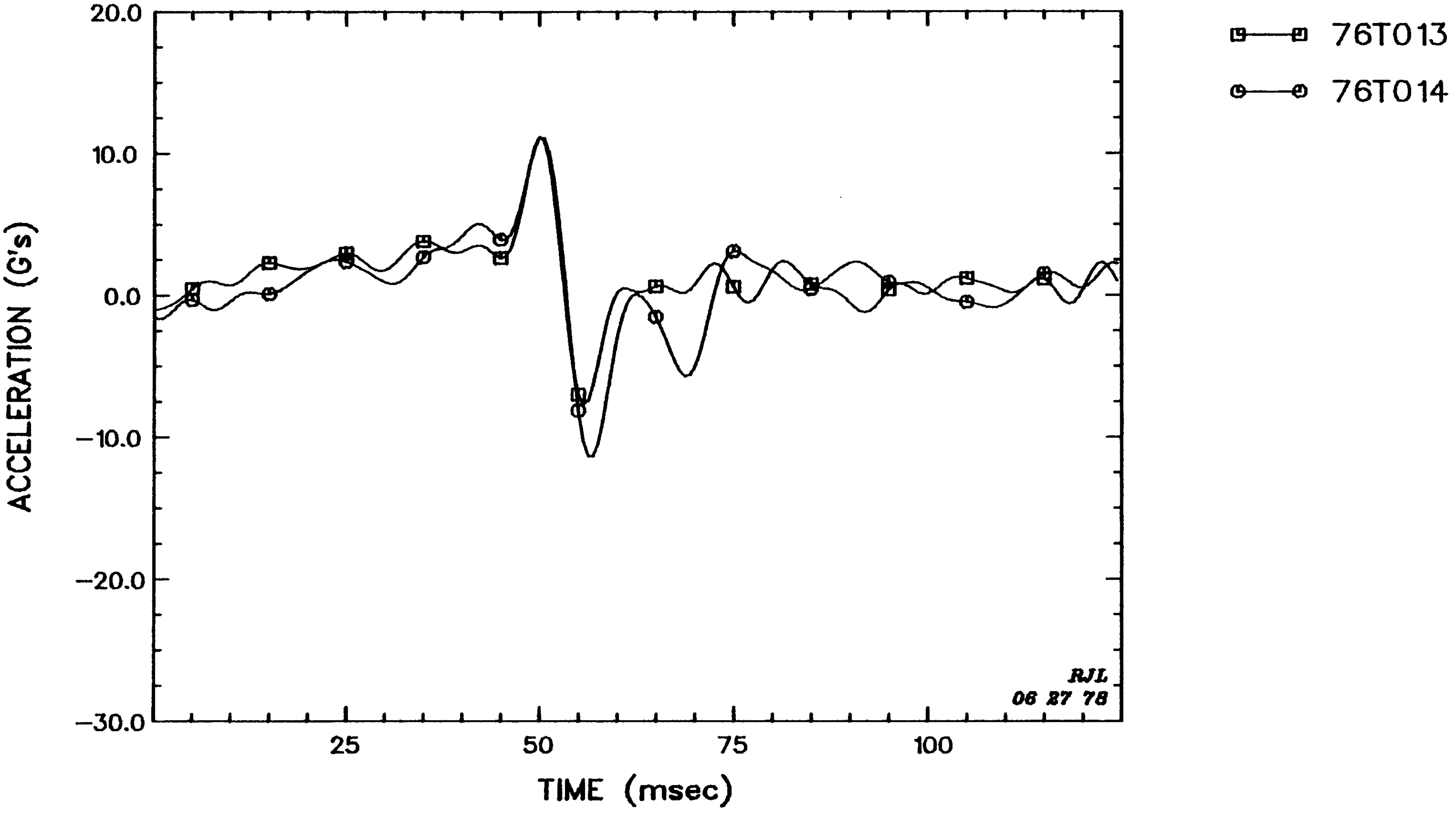
THORAX R-L -- DUMMY TESTS (R-20)

Figure 191



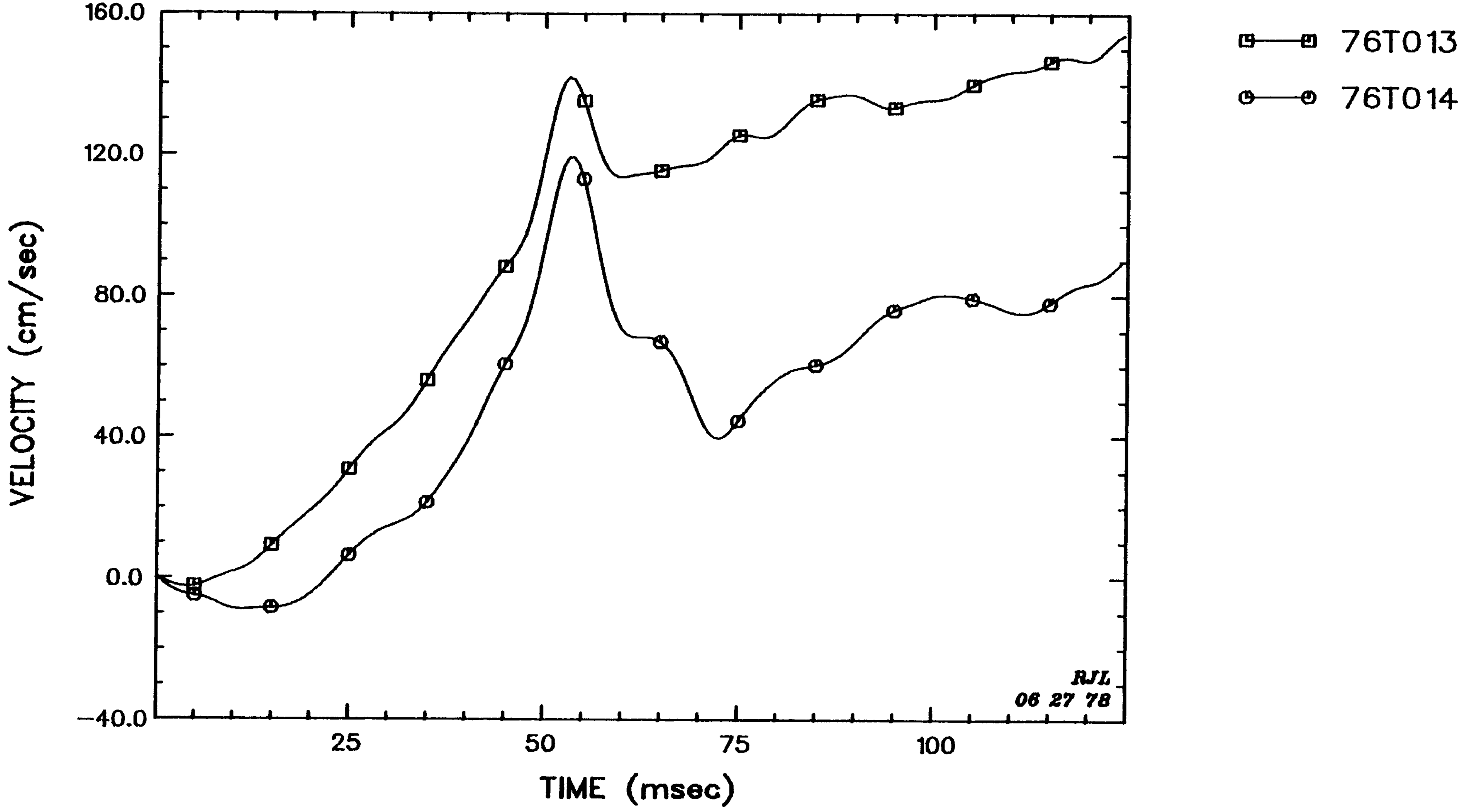
THORAX R-L -- DUMMY TESTS (R-20)

Figure 192



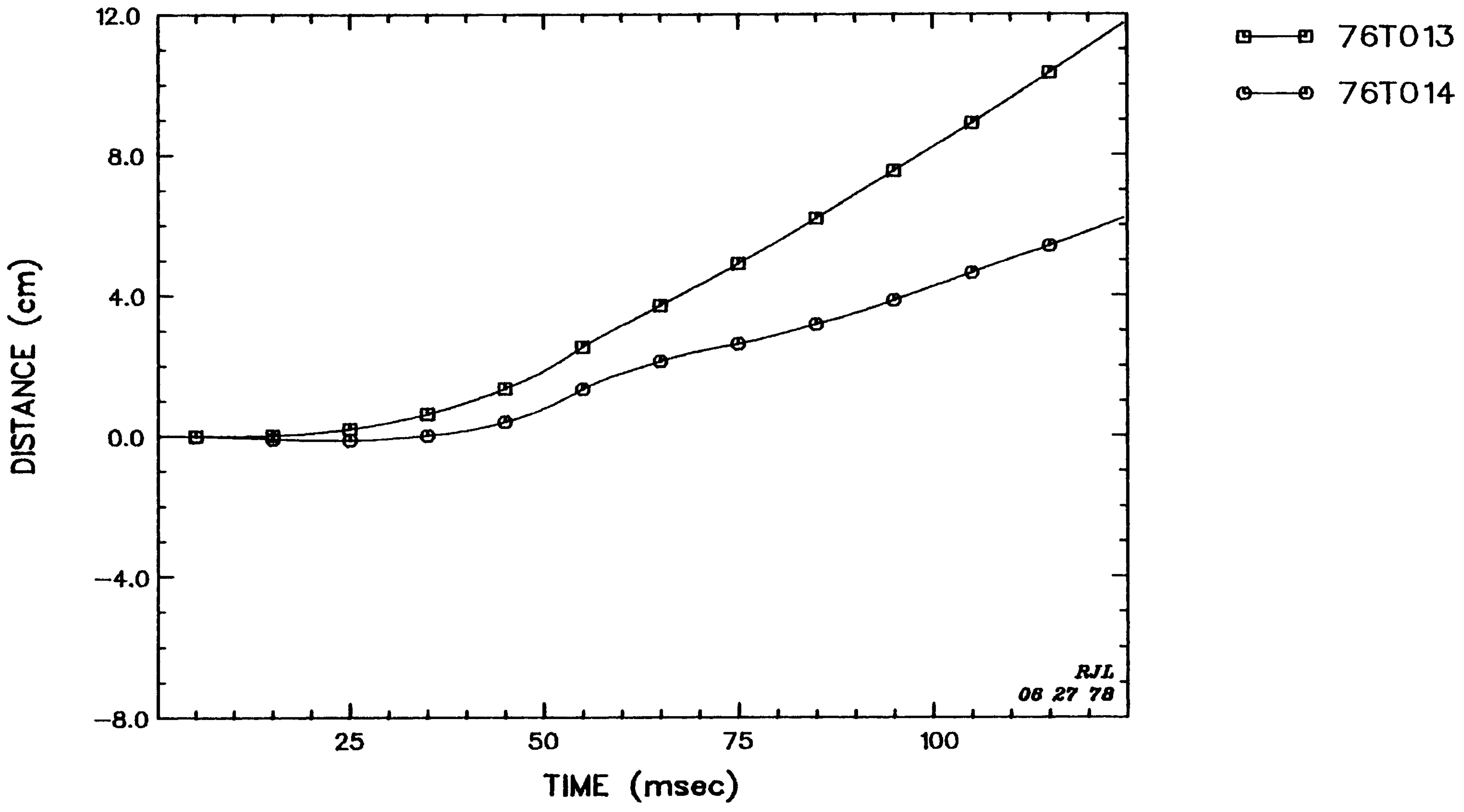
PELVIS P—A —— DUMMY TESTS (R—20)

Figure 193



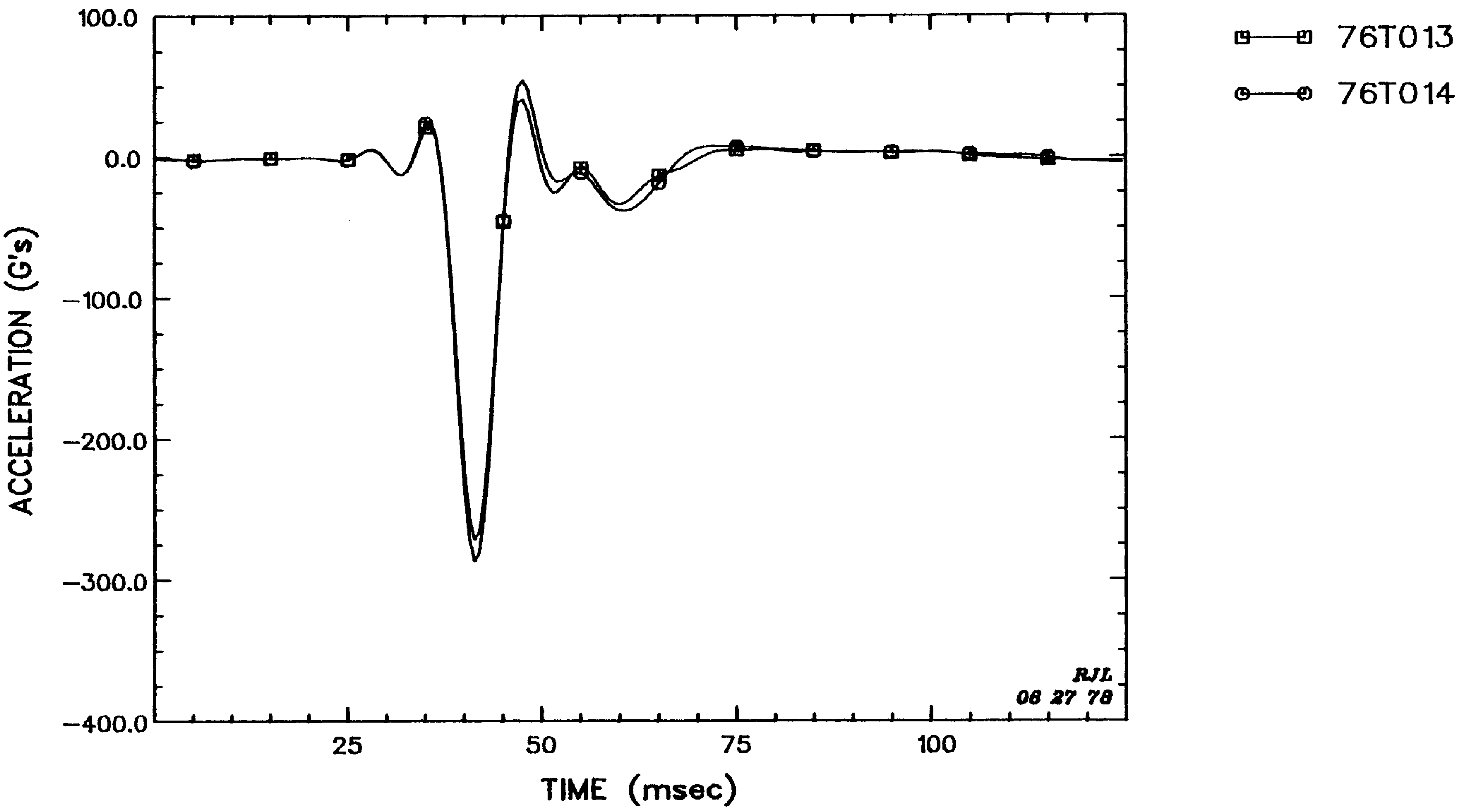
PELVIS P-A -- DUMMY TESTS (R-20)

Figure 194



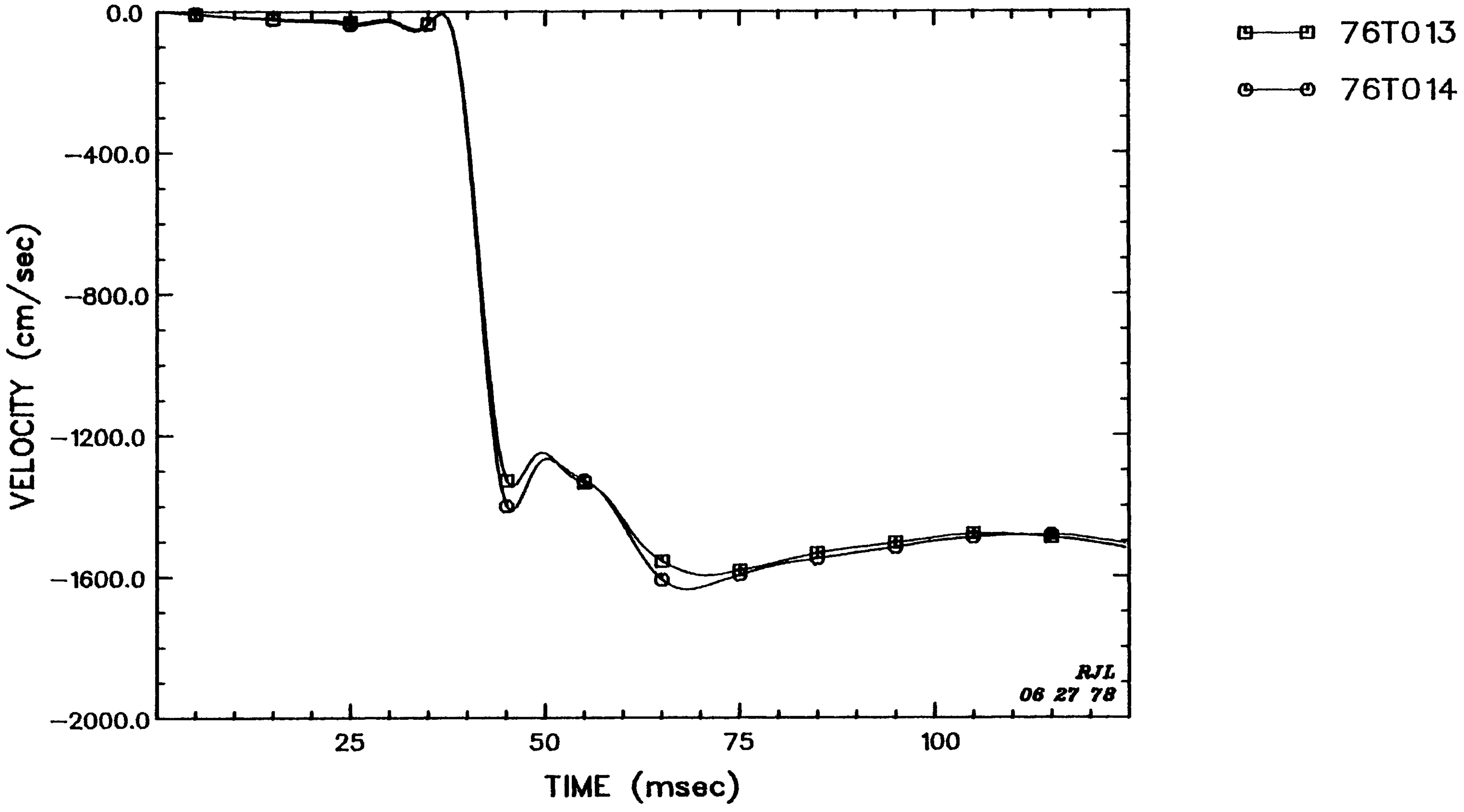
PELVIS P-A -- DUMMY TESTS (R-20)

Figure 195



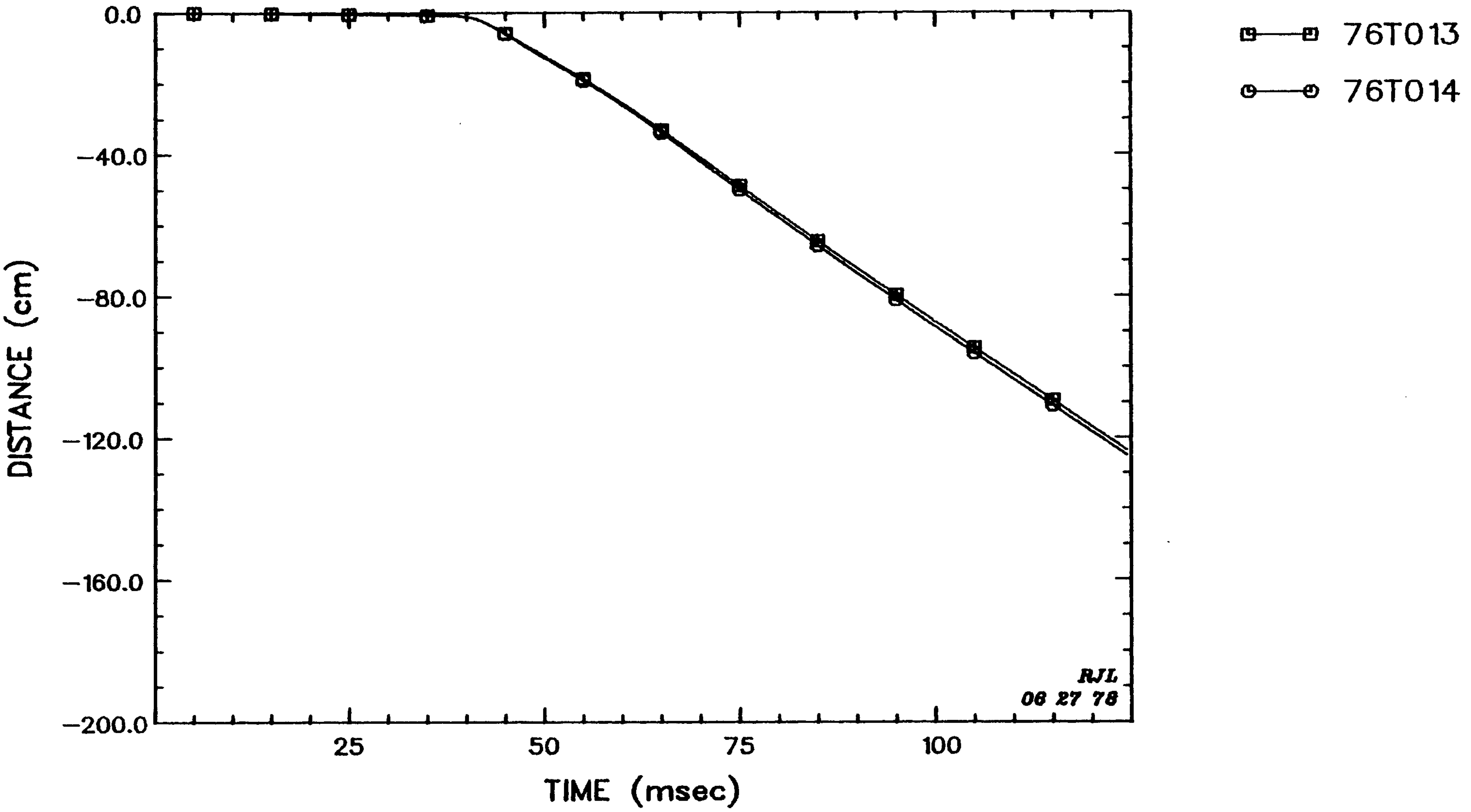
PELVIS R-L -- DUMMY TESTS (R-20)

Figure 196



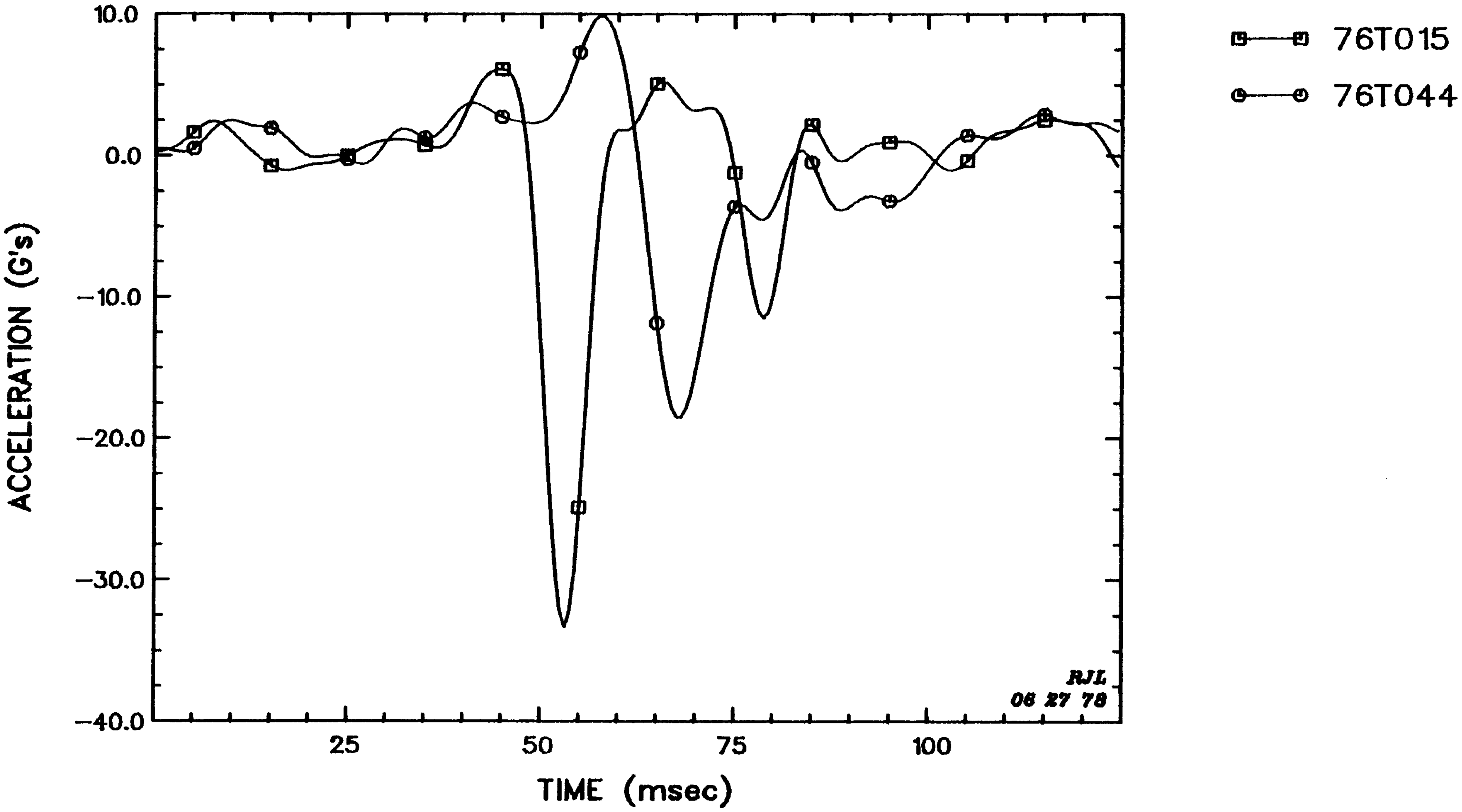
PELVIS R-L -- DUMMY TESTS (R-20)

Figure 197



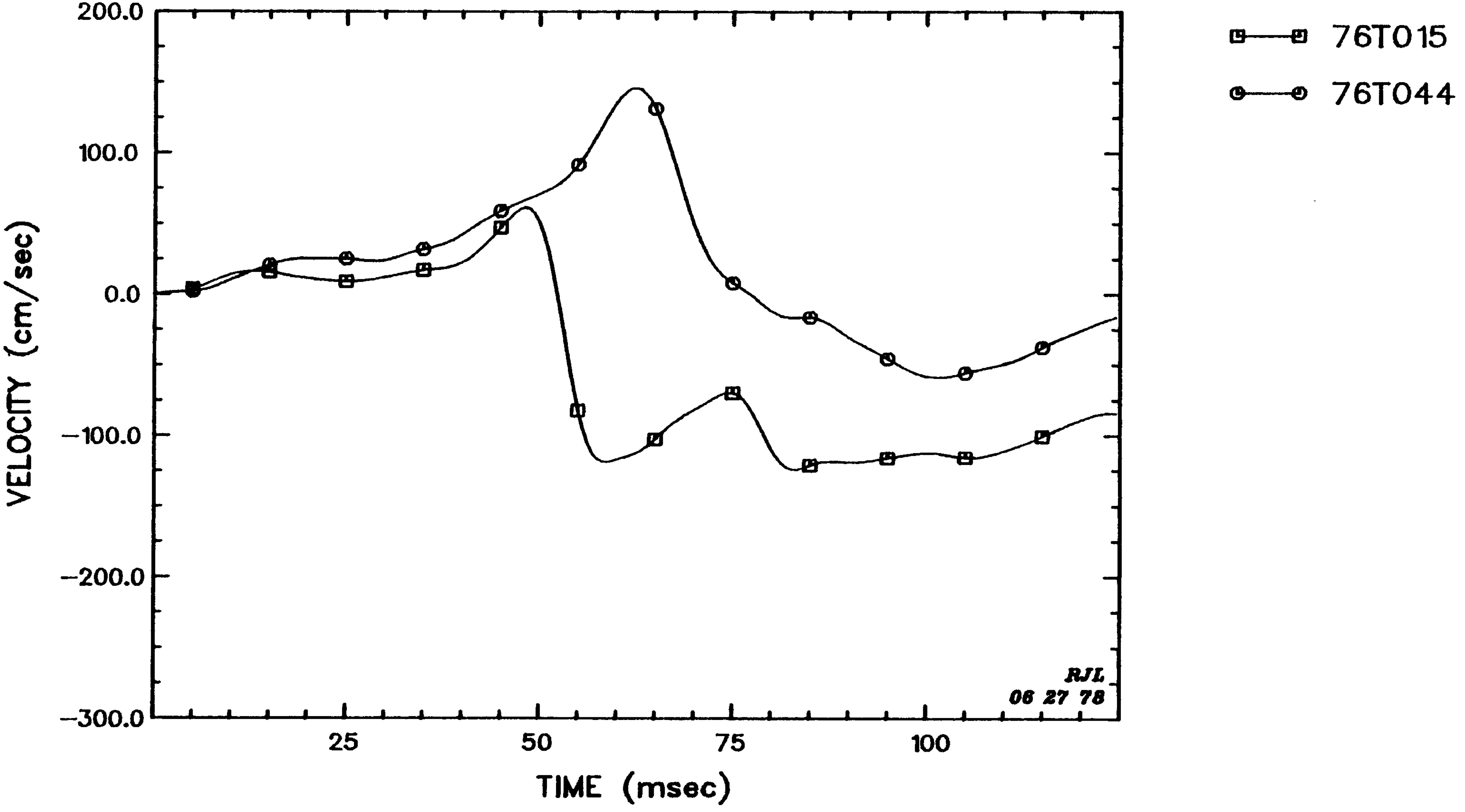
PELVIS R–L –– DUMMY TESTS (R–20)

Figure 198



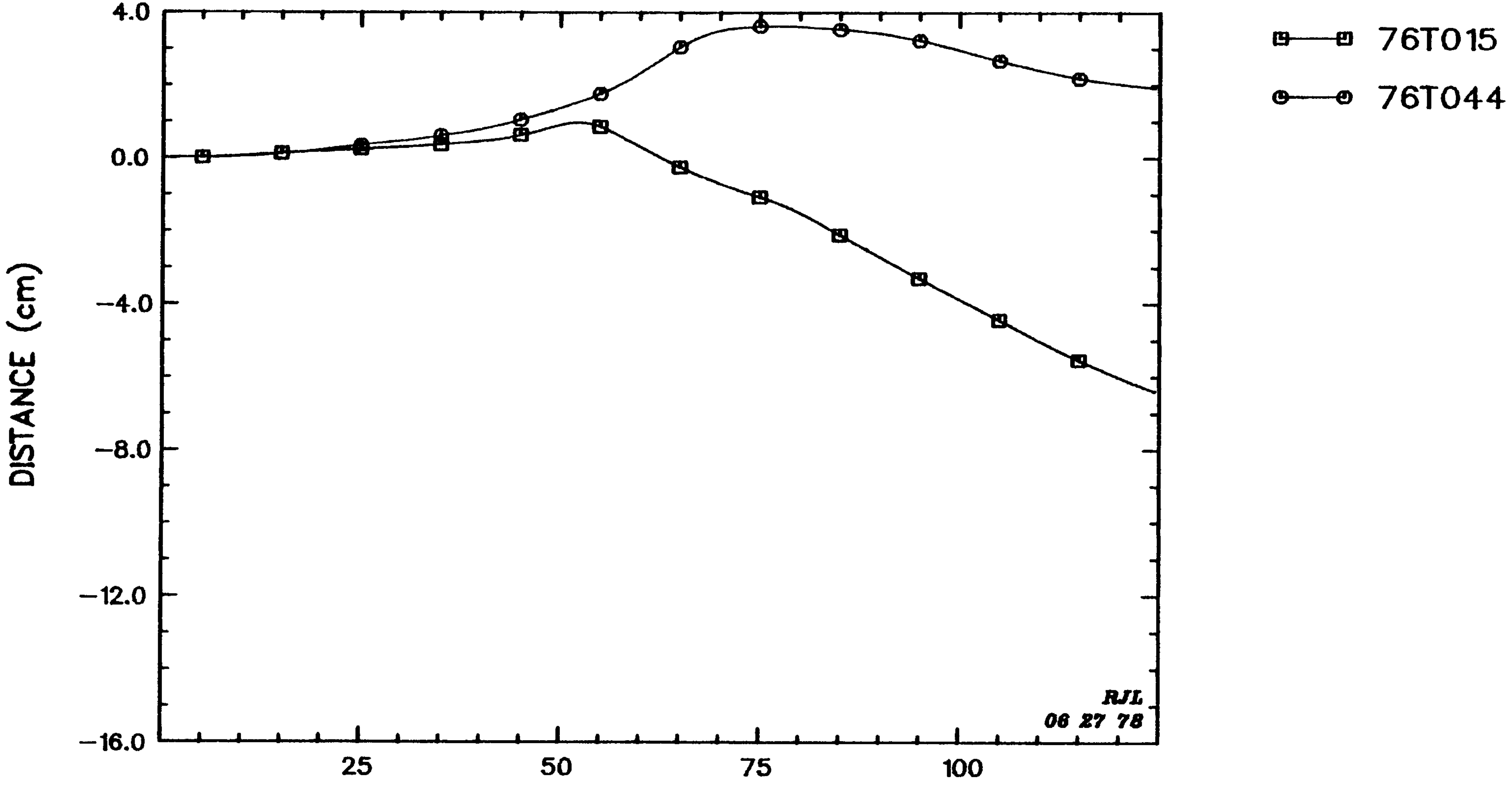
HEAD P-A -- DUMMY TESTS (26-R,P)

Figure 199



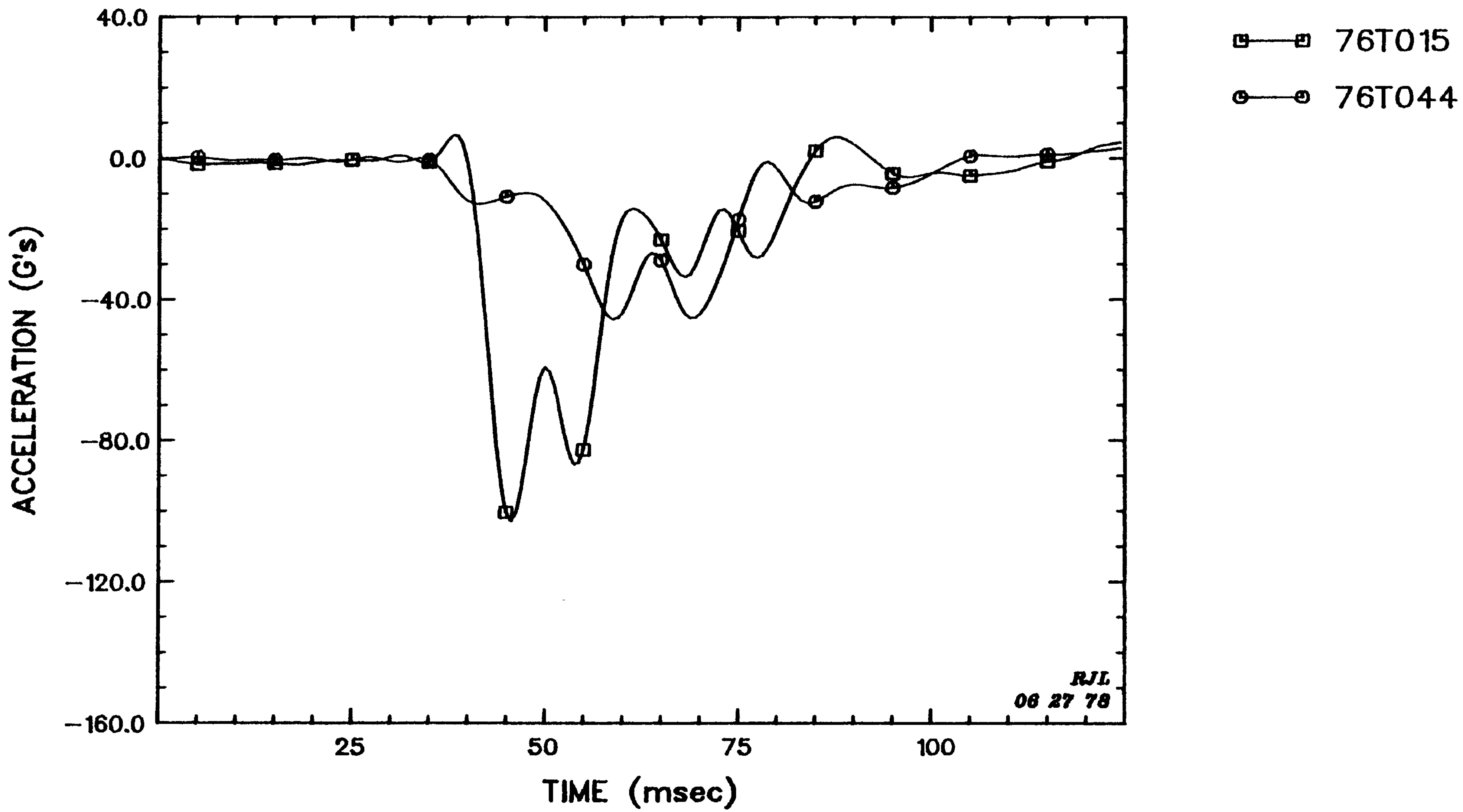
HEAD P-A -- DUMMY TESTS (26-R,P)

Figure 200



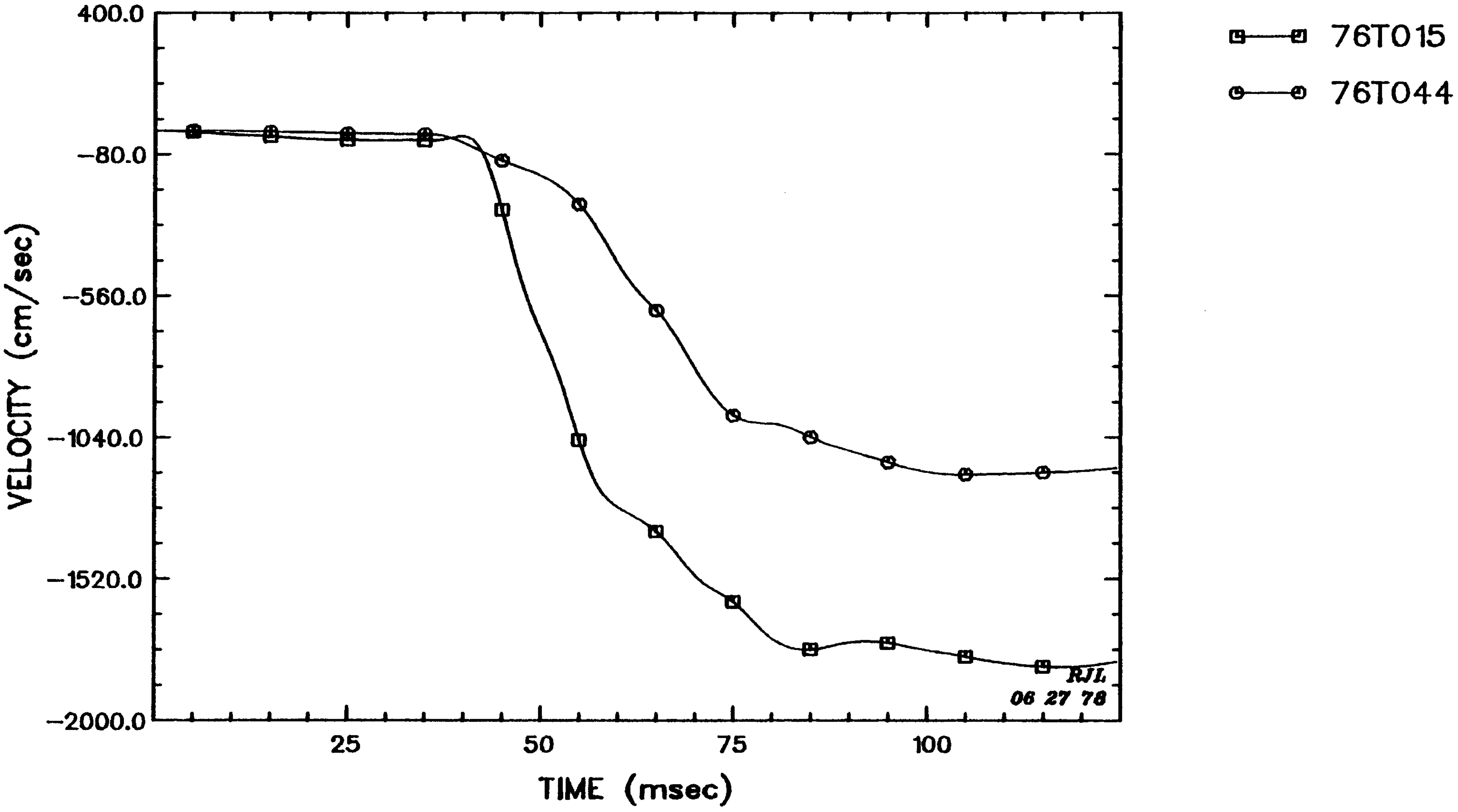
HEAD P-A -- DUMMY TESTS (26-R,P)

Figure 201



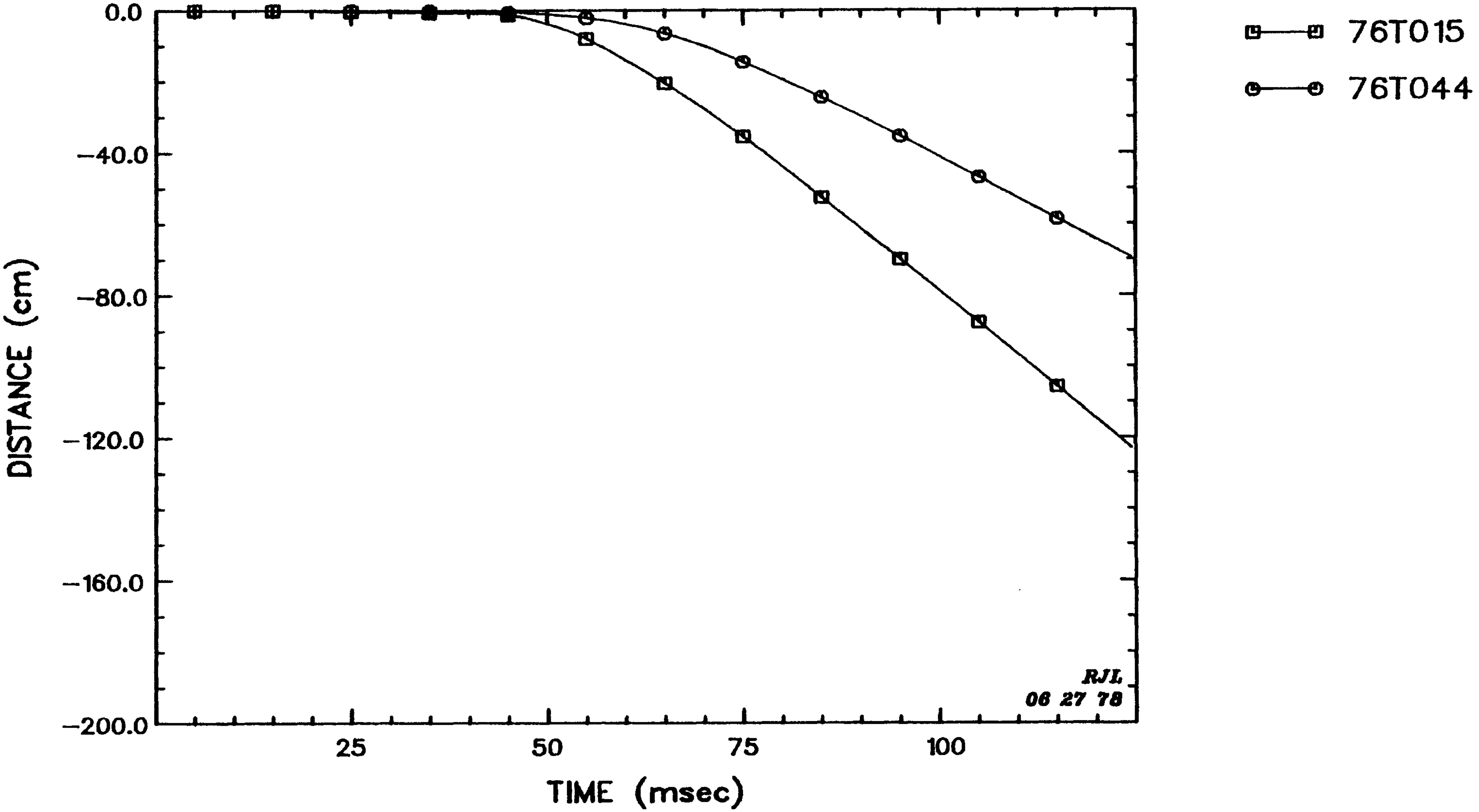
HEAD R–L –– DUMMY TESTS (26–R,P)

Figure 202



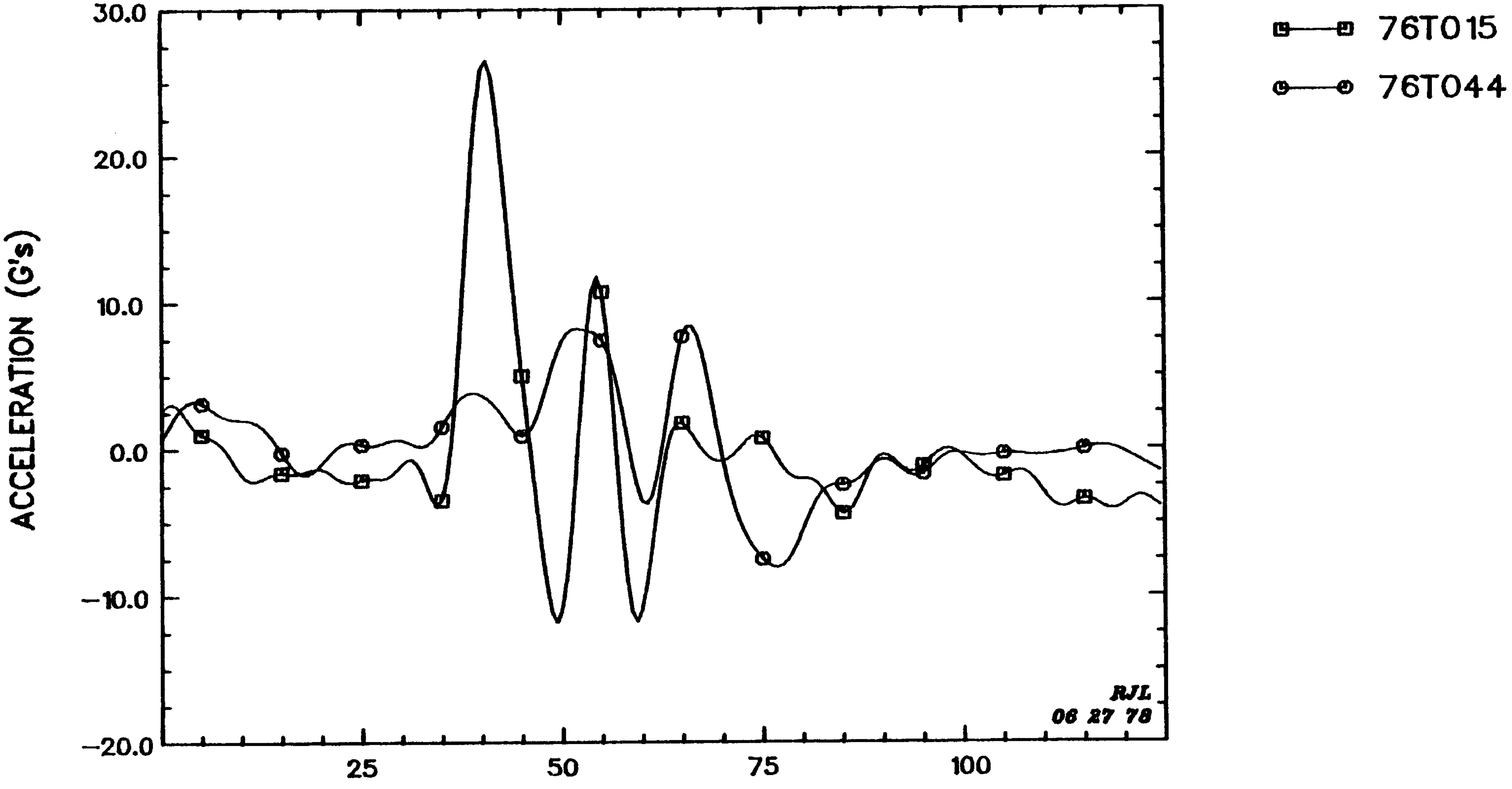
HEAD R-L -- DUMMY TESTS (26-R,P)

Figure 203



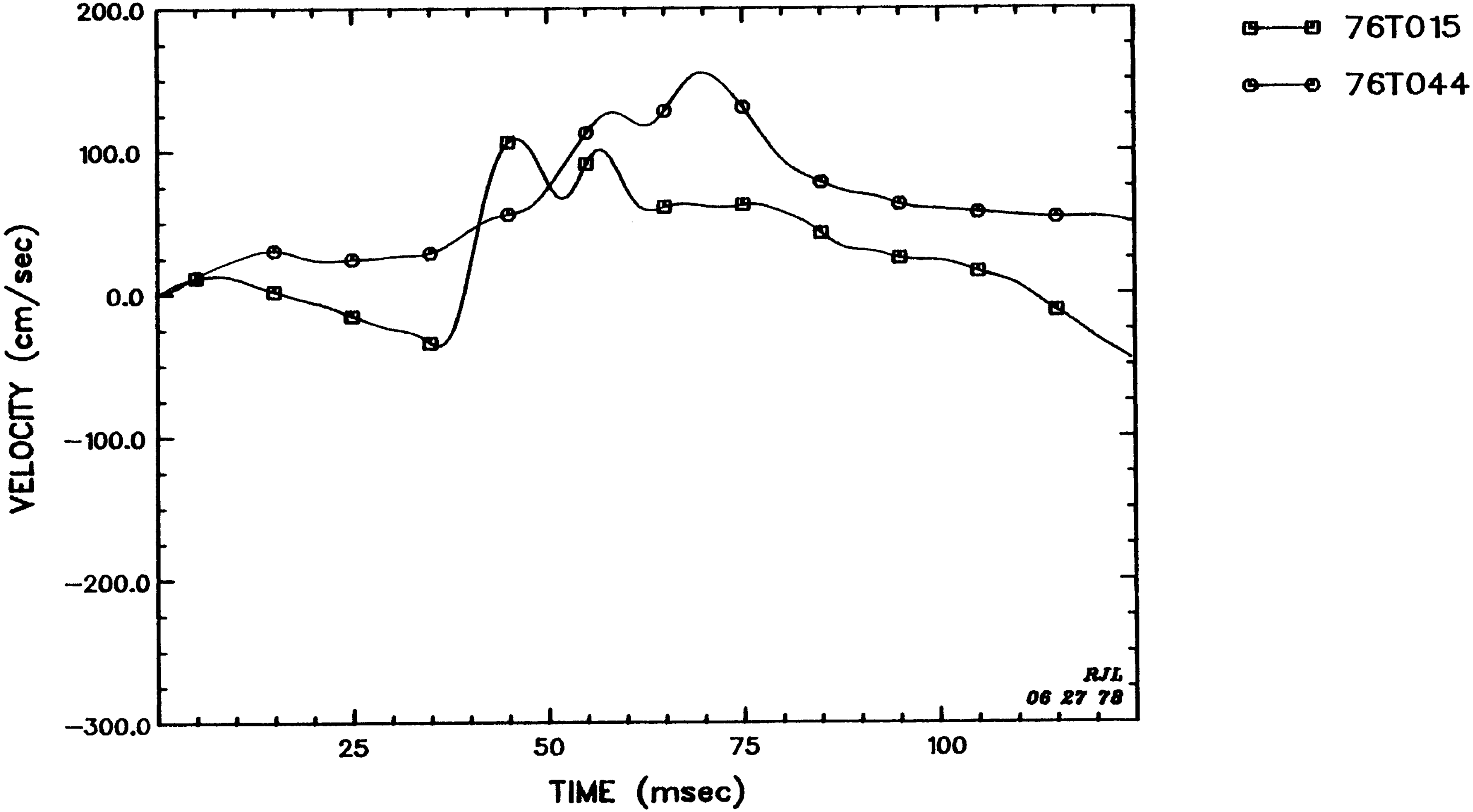
HEAD R-L -- DUMMY TESTS (26-R,P)

Figure 204



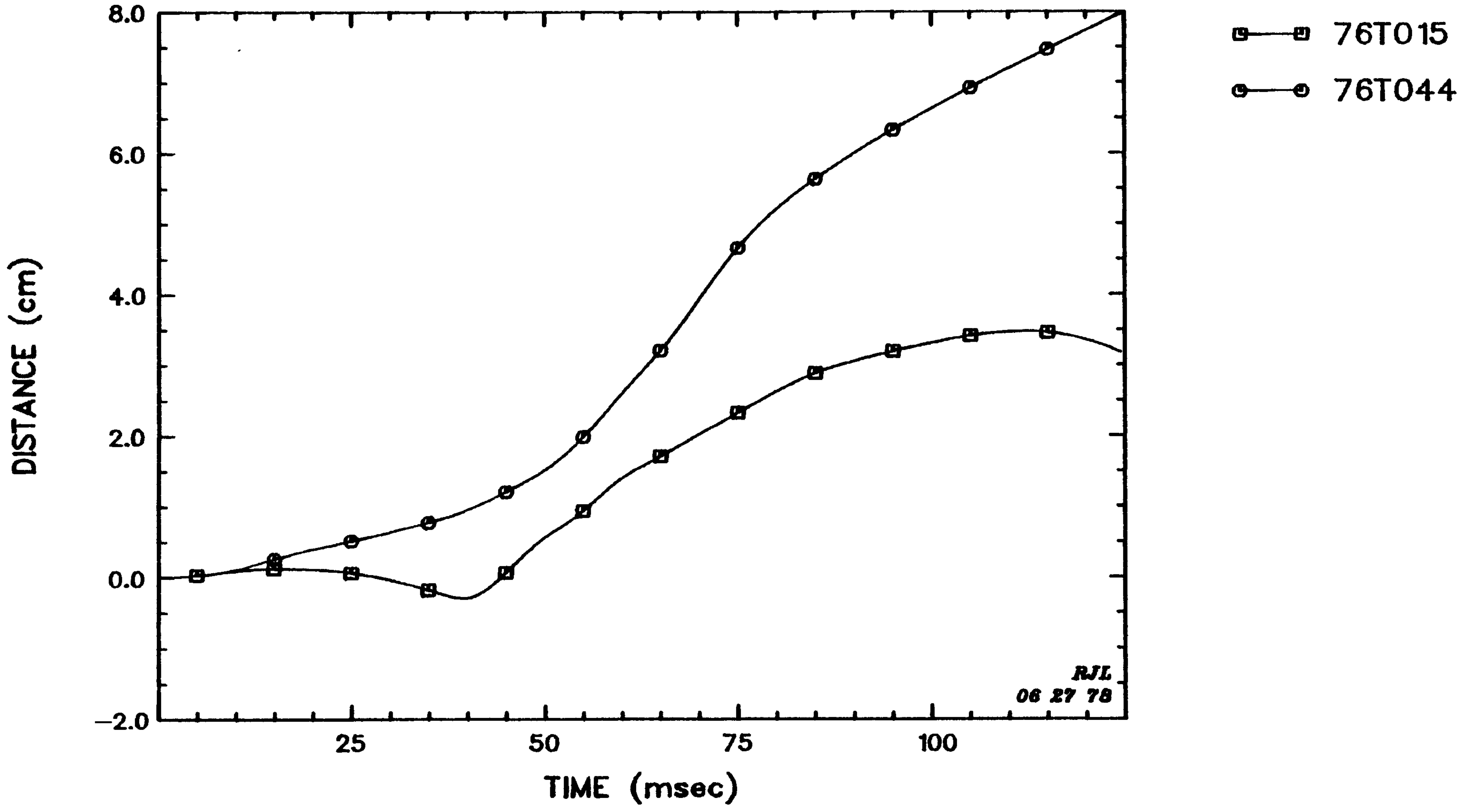
THORAX P-A -- DUMMY TESTS (26-R,P)

Figure 205



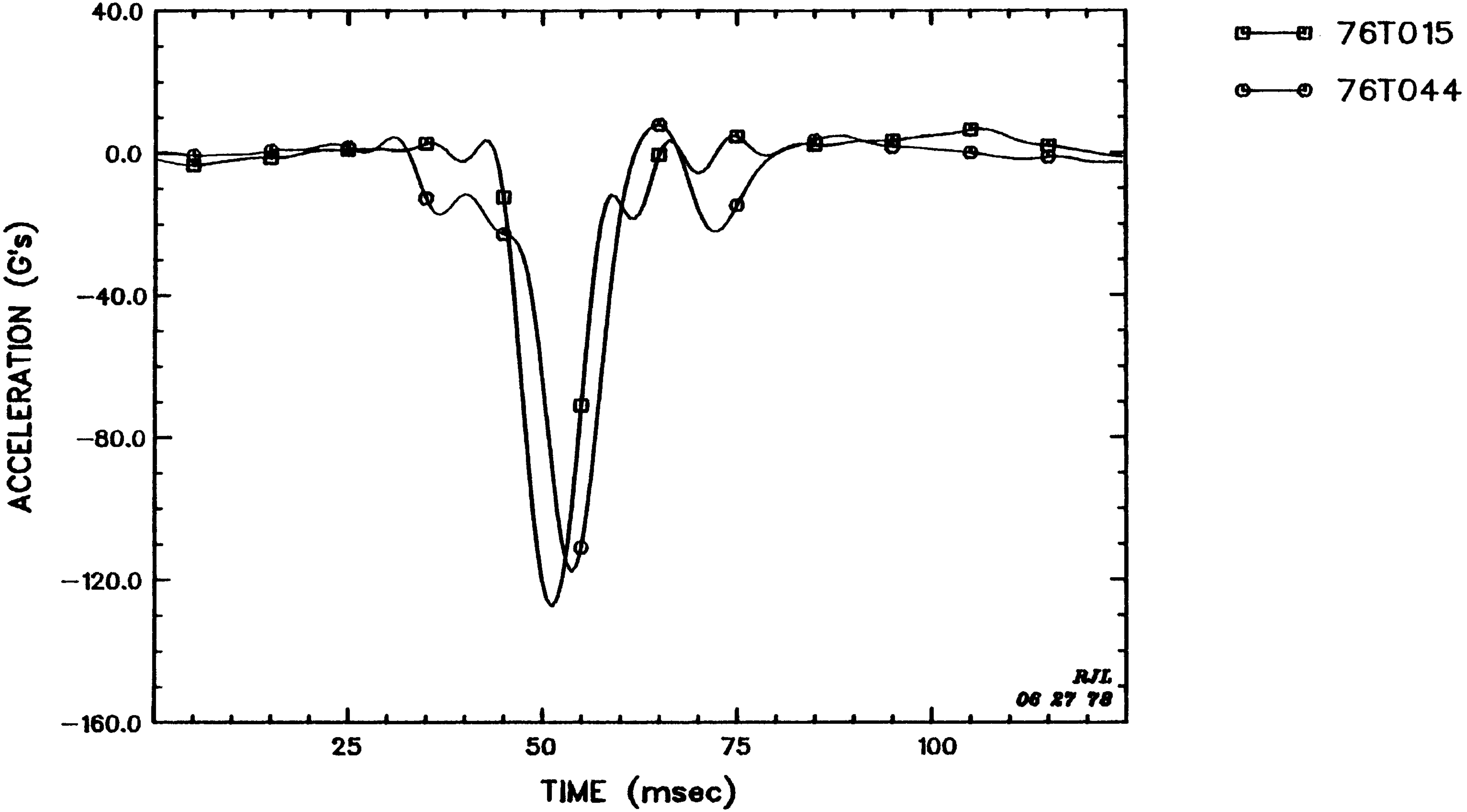
THORAX P–A –– DUMMY TESTS (26–R,P)

Figure 206



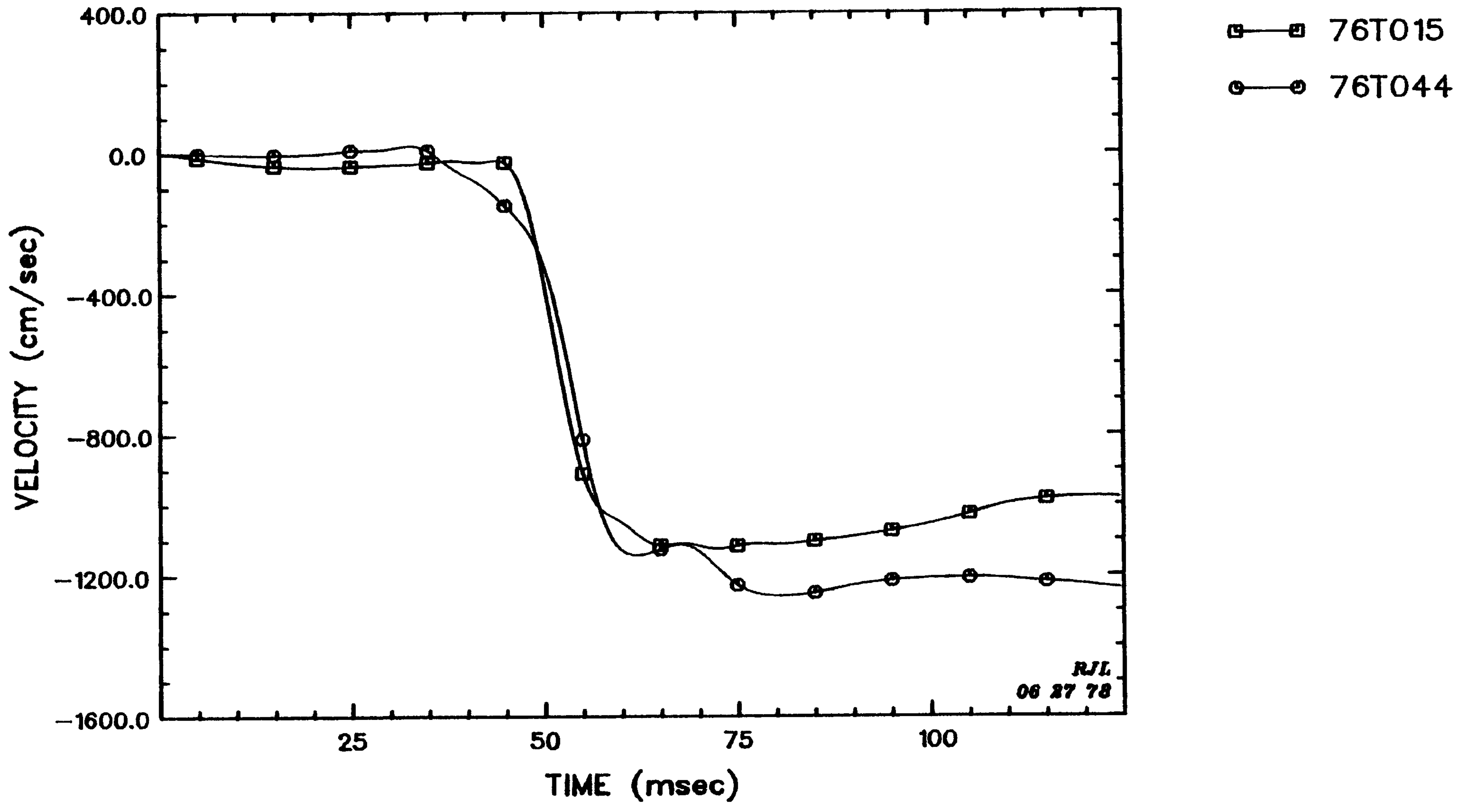
THORAX P—A –– DUMMY TESTS (26—R,P)

Figure 207



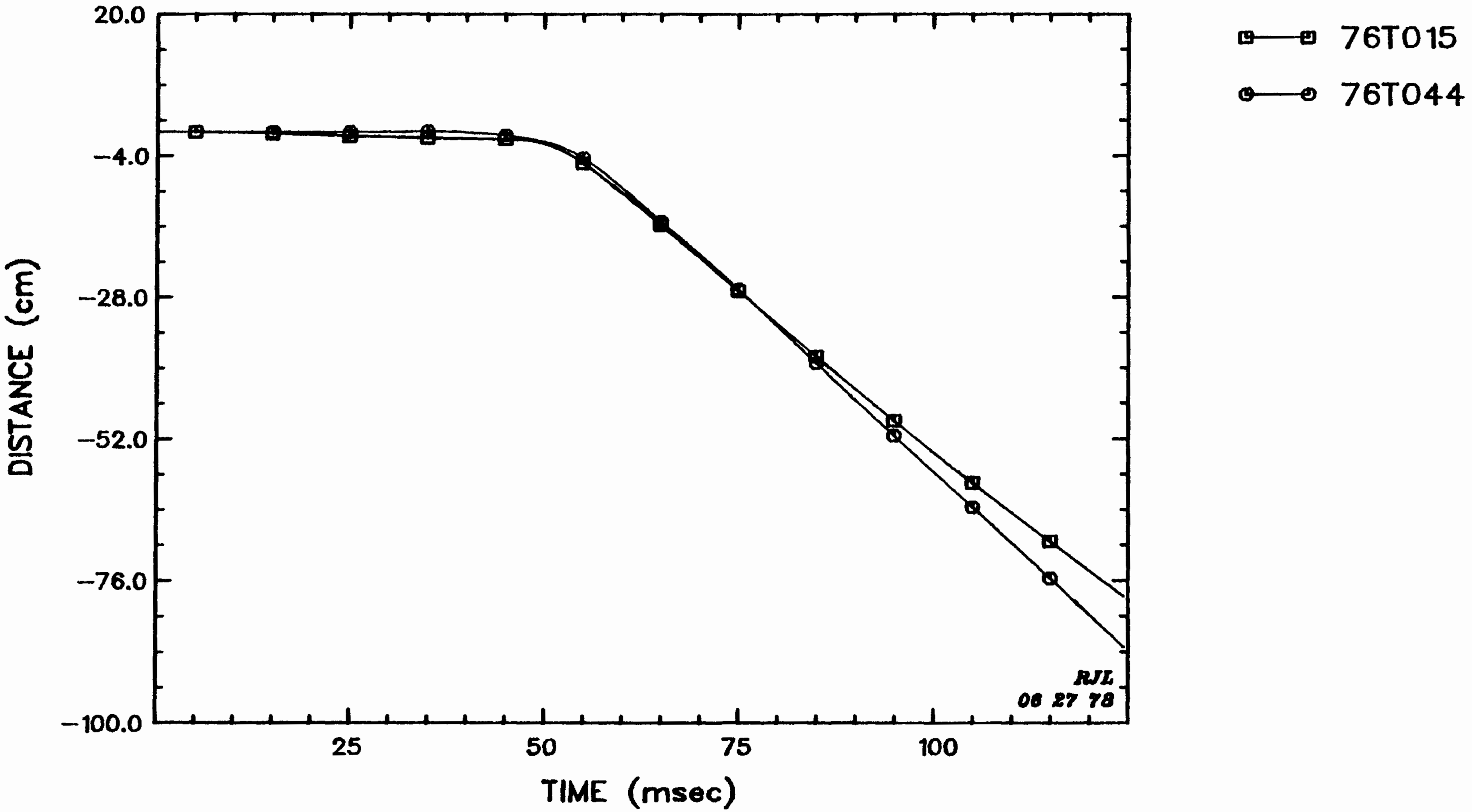
THORAX R-L -- DUMMY TESTS (26-R,P)

Figure 208



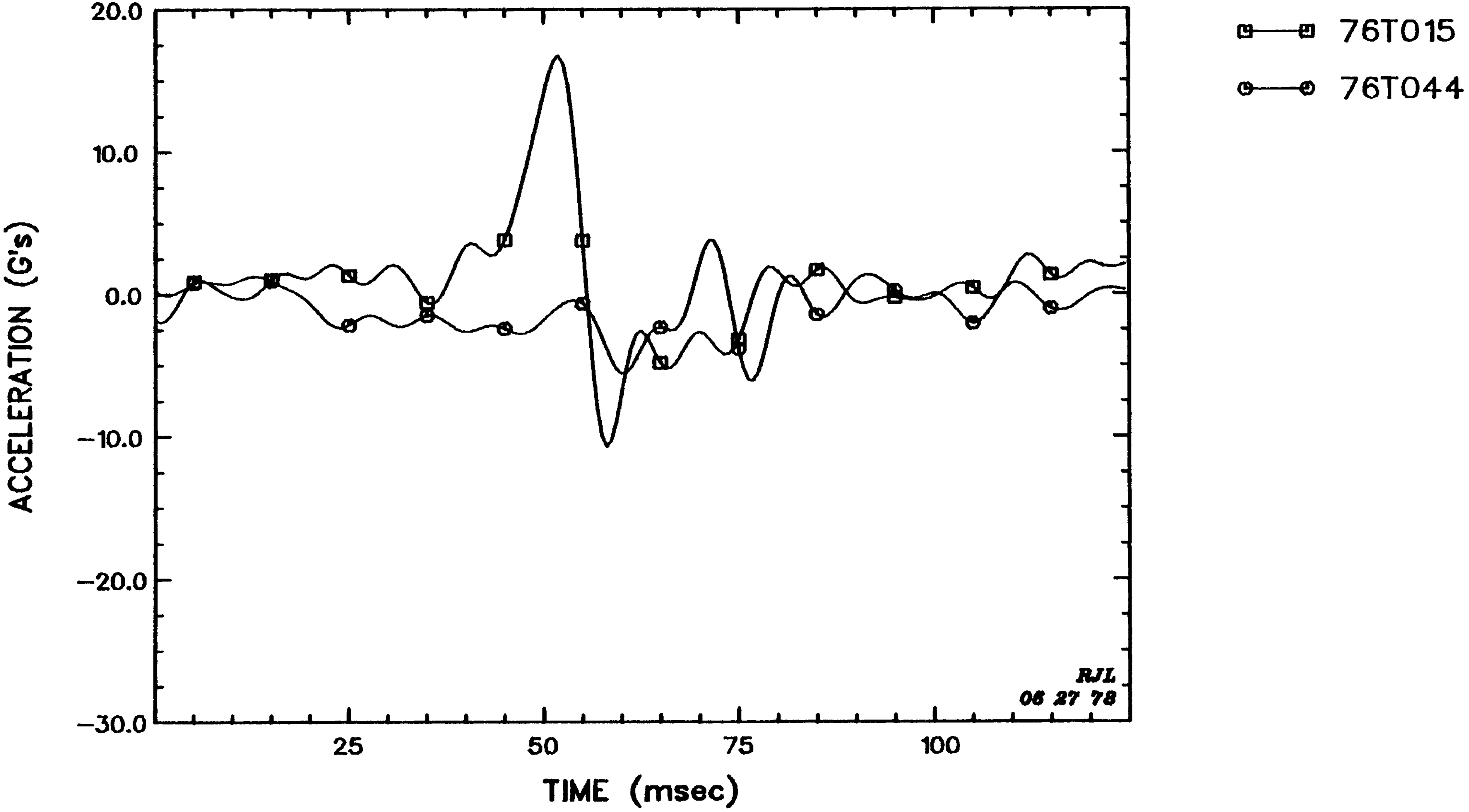
THORAX R-L -- DUMMY TESTS (26-R,P)

Figure 209



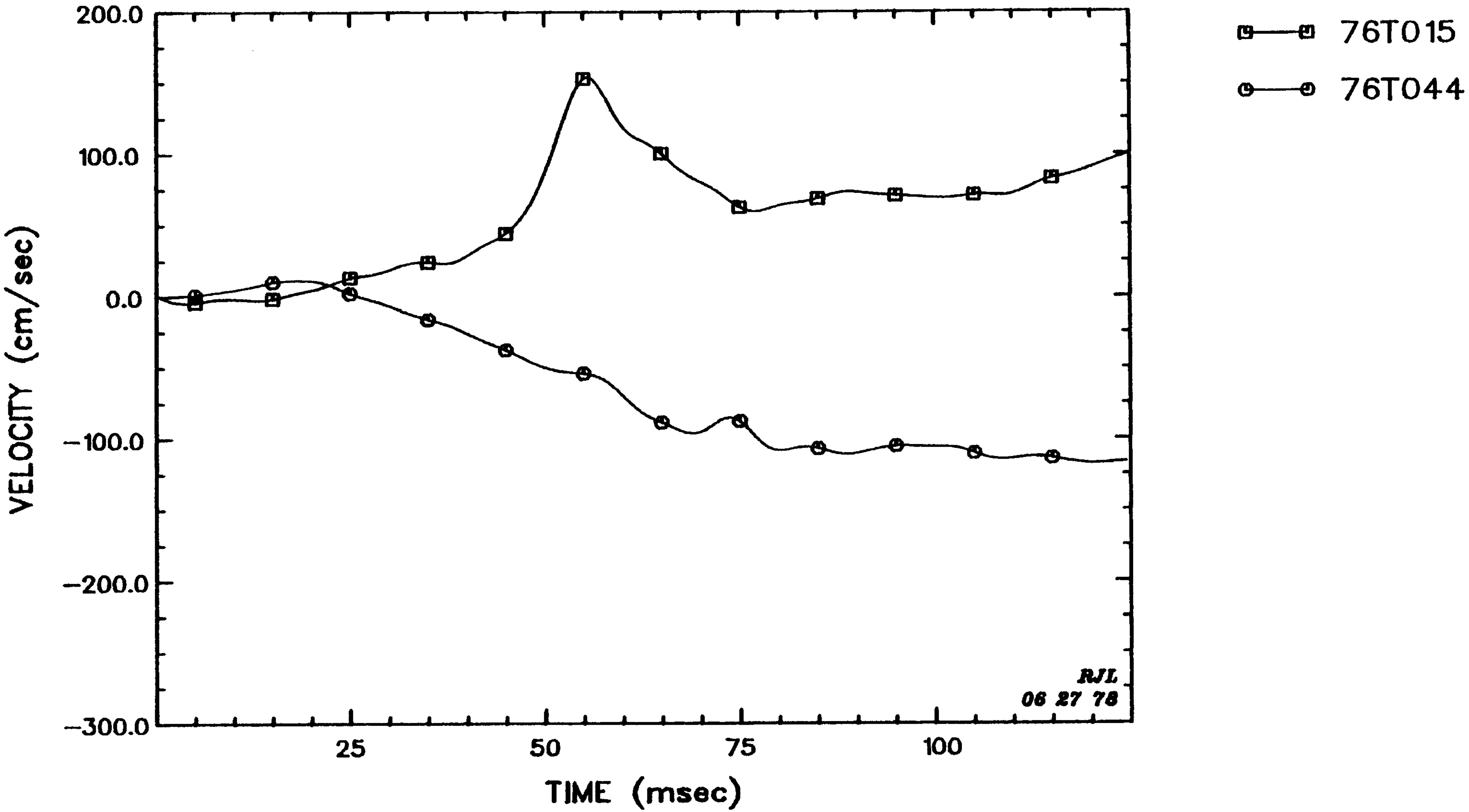
THORAX R-L -- DUMMY TESTS (26-R,P)

Figure 210



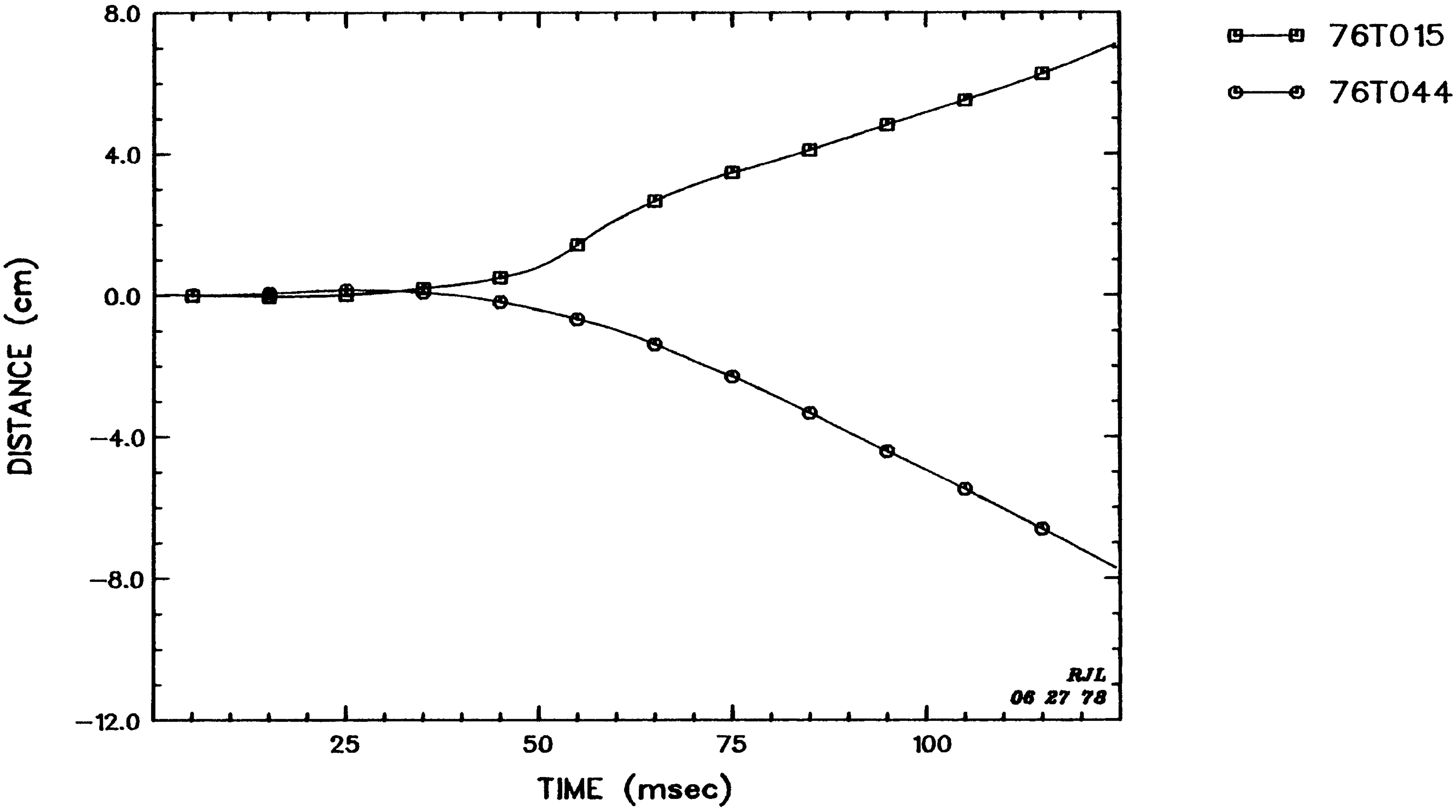
PELVIS P–A –– DUMMY TESTS (26–R,P)

Figure 211



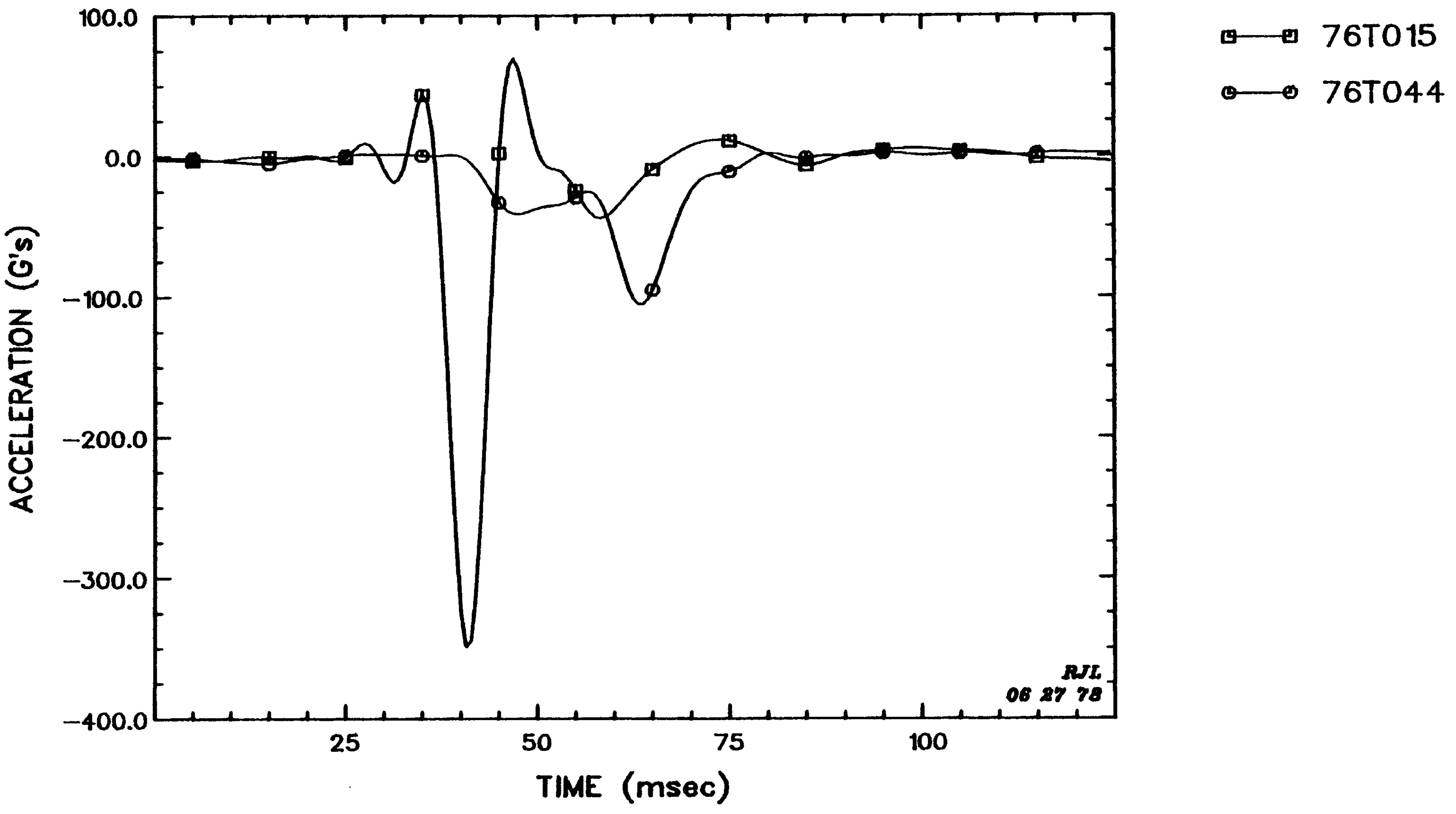
PELVIS P-A -- DUMMY TESTS (26-R,P)

Figure 212



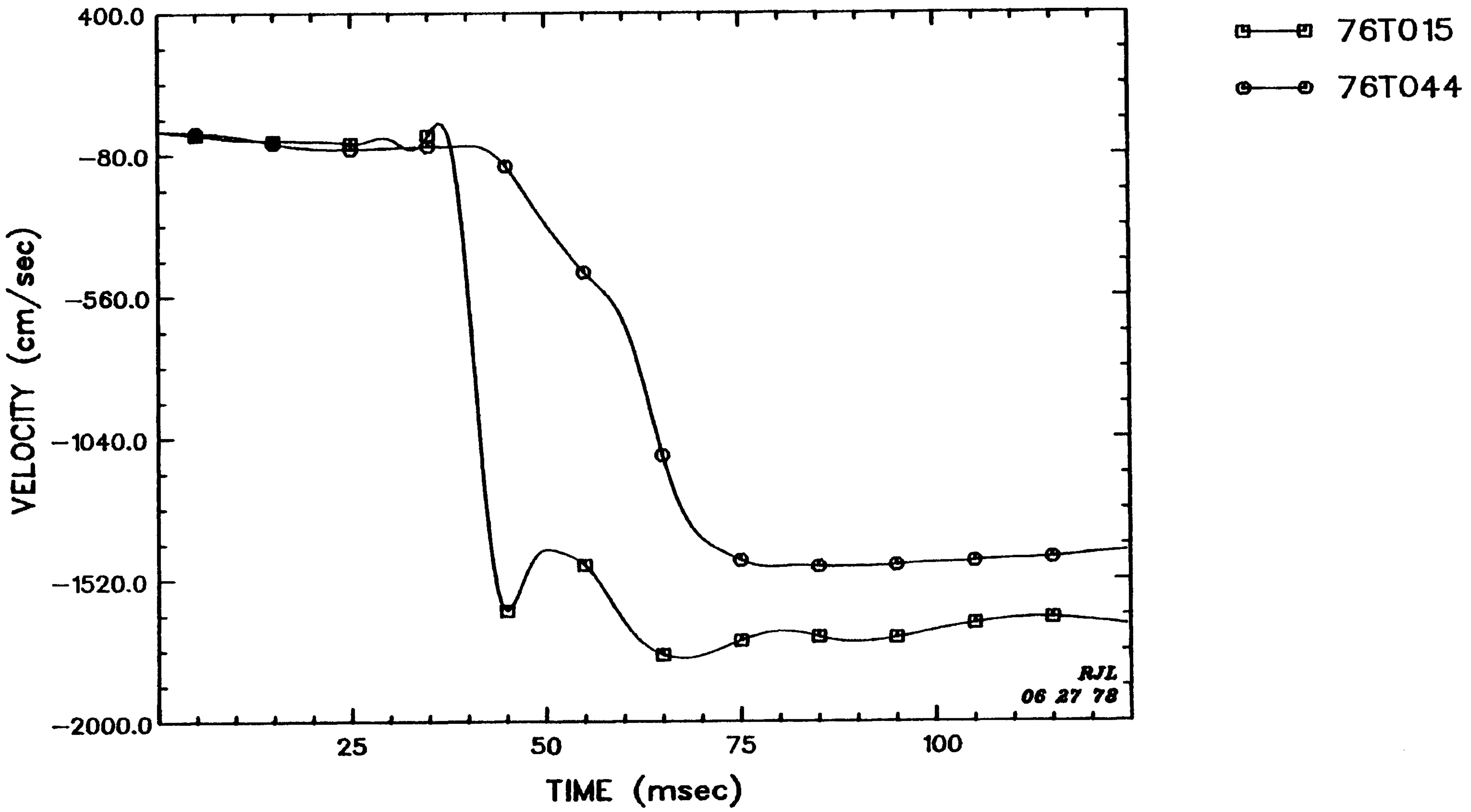
PELVIS P–A –– DUMMY TESTS (26–R,P)

Figure 213



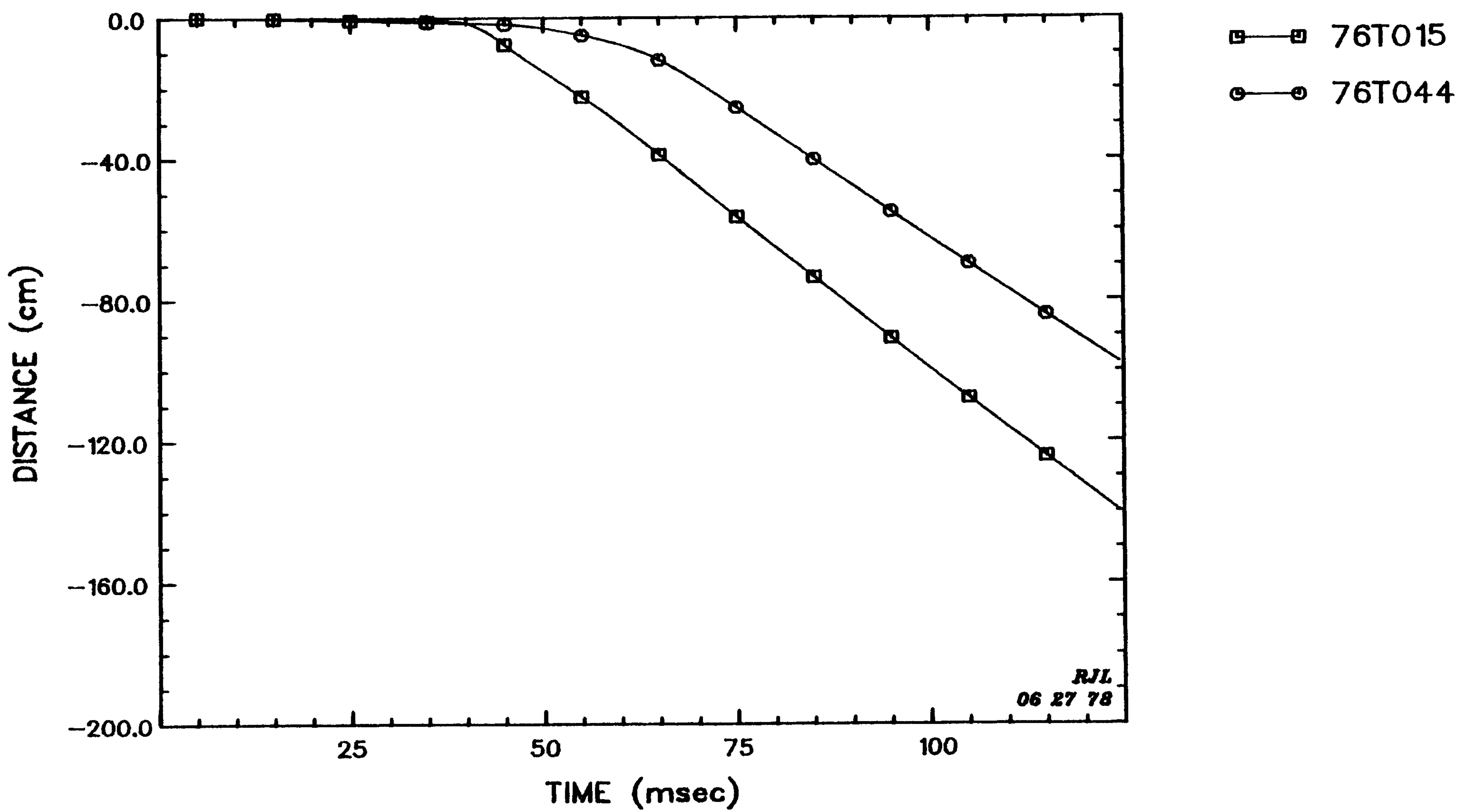
PELVIS R–L –– DUMMY TESTS (26–R,P)

Figure 214



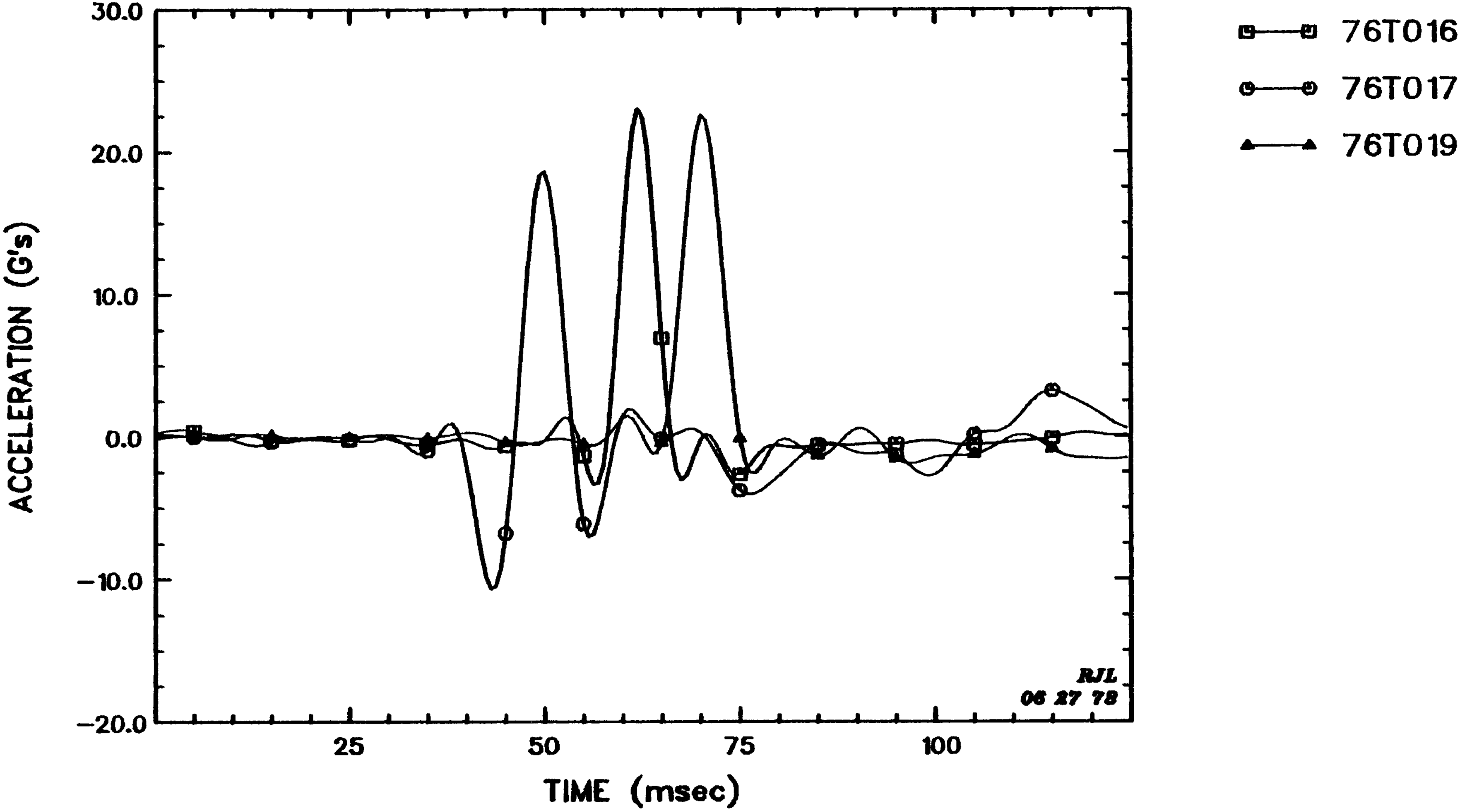
PELVIS R–L –– DUMMY TESTS (26–R,P)

Figure 215



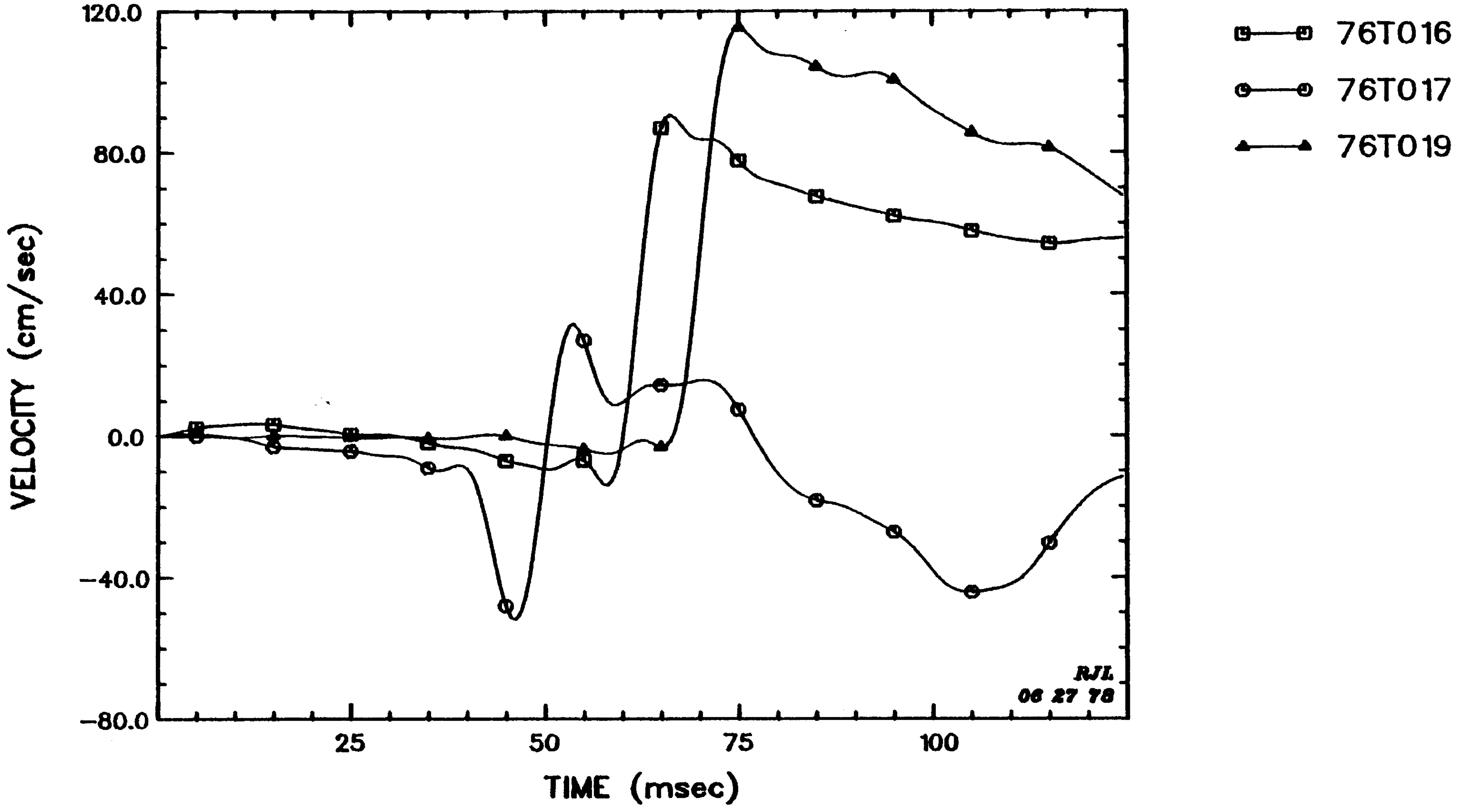
PELVIS R-L -- DUMMY TESTS (26-R,P)

Figure 216



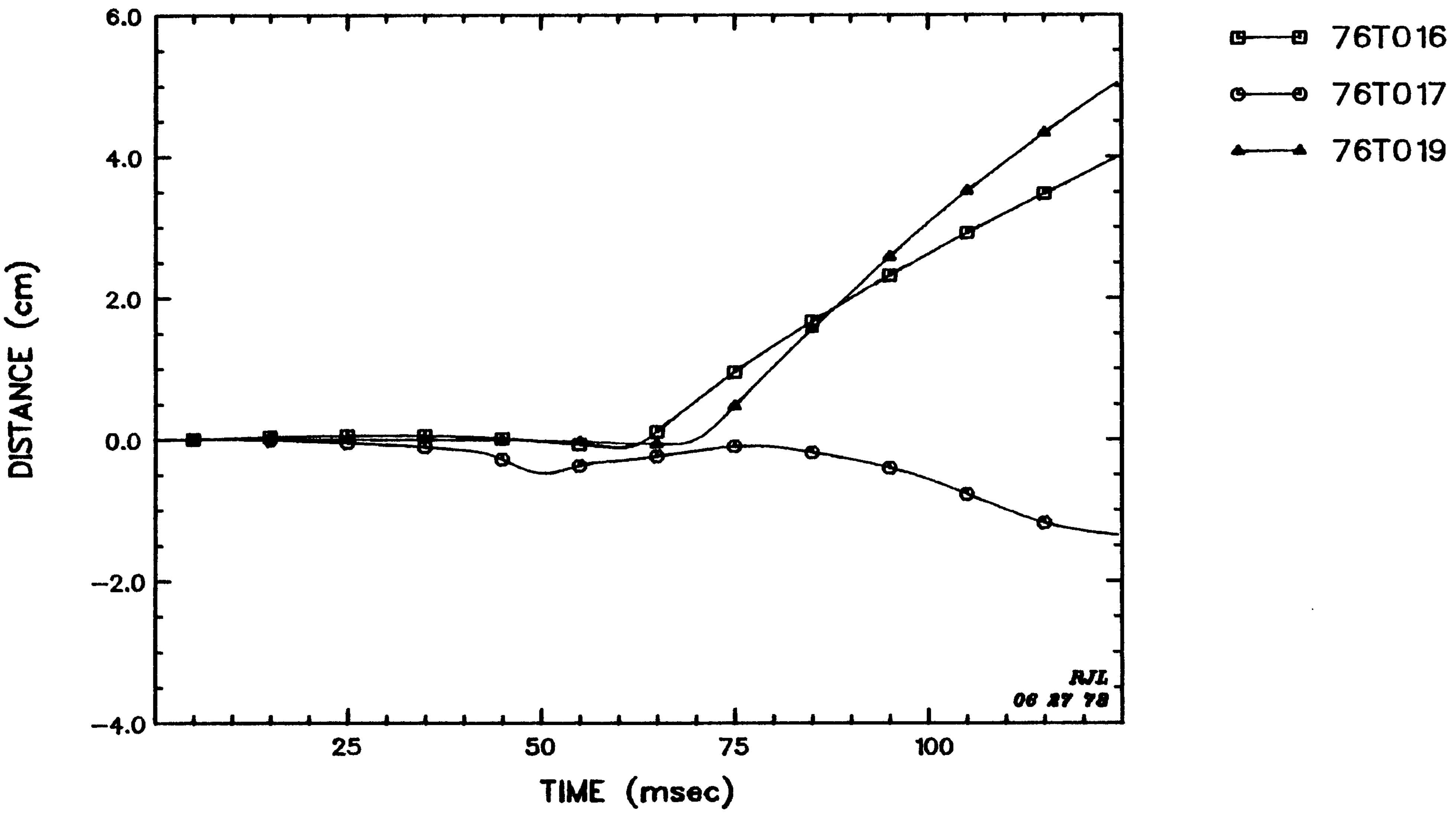
HEAD P-A -- DUMMY TESTS (T-10,14,20-R)

Figure 217



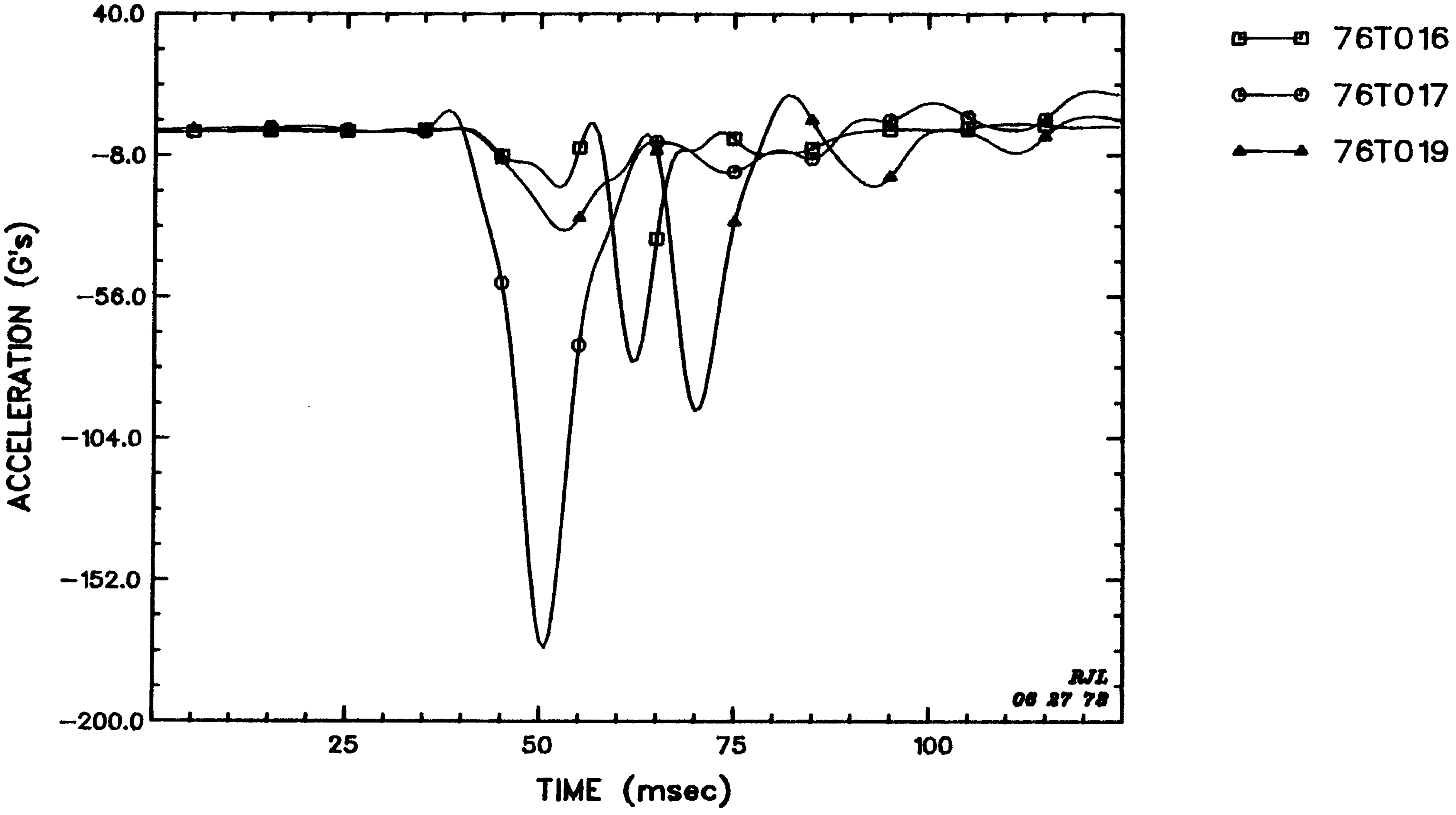
HEAD P-A -- DUMMY TESTS (T-10,14,20-R)

Figure 218



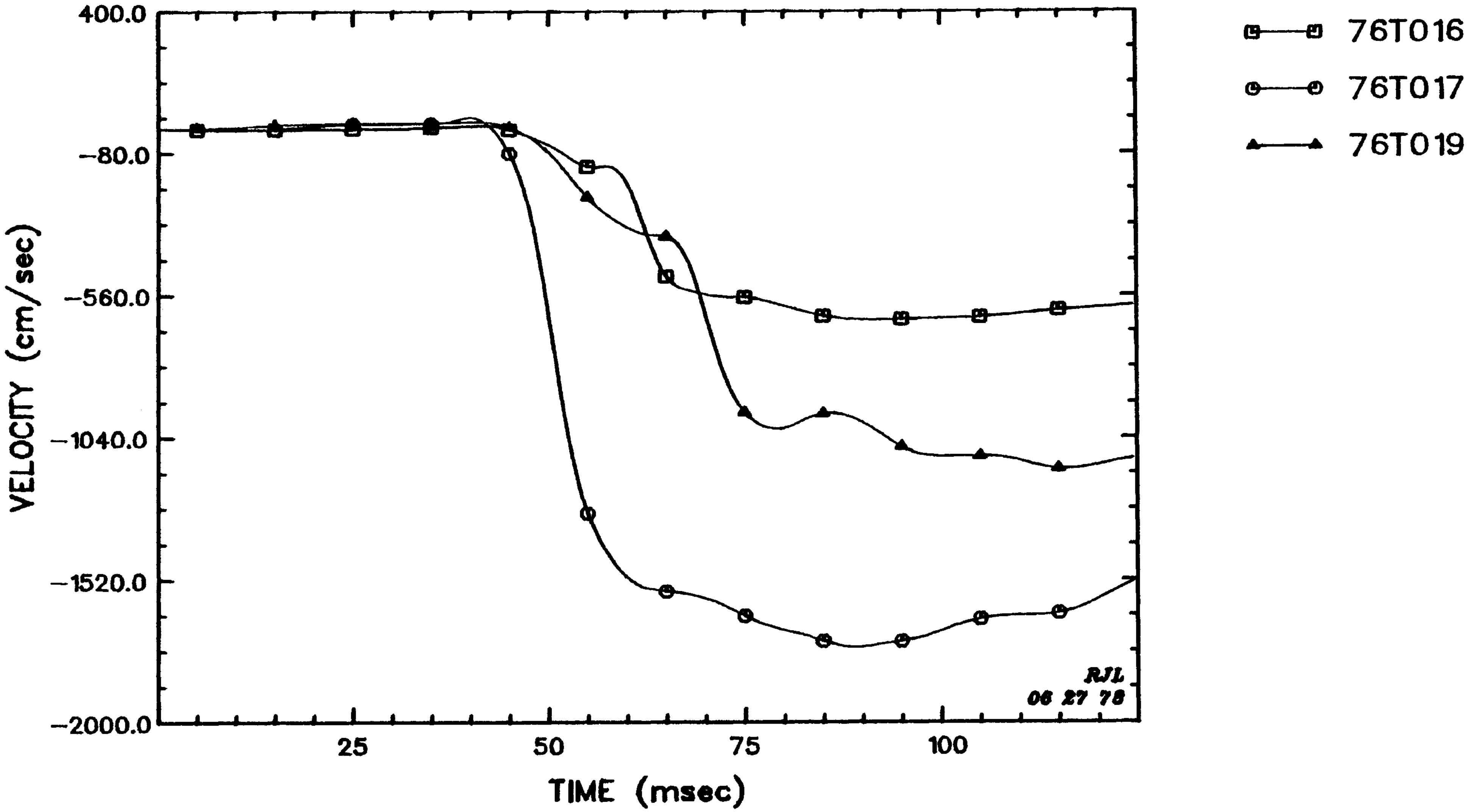
HEAD P-A -- DUMMY TESTS (T-10,14,20-R)

Figure 219



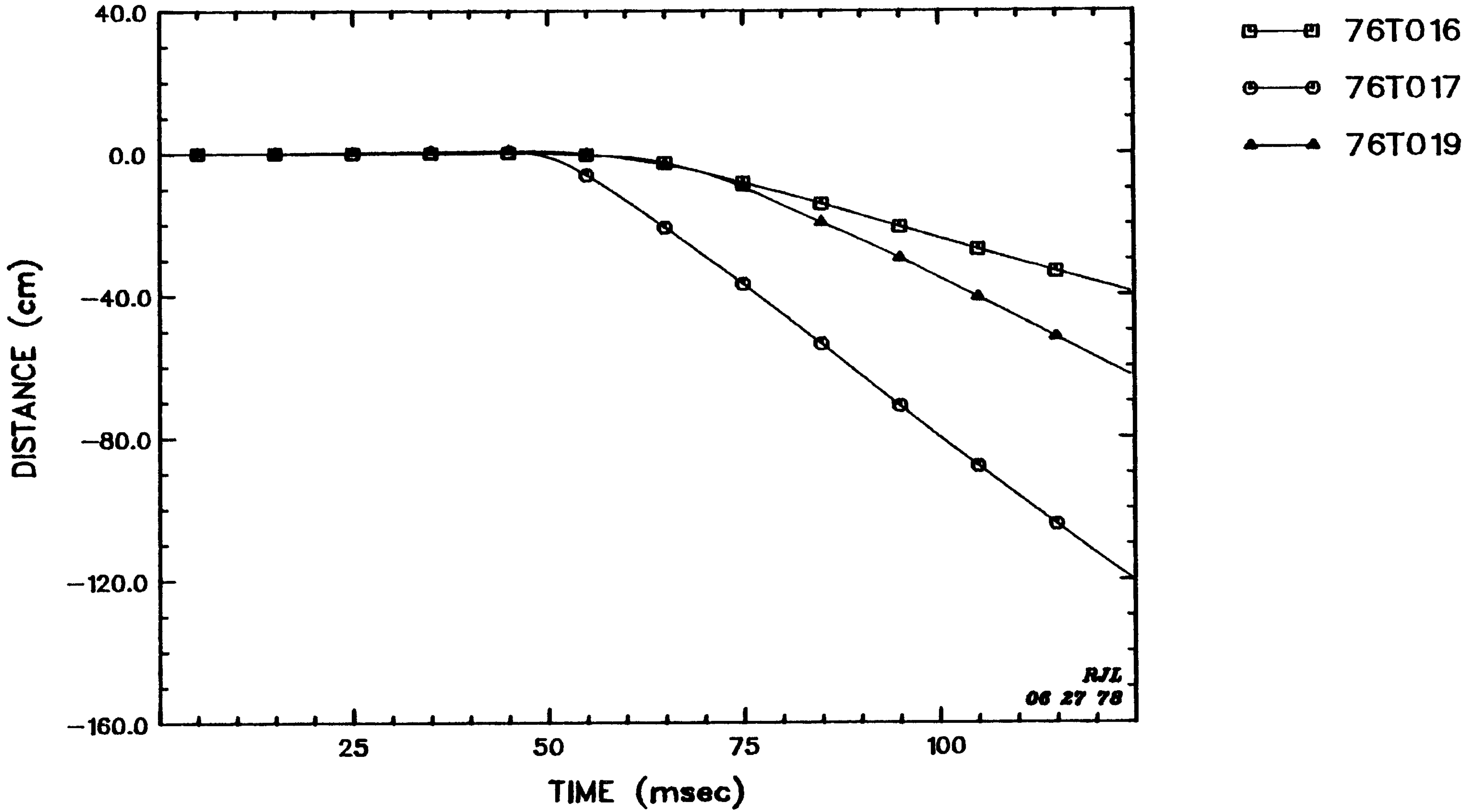
HEAD R-L -- DUMMY TESTS (T-10,14,20-R)

Figure 220



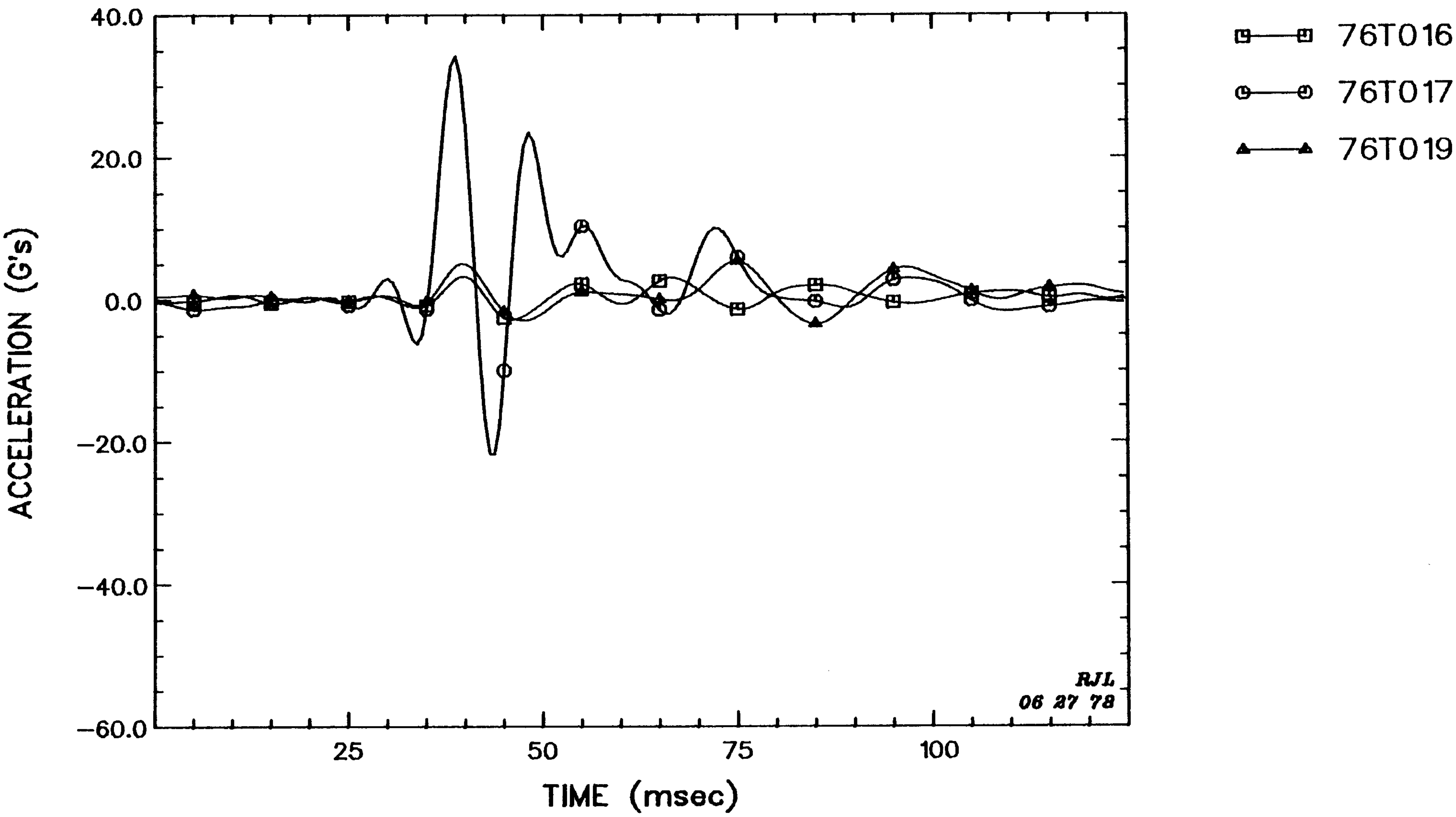
HEAD R-L -- DUMMY TESTS (T-10,14,20-R)

Figure 221



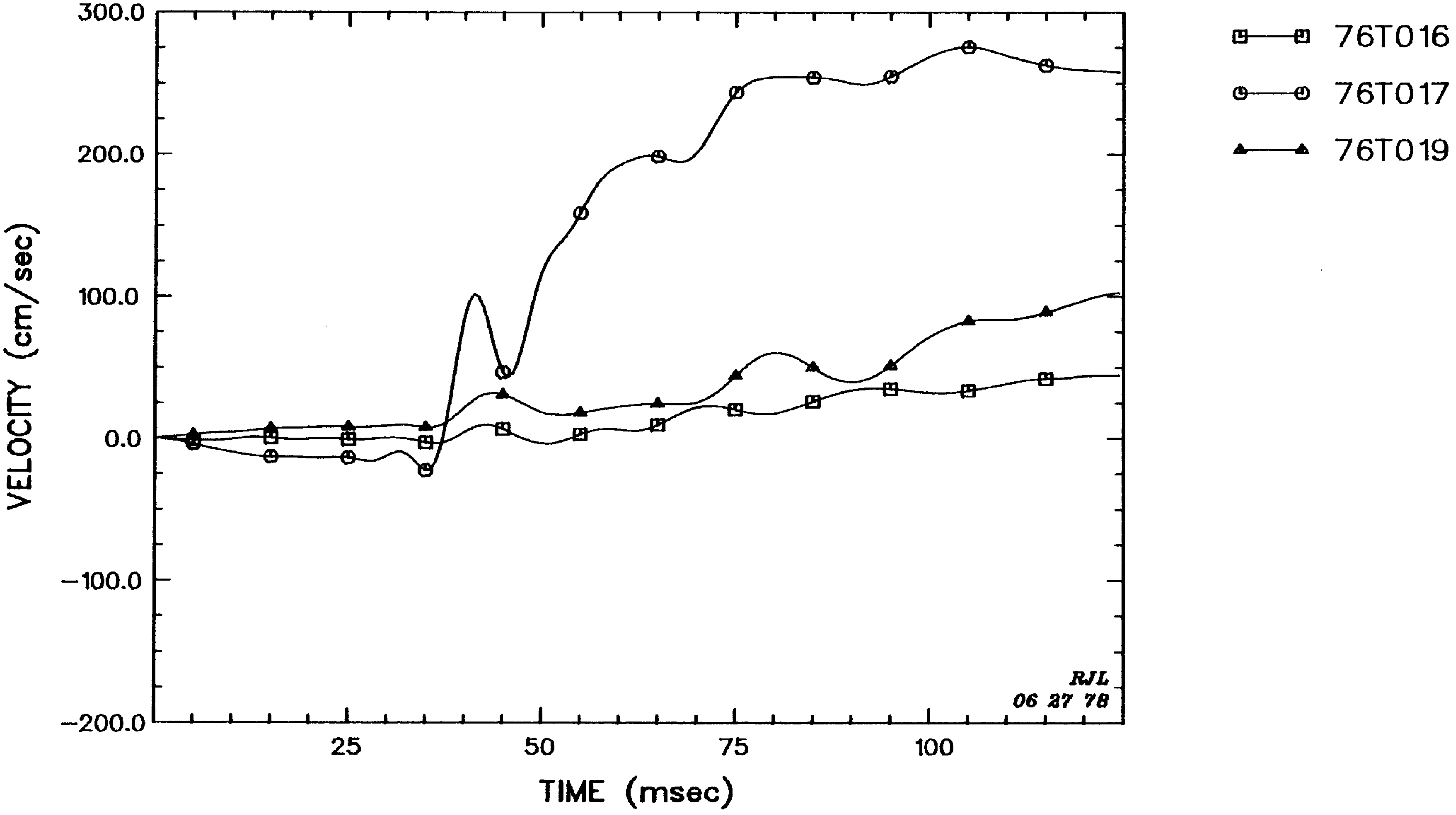
HEAD R-L -- DUMMY TESTS (T-10,14,20-R)

Figure 222



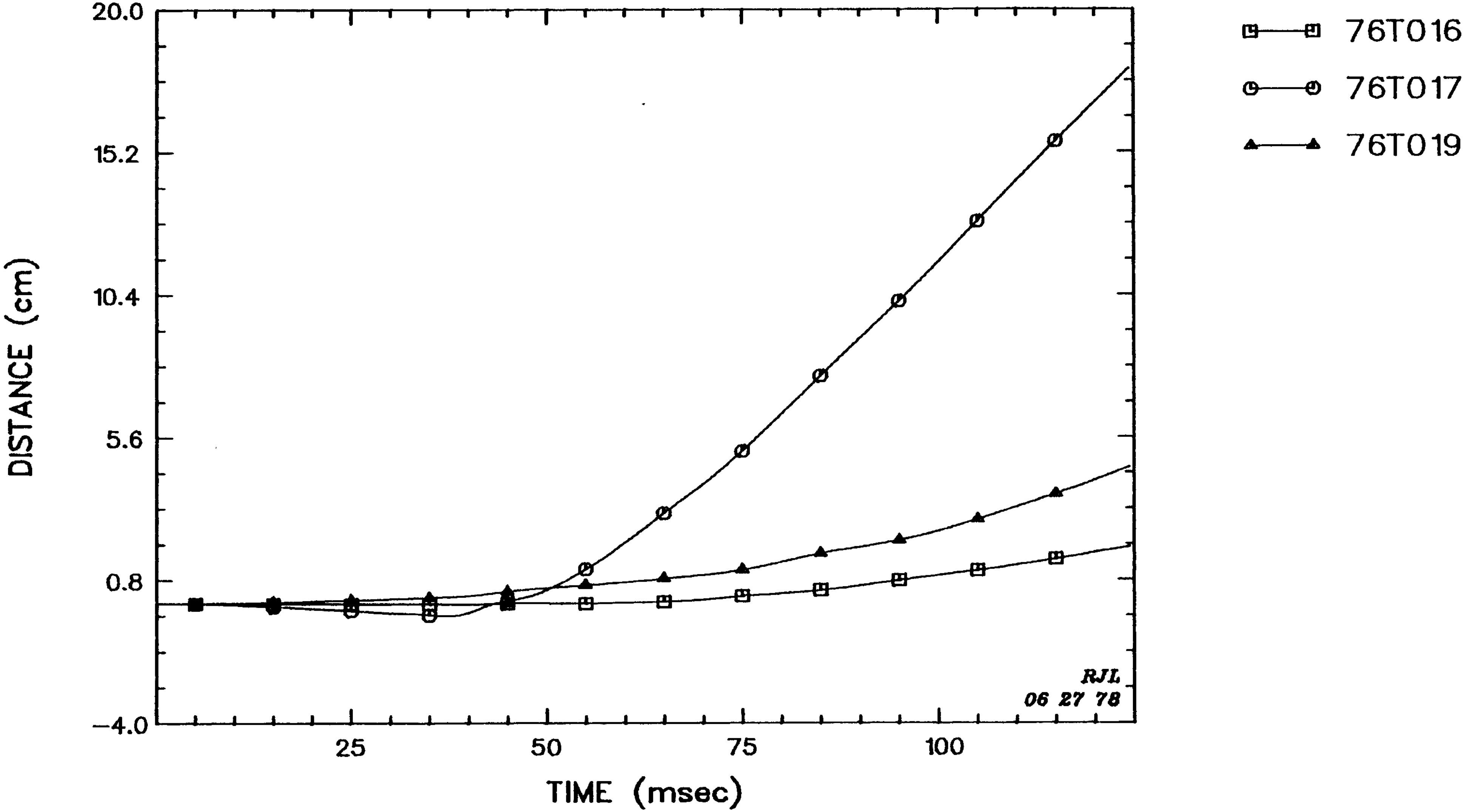
THORAX P–A -- DUMMY TESTS (T–10,14,20–R)

Figure 223



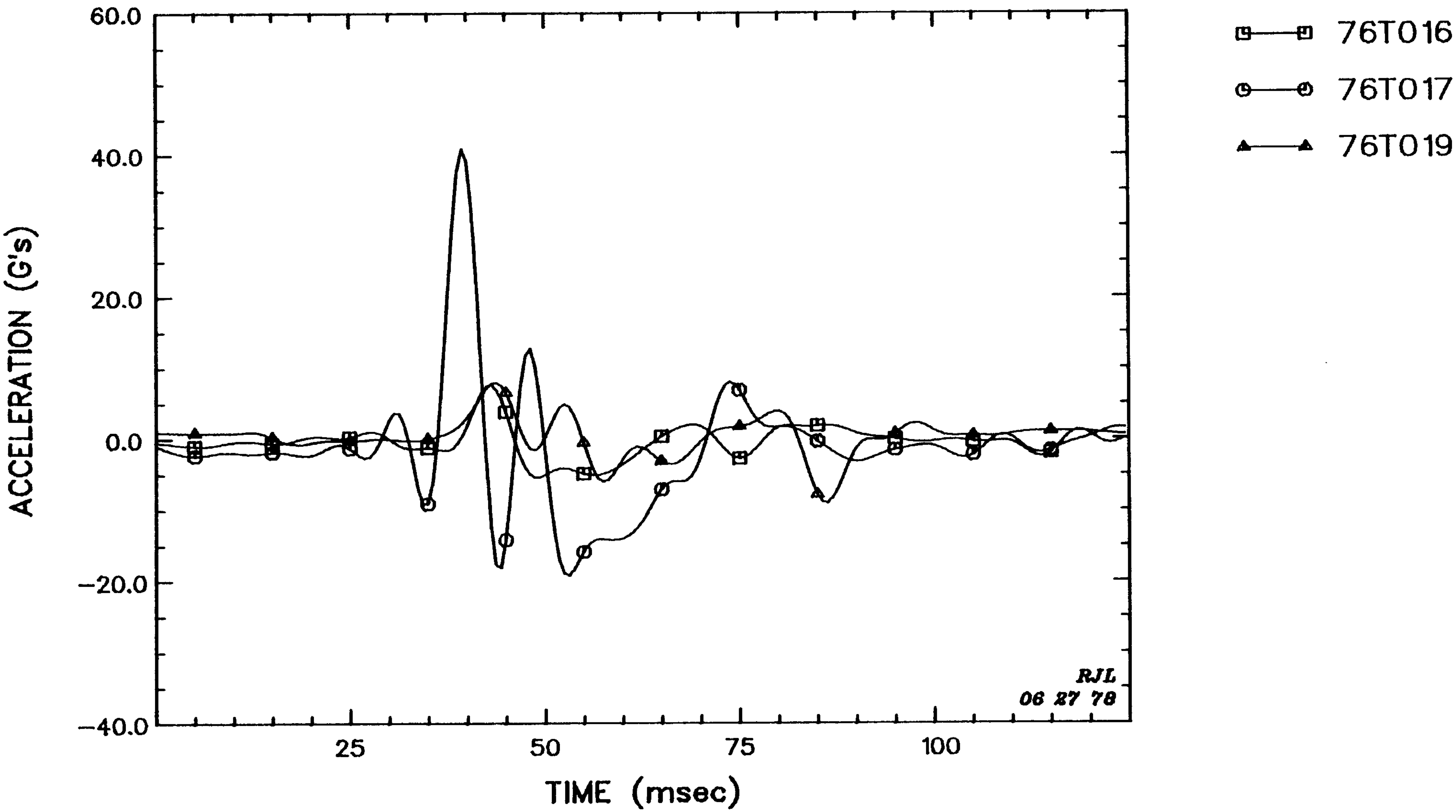
THORAX P–A –– DUMMY TESTS (T–10,14,20–R)

Figure 224



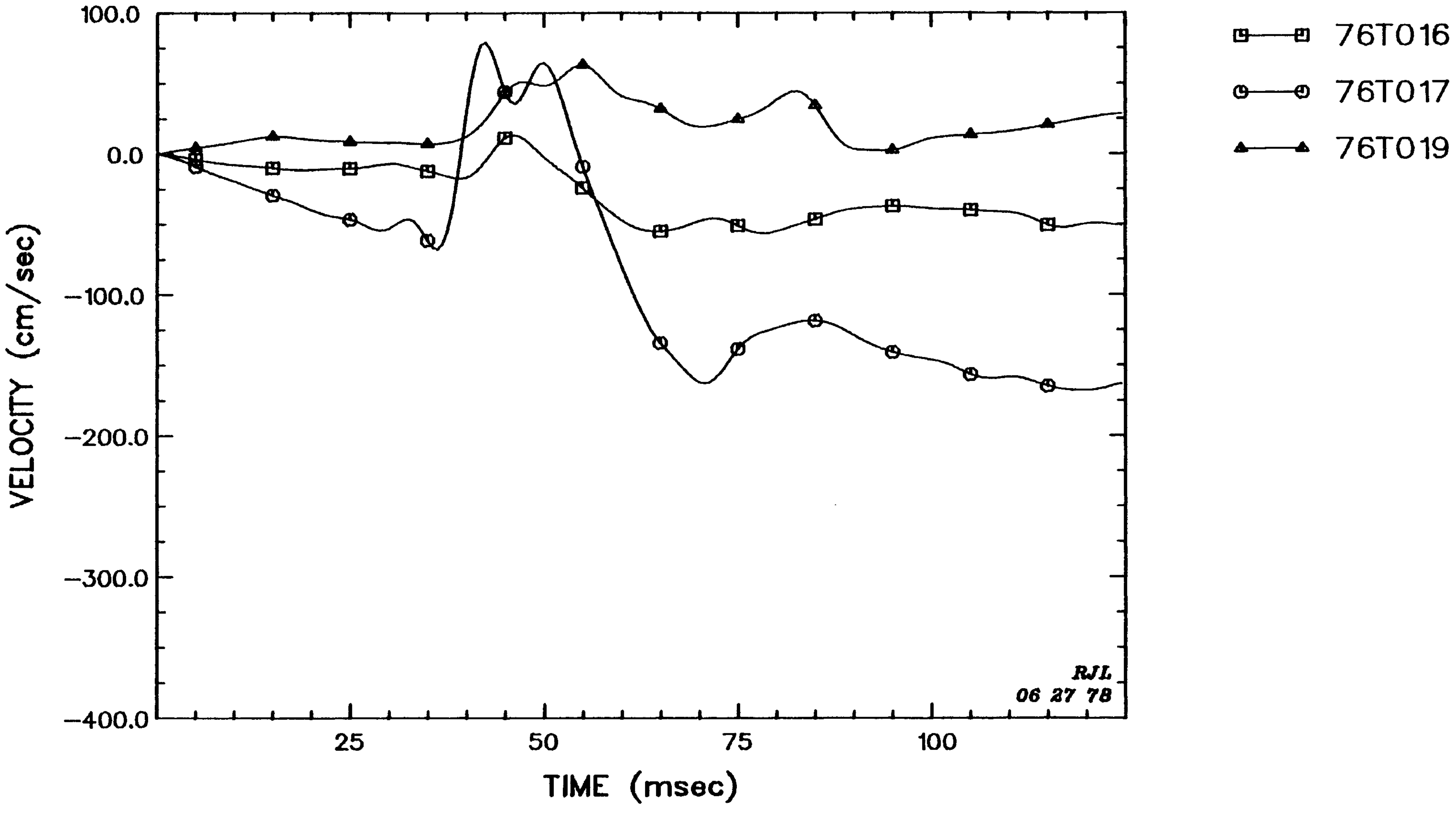
THORAX P-A -- DUMMY TESTS (T-10,14,20-R)

Figure 225



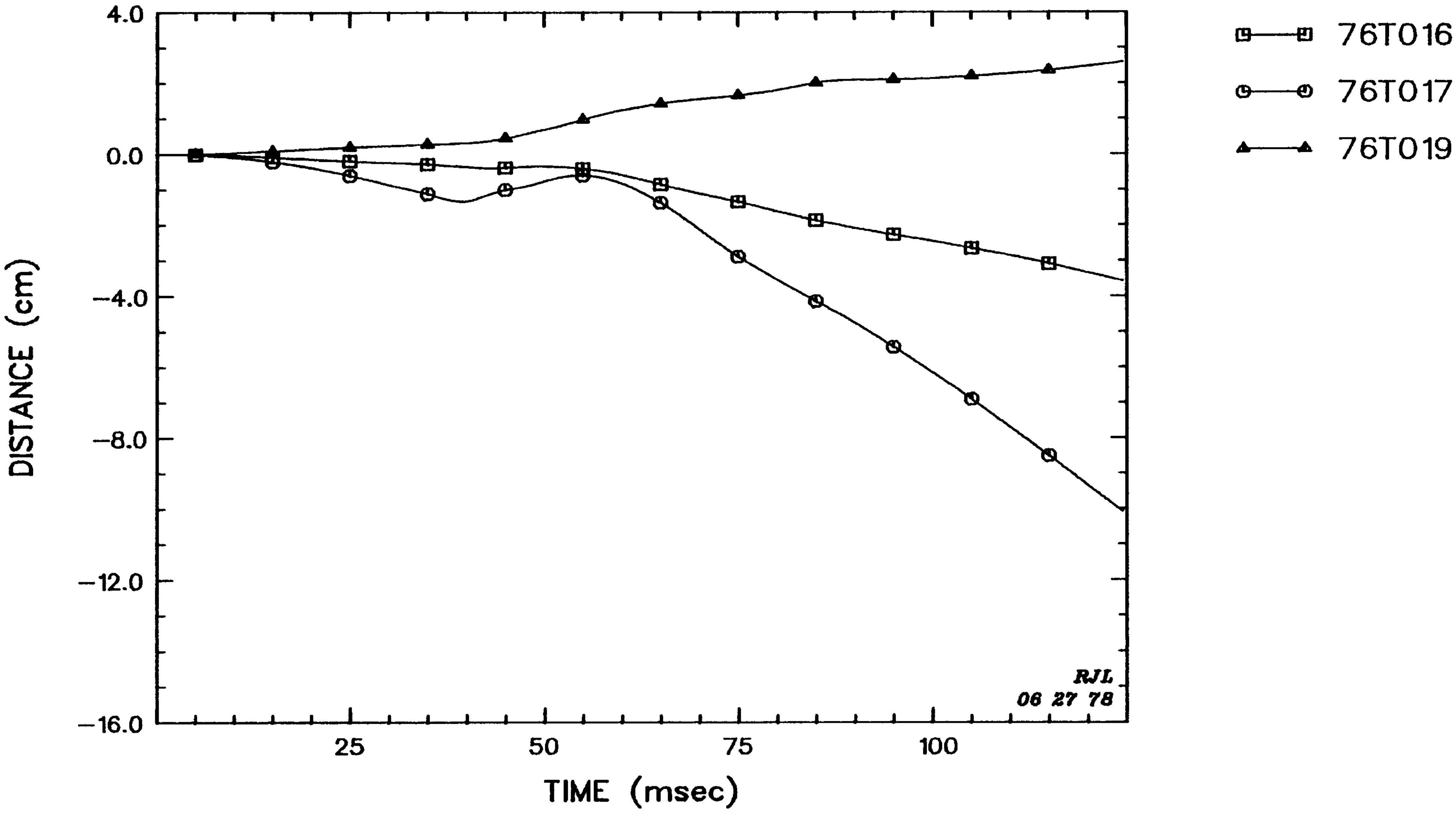
THORAX R-L -- DUMMY TESTS (T-10,14,20-R)

Figure 226



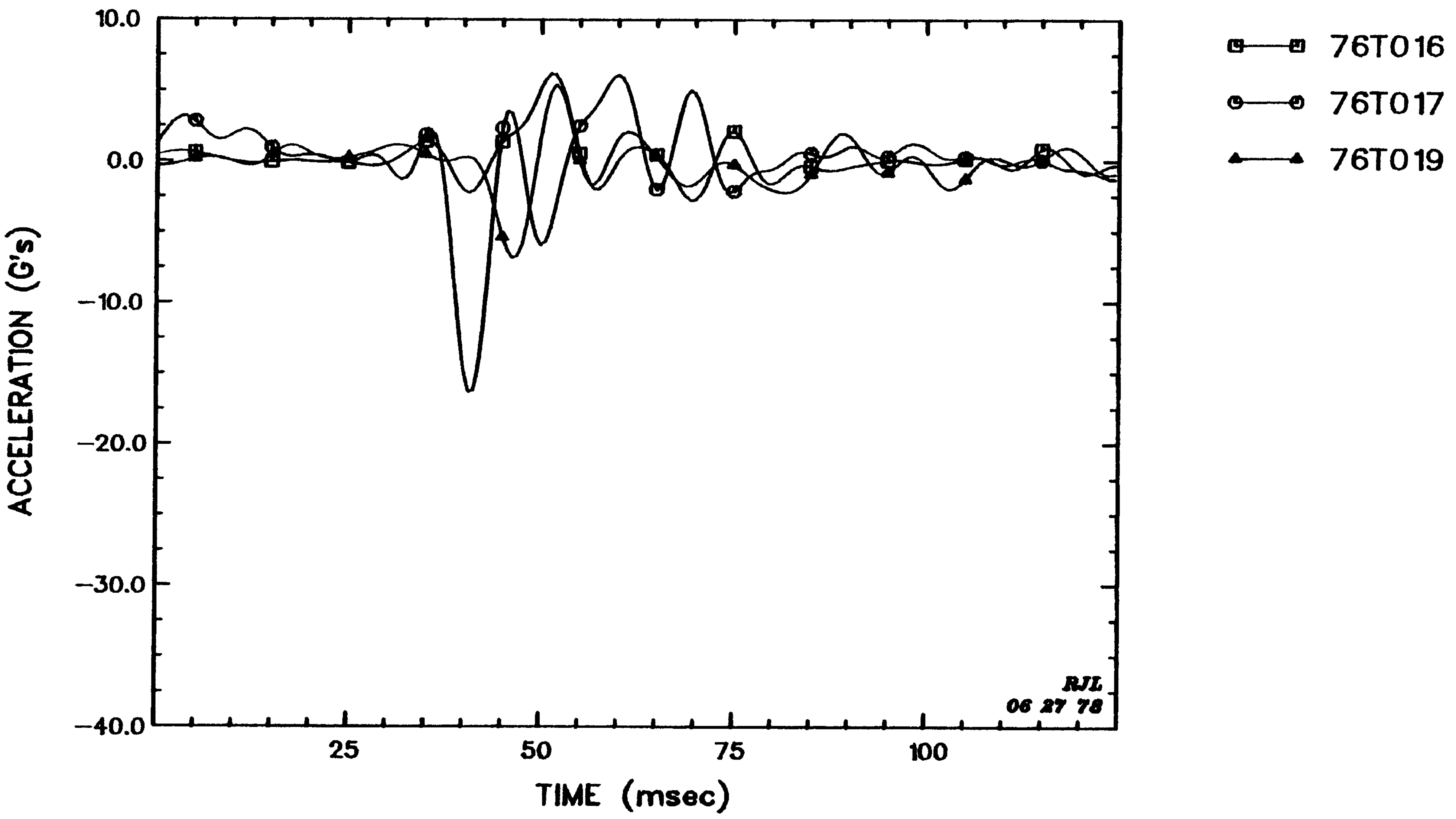
THORAX R-L -- DUMMY TESTS (T-10,14,20-R)

Figure 227



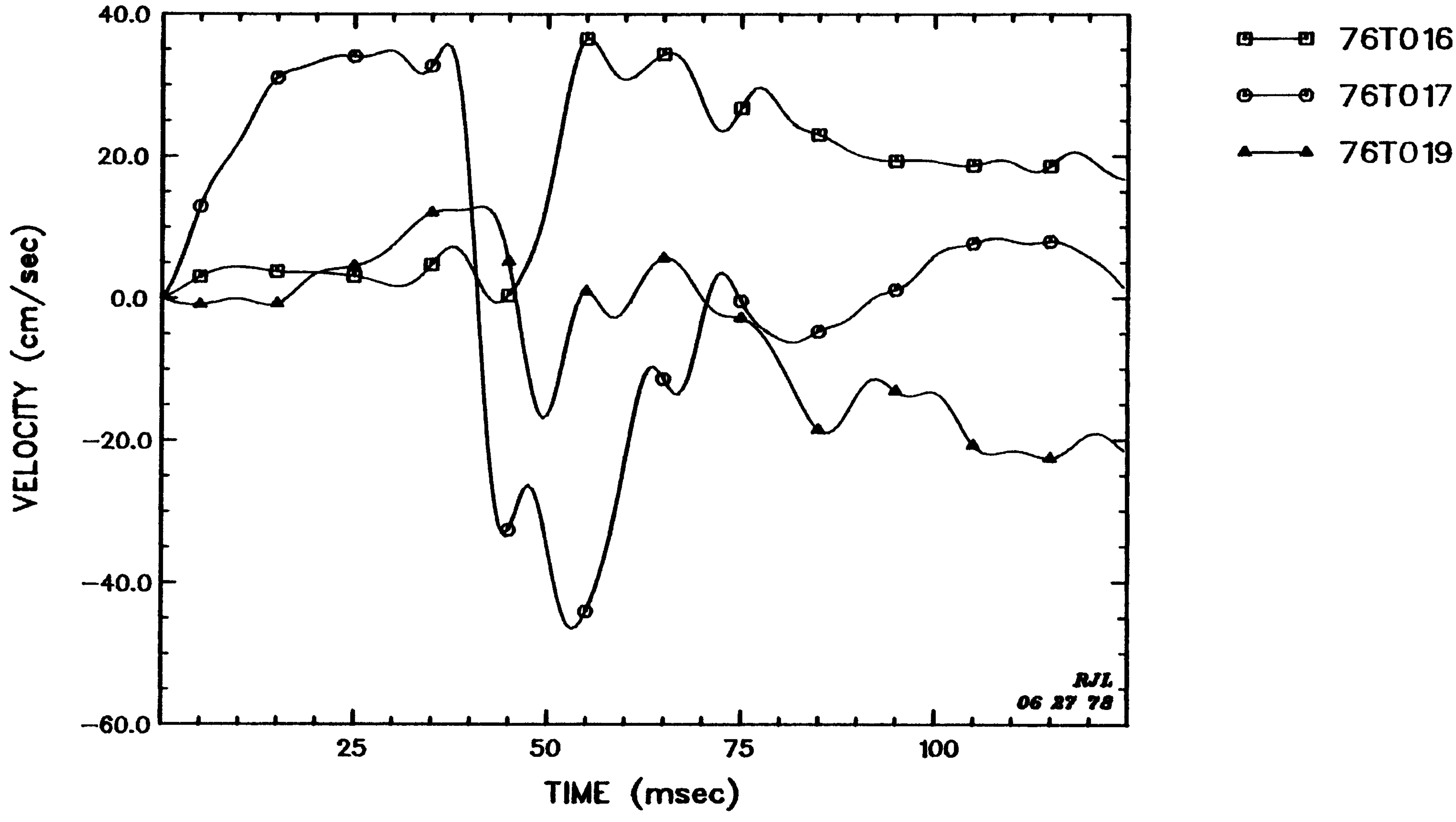
THORAX R−L -- DUMMY TESTS (T−10,14,20−R)

Figure 228



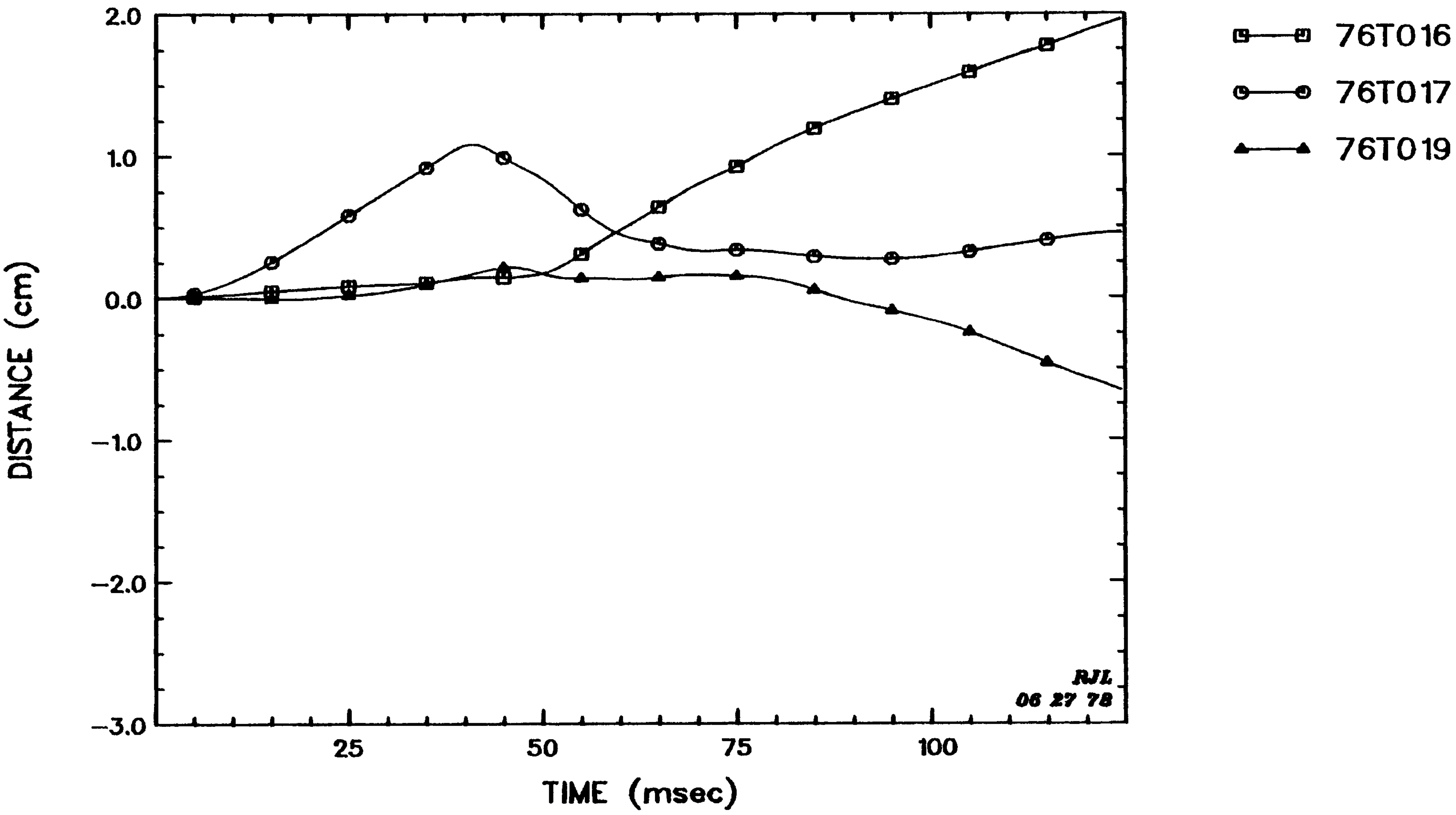
PELVIS P-A -- DUMMY TESTS (T-10,14,20-R)

Figure 229



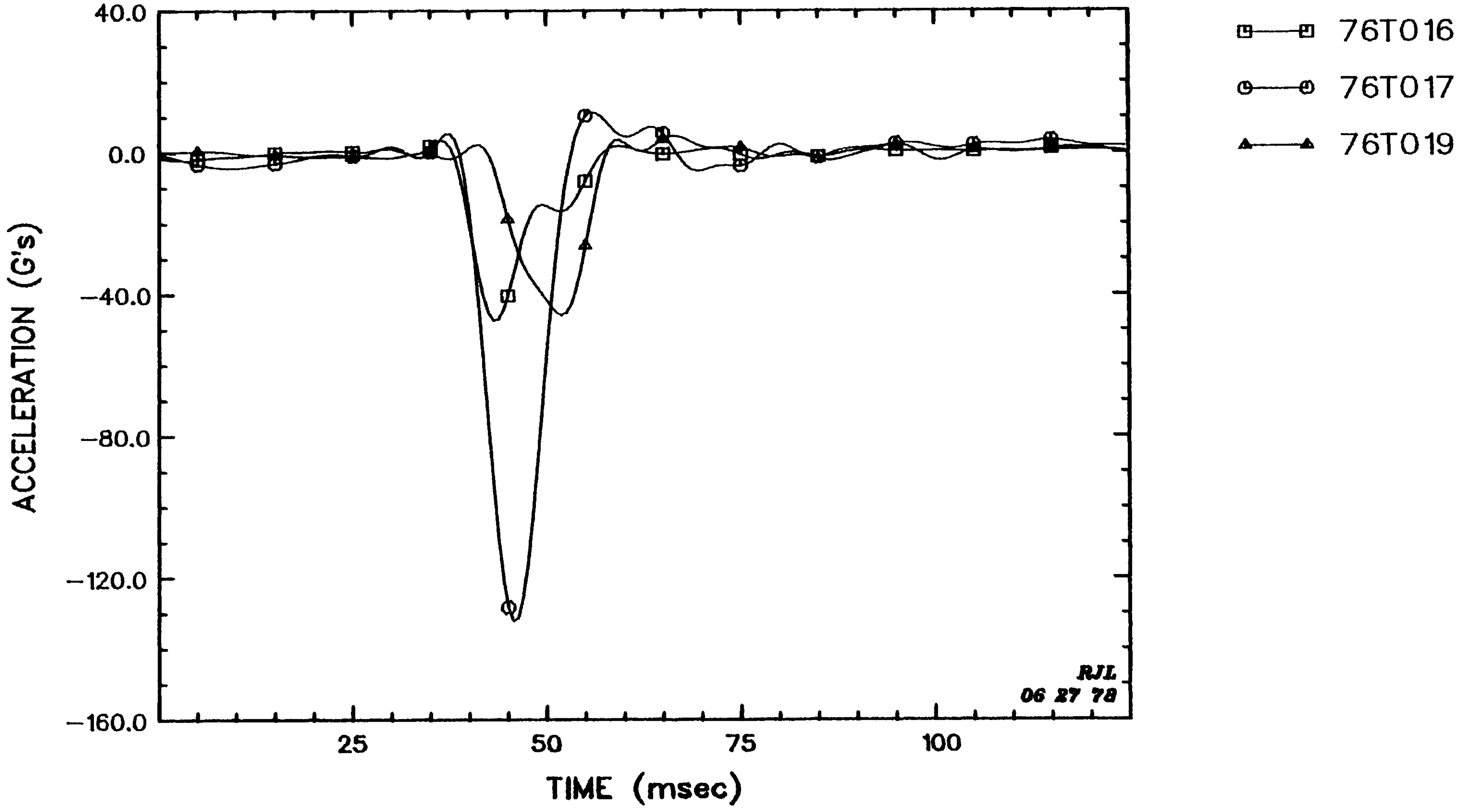
PELVIS P-A -- DUMMY TESTS (T-10,14,20-R)

Figure 230



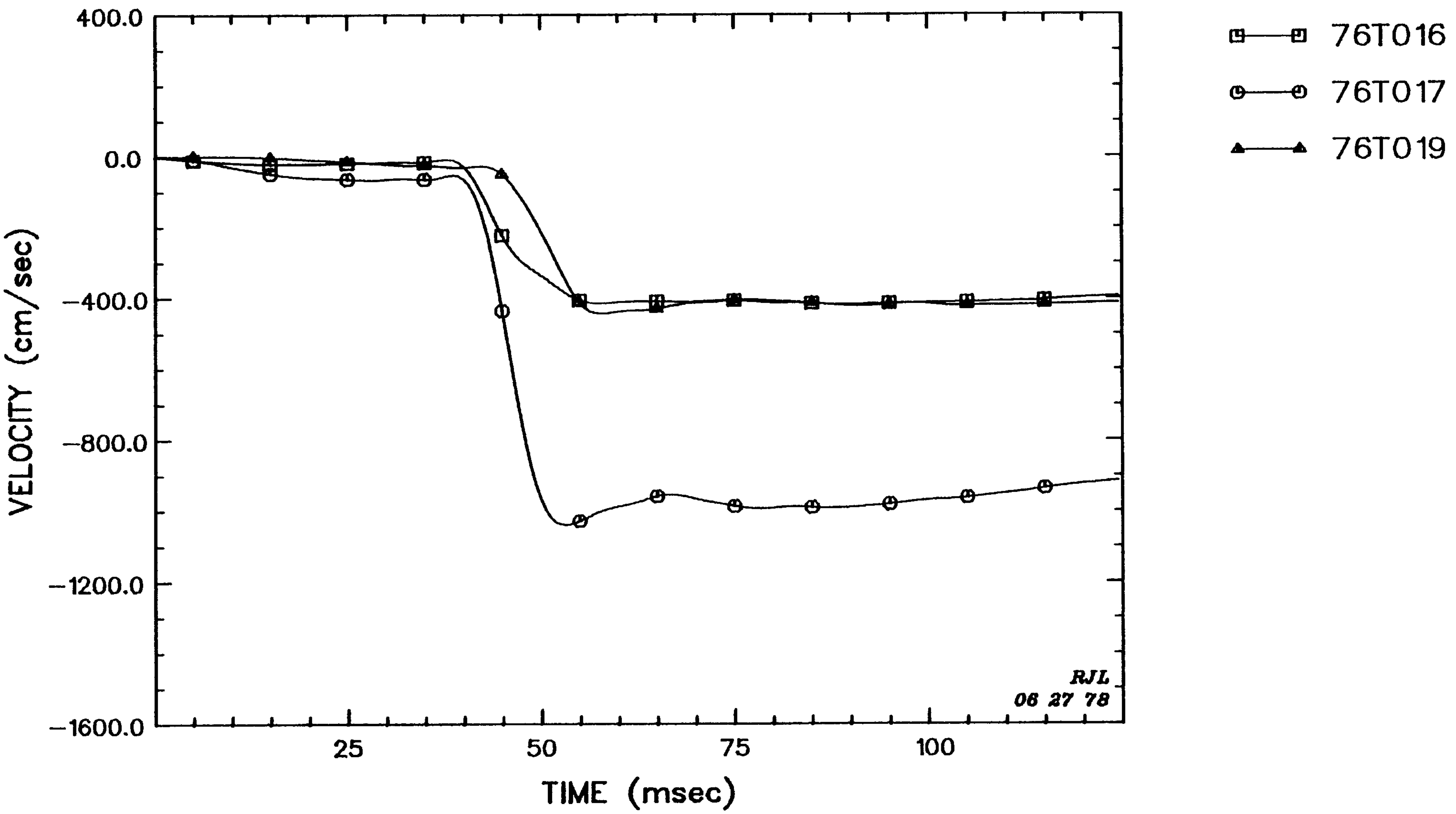
PELVIS P—A —— DUMMY TESTS (T—10,14,20—R)

Figure 231



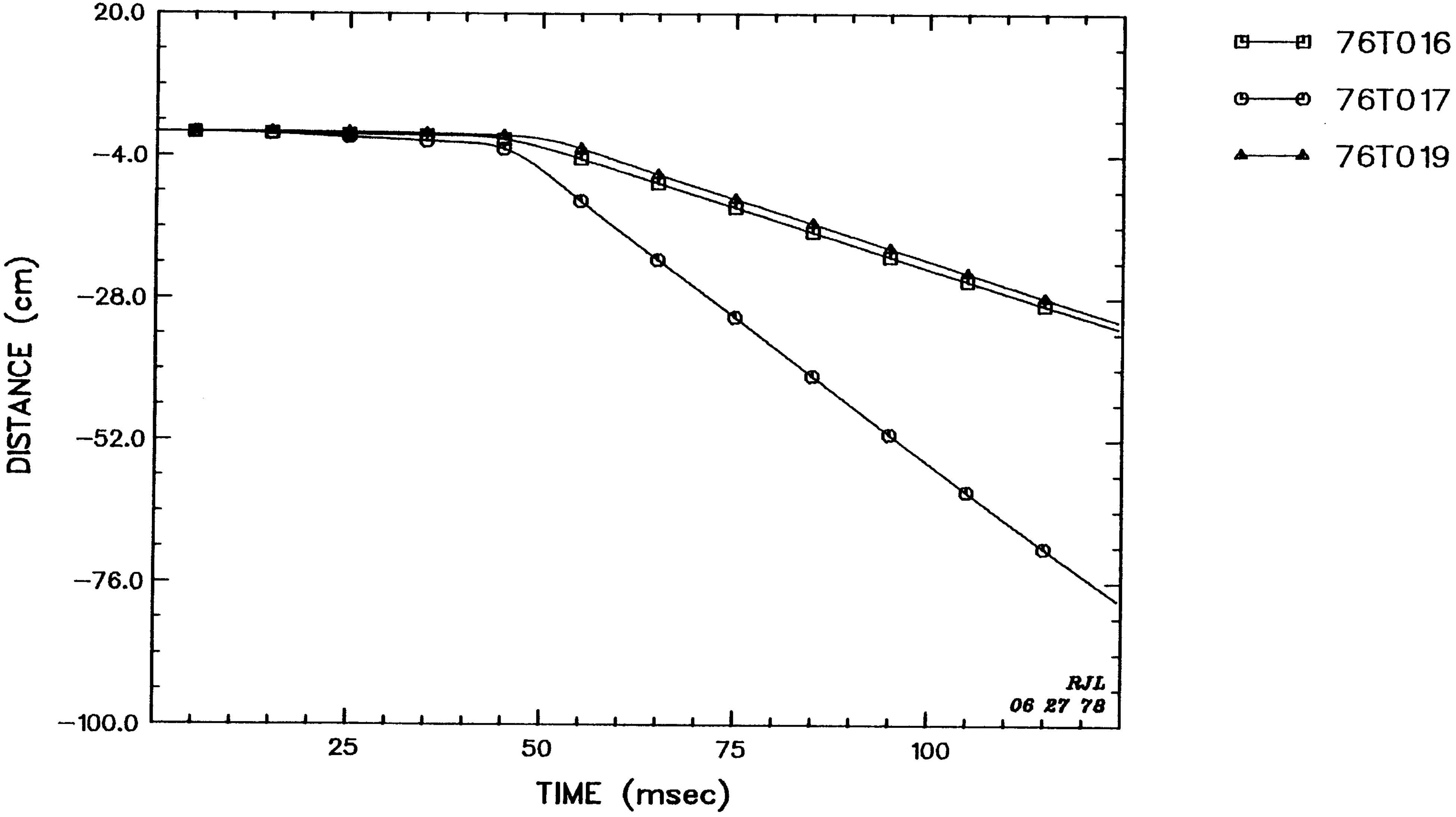
PELVIS R-L -- DUMMY TESTS (T-10,14,20-R)

Figure 232



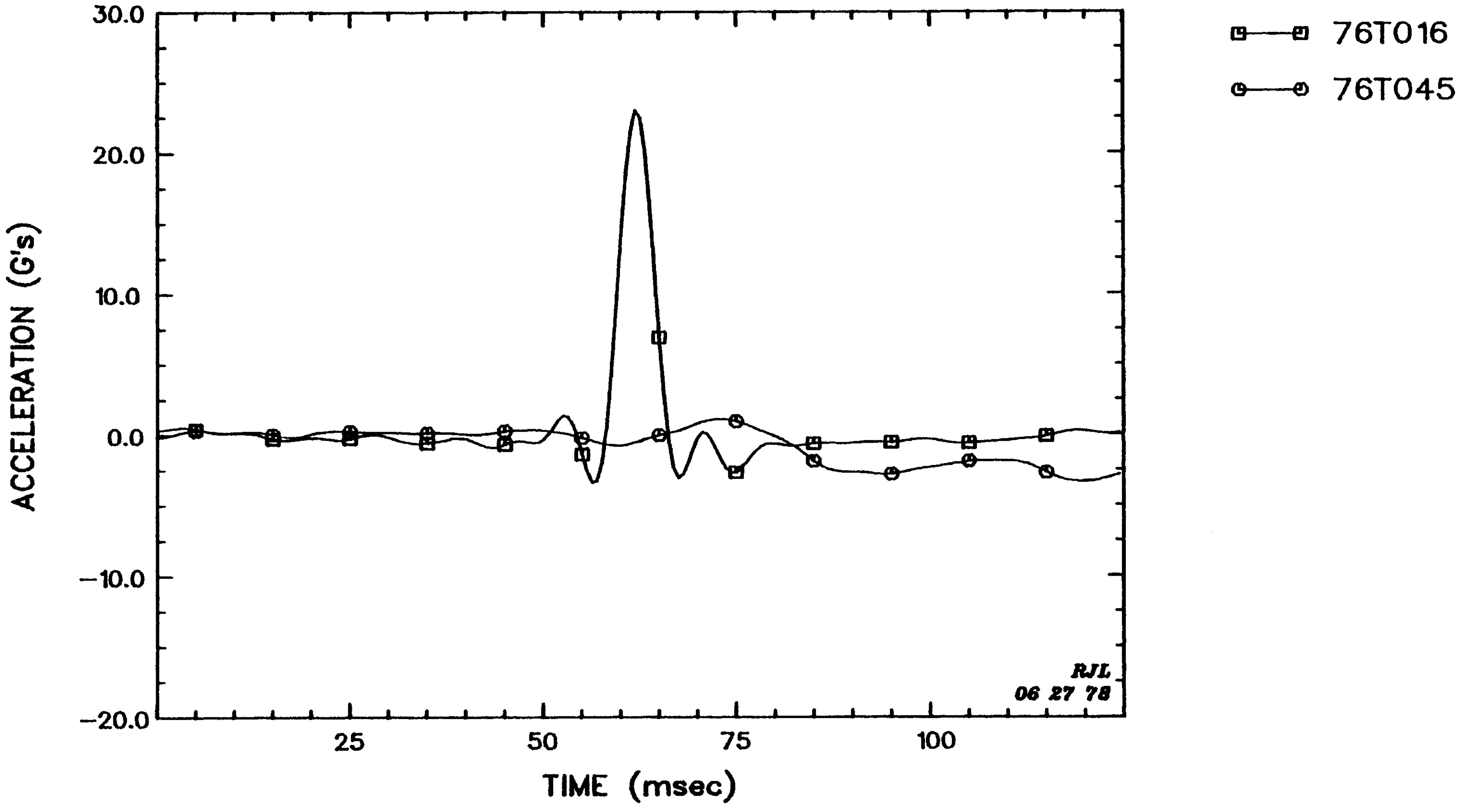
PELVIS R-L -- DUMMY TESTS (T-10,14,20-R)

Figure 233



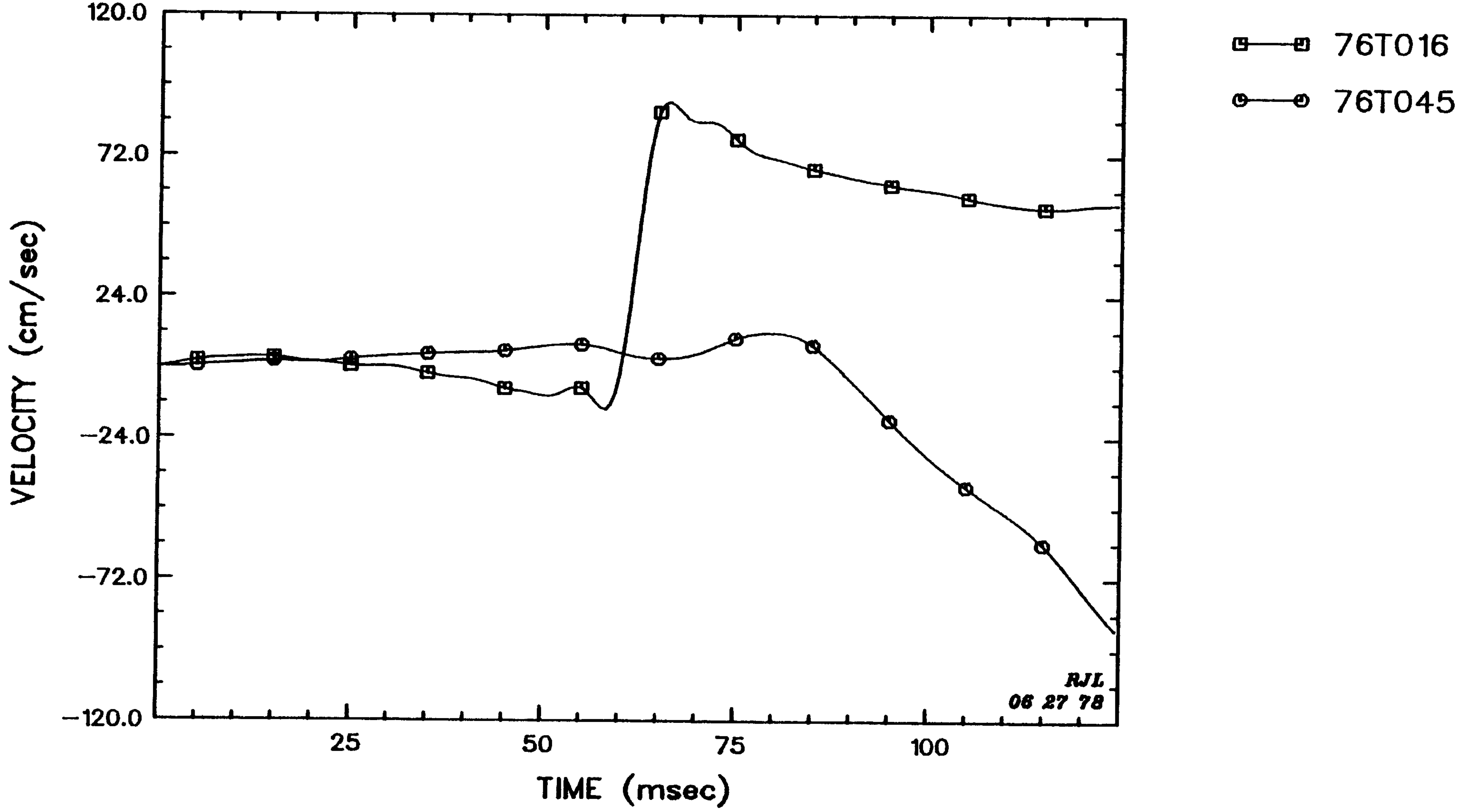
PELVIS R-L -- DUMMY TESTS (T-10,14,20-R)

Figure 234



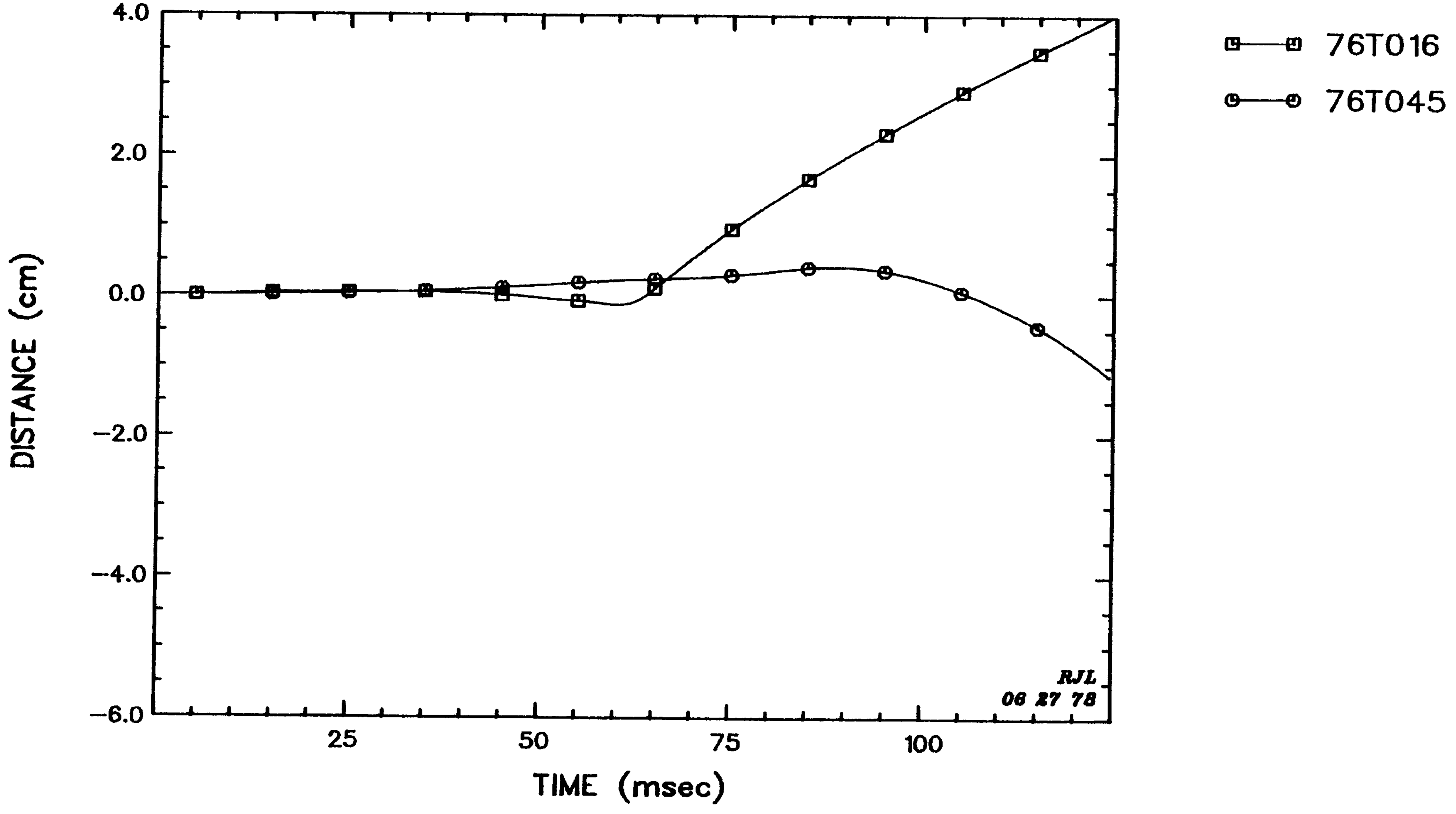
HEAD P–A –– DUMMY TESTS (T–14–R,P)

Figure 235



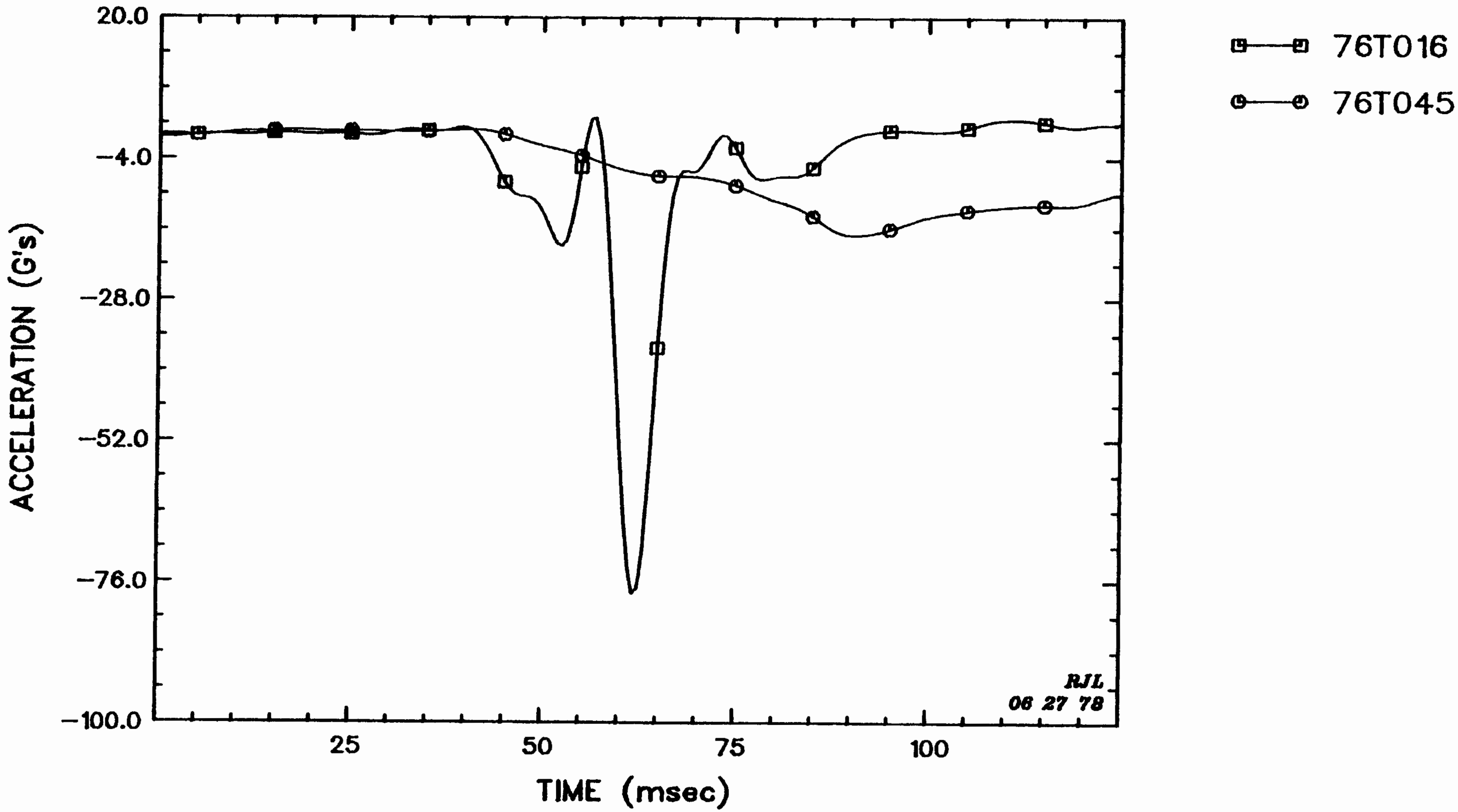
HEAD P-A -- DUMMY TESTS (T-14-R,P)

Figure 236



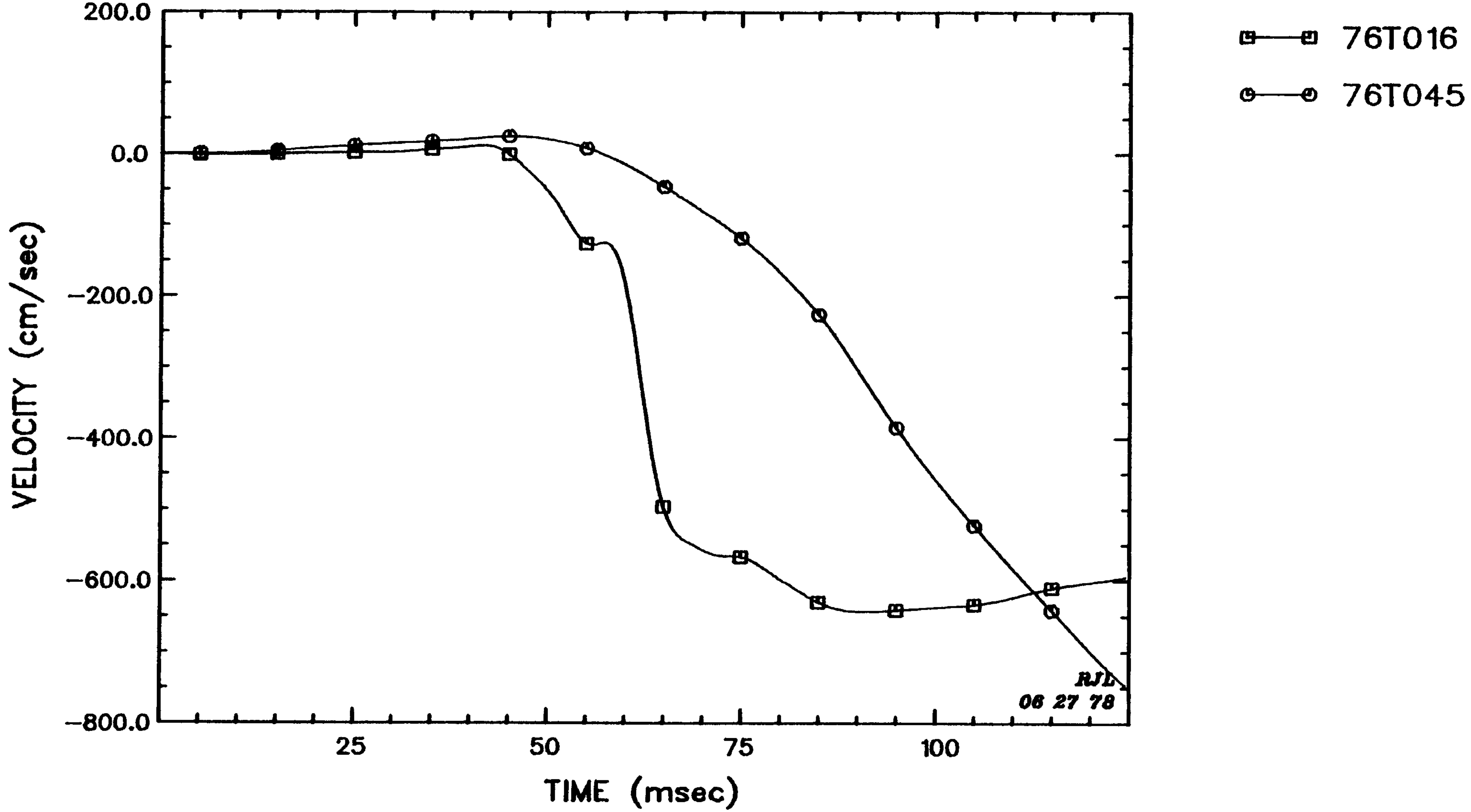
HEAD P-A -- DUMMY TESTS (T-14-R,P)

Figure 237



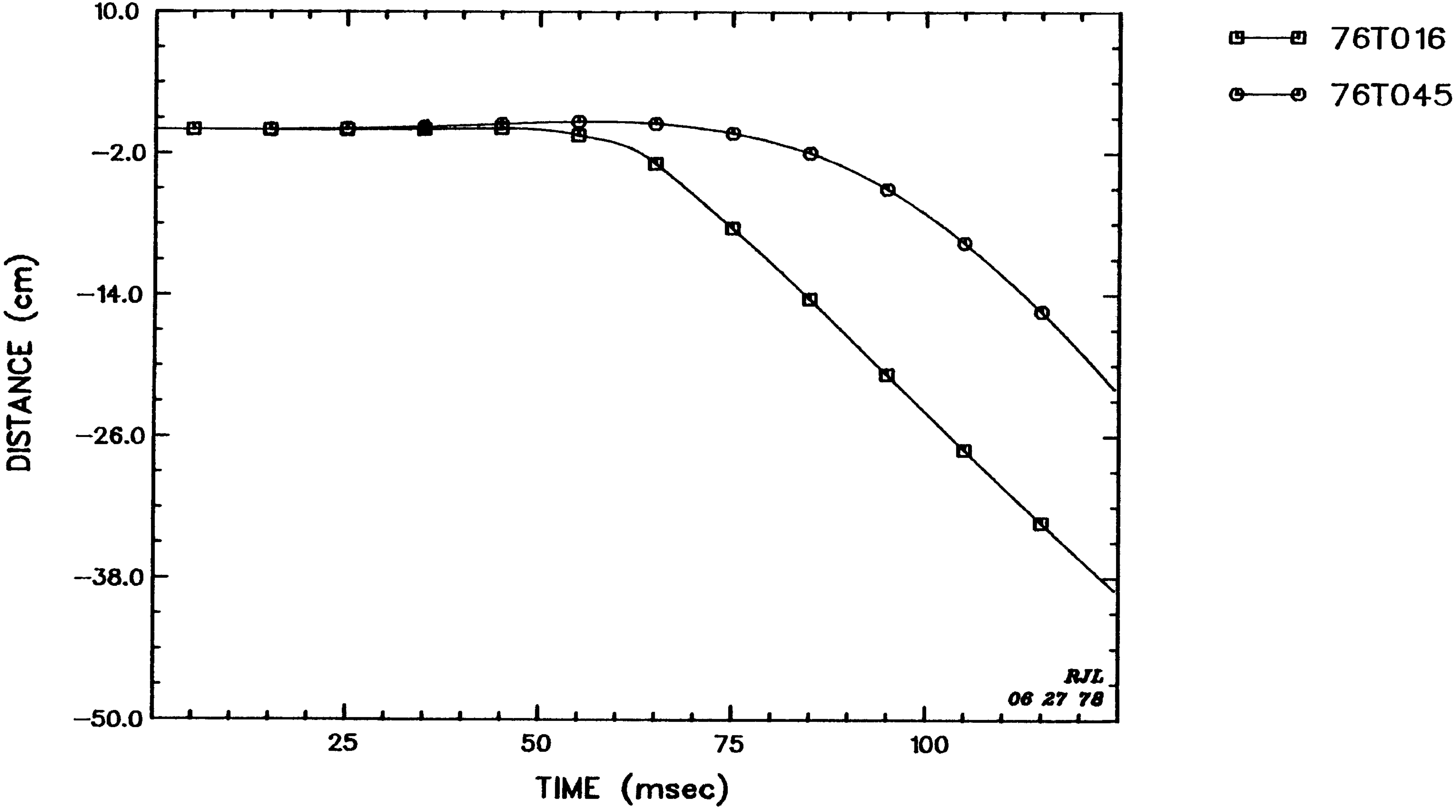
HEAD R–L –– DUMMY TESTS (T–14–R,P)

Figure 238



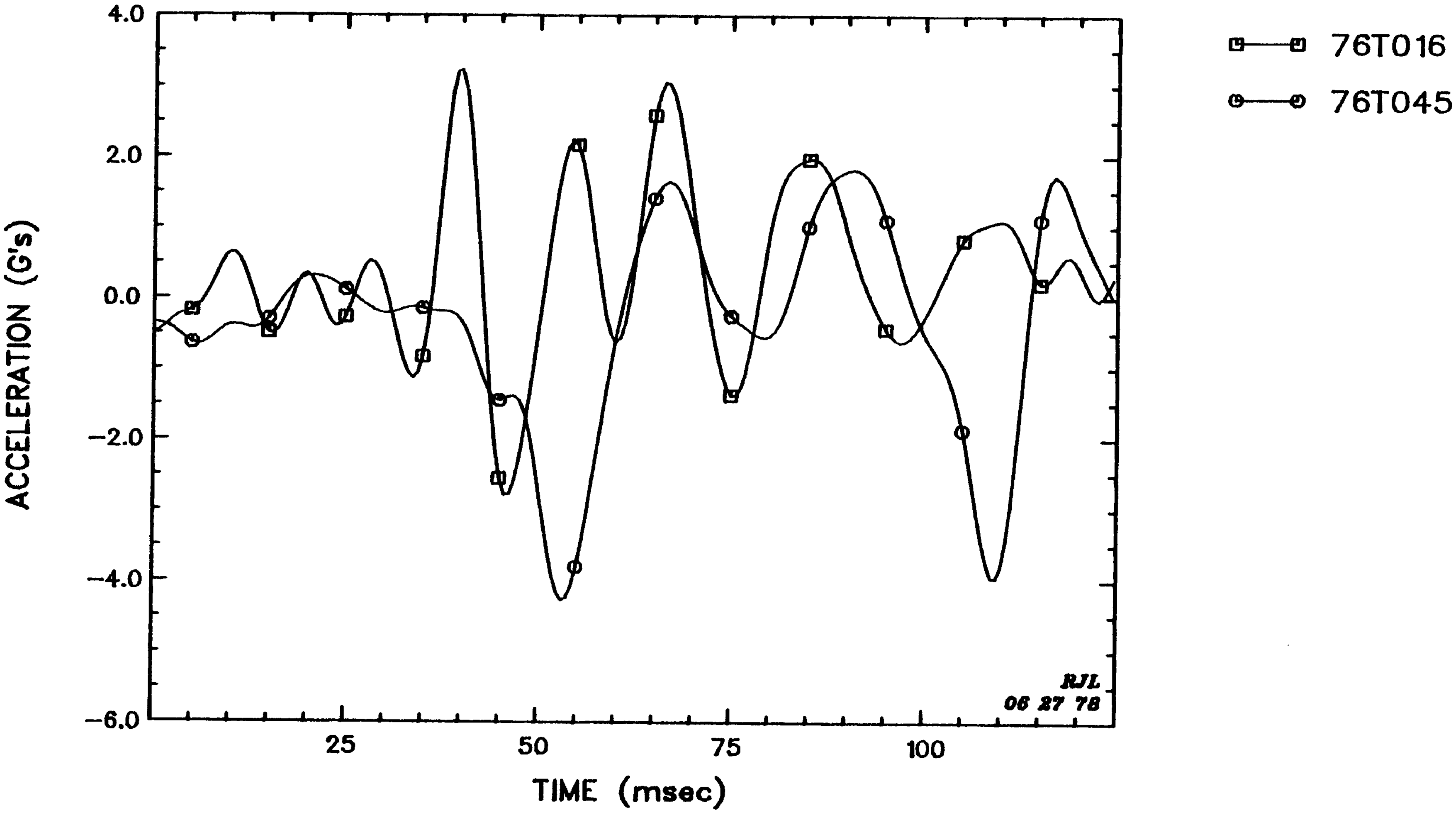
HEAD R-L -- DUMMY TESTS (T-14-R,P)

Figure 239



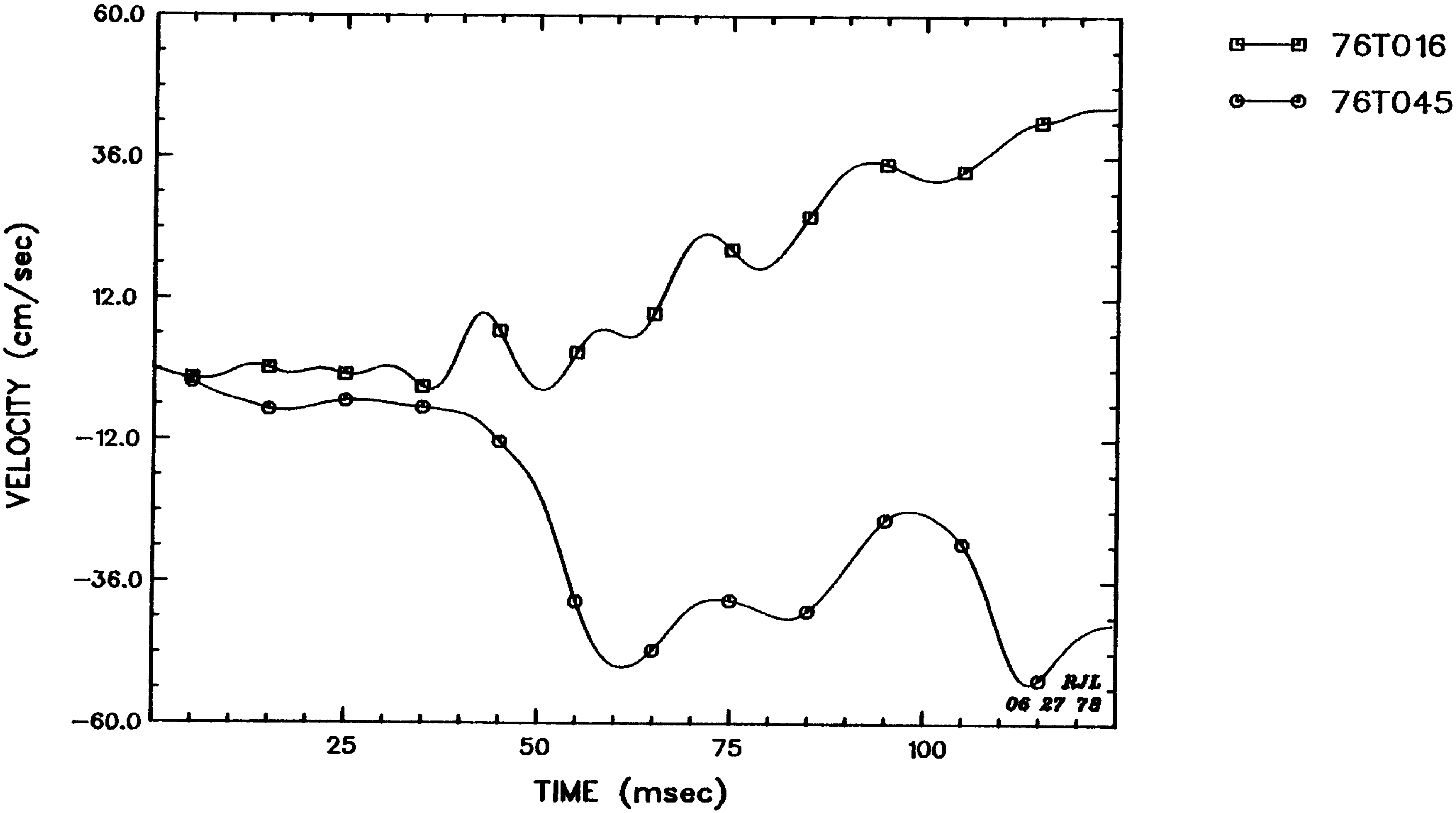
HEAD R-L -- DUMMY TESTS (T-14-R,P)

Figure 240



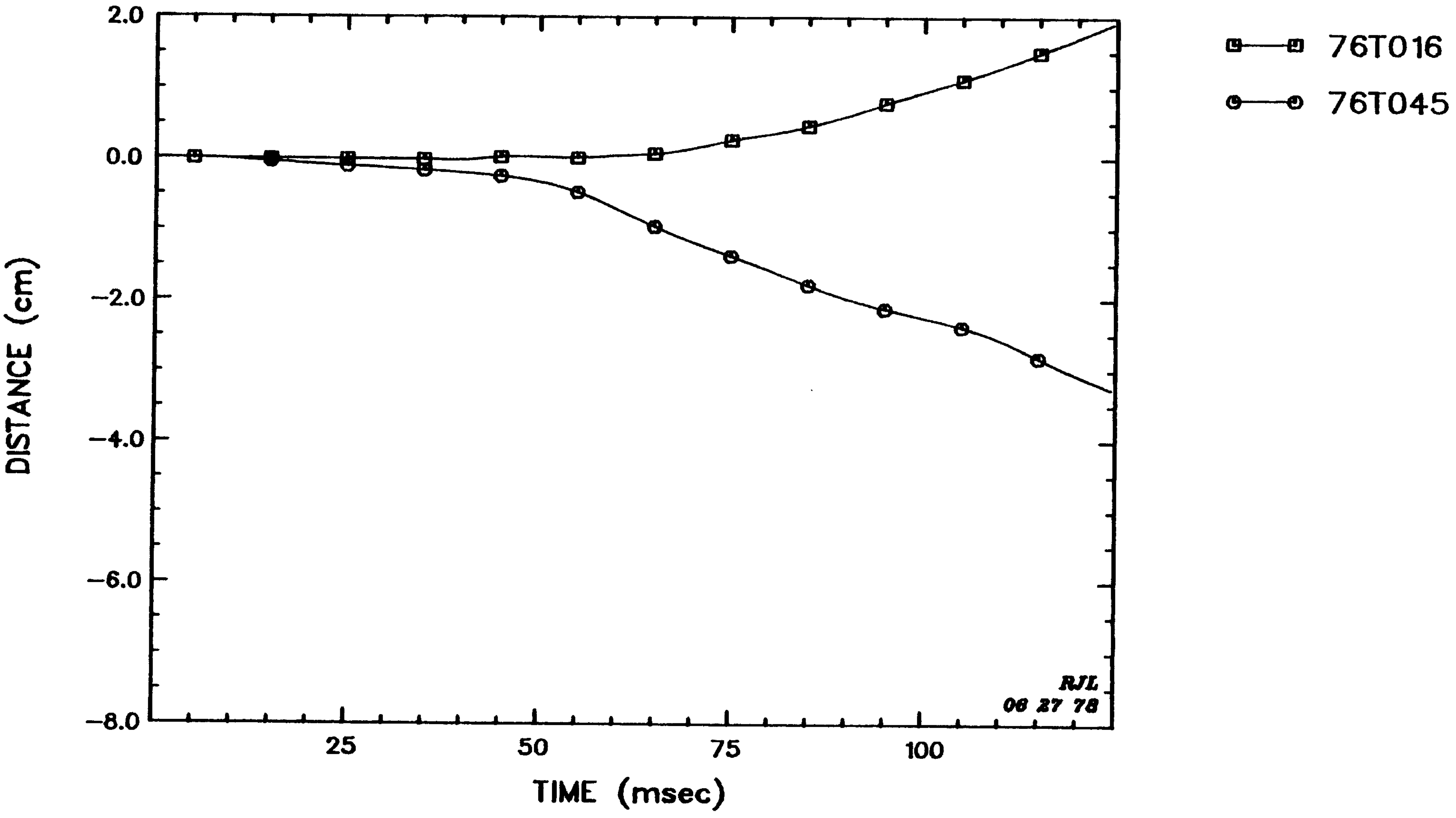
THORAX P—A —— DUMMY TESTS (T—14—R,P)

Figure 241



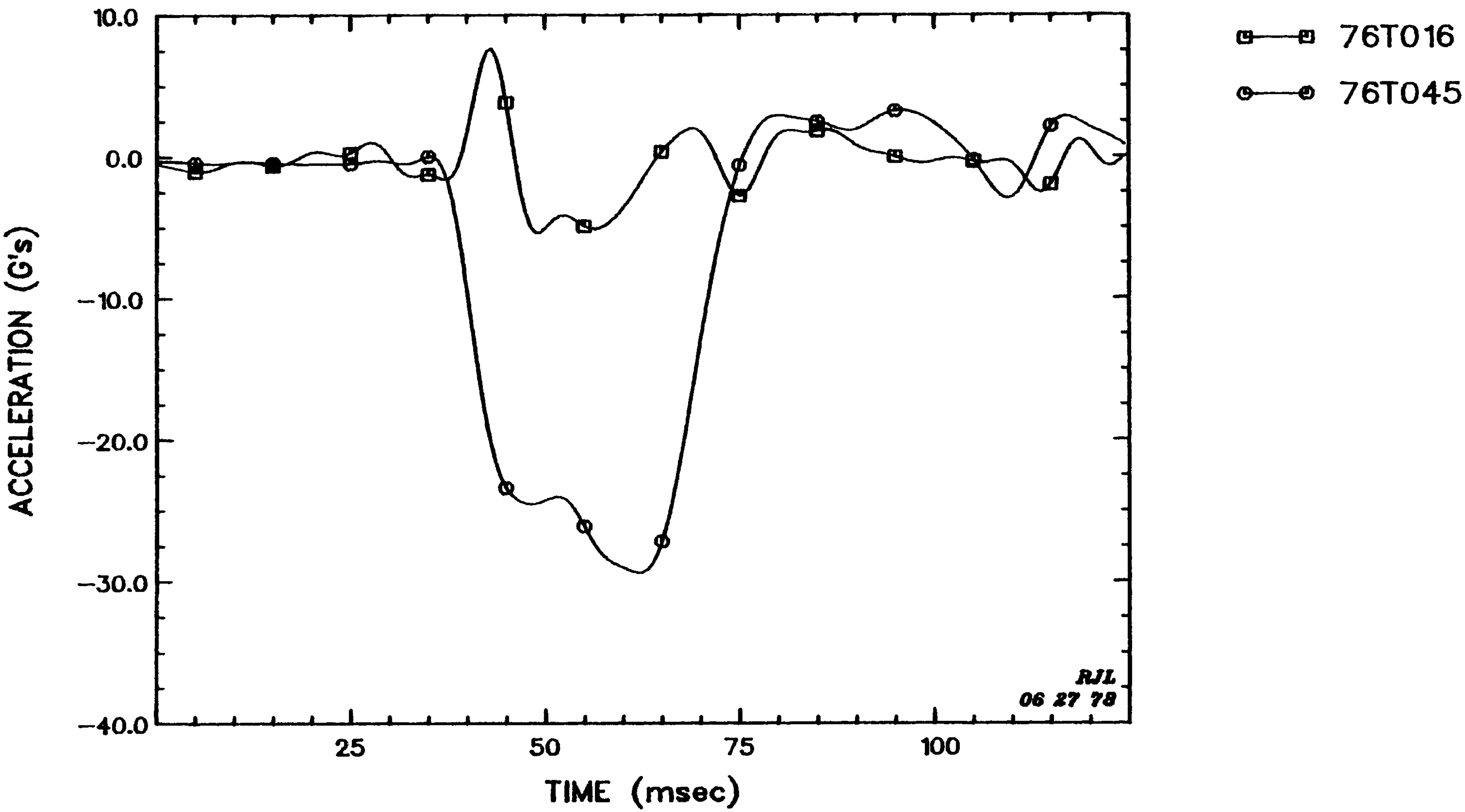
THORAX P-A -- DUMMY TESTS (T-14-R,P)

Figure 242



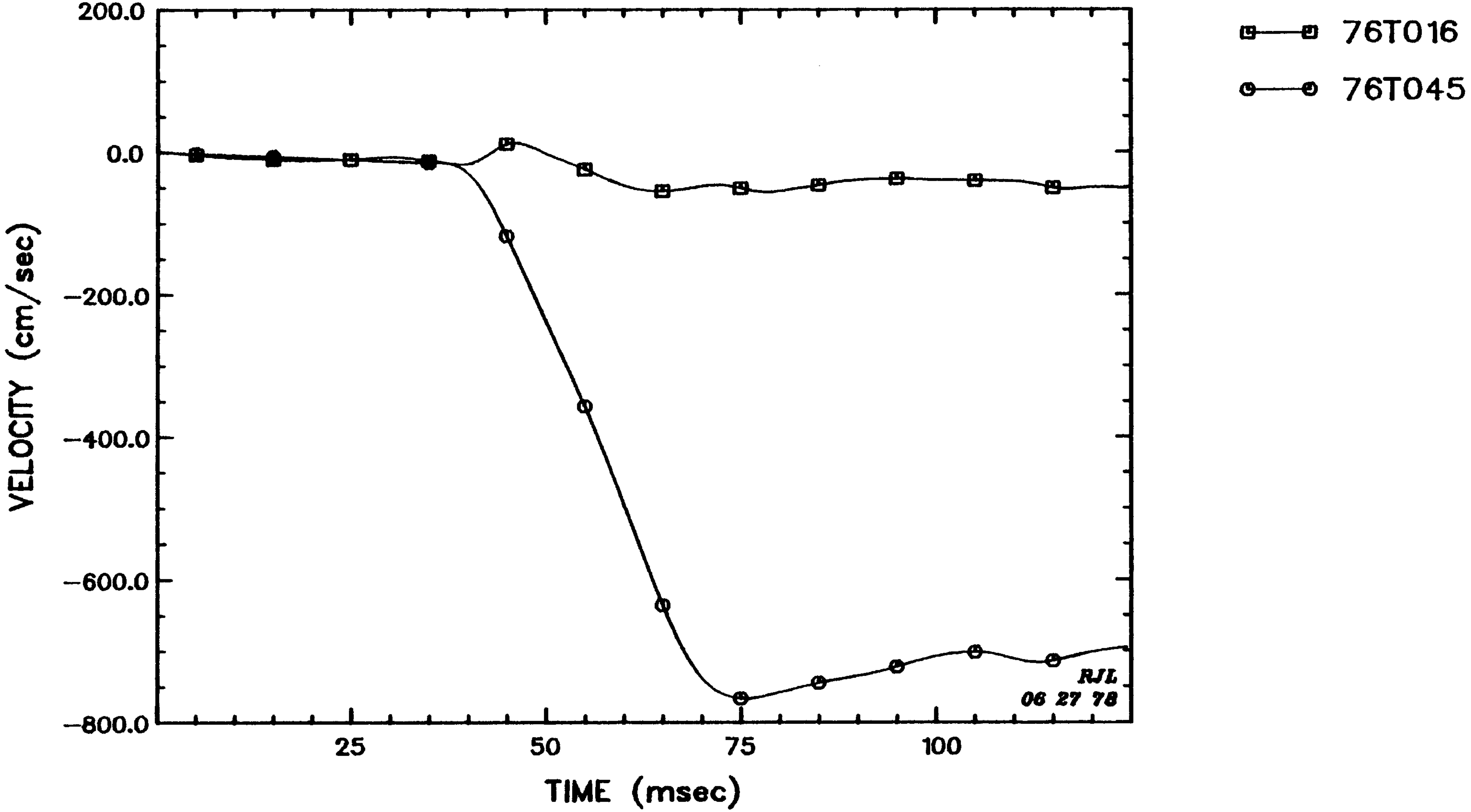
THORAX P-A -- DUMMY TESTS (T-14-R,P)

Figure 243



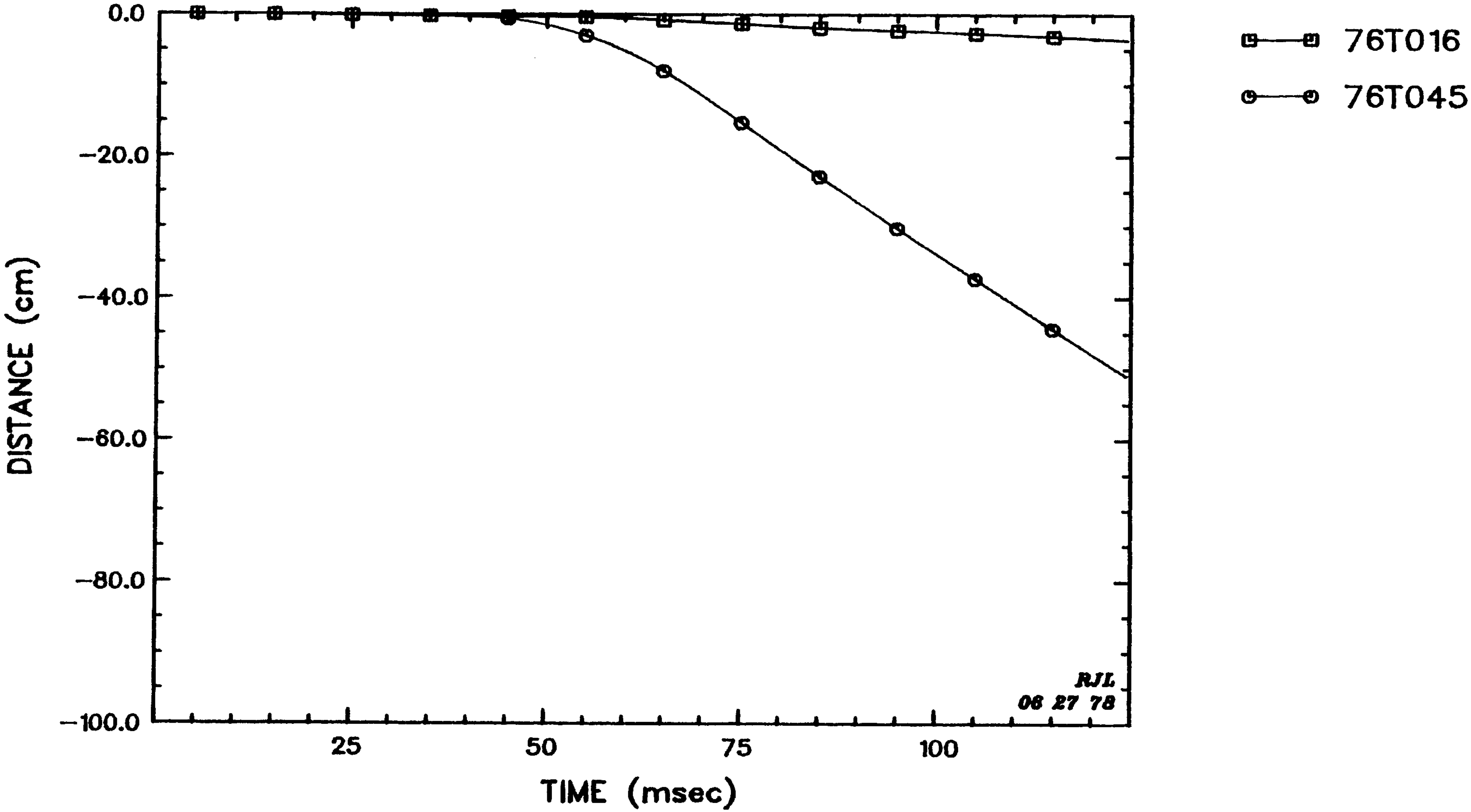
THORAX R-L -- DUMMY TESTS (T-14-R,P)

Figure 244



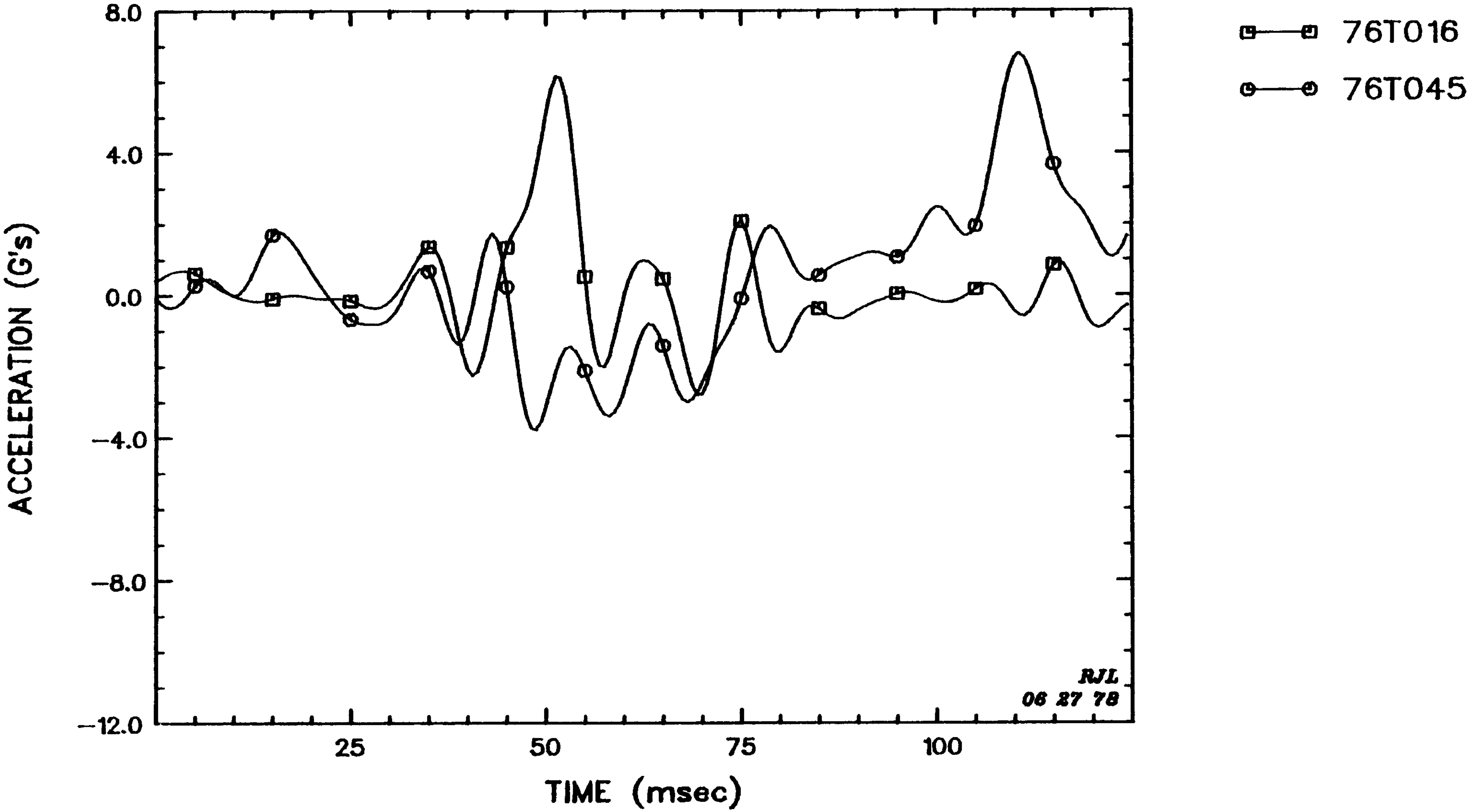
THORAX R-L -- DUMMY TESTS (T-14-R,P)

Figure 245



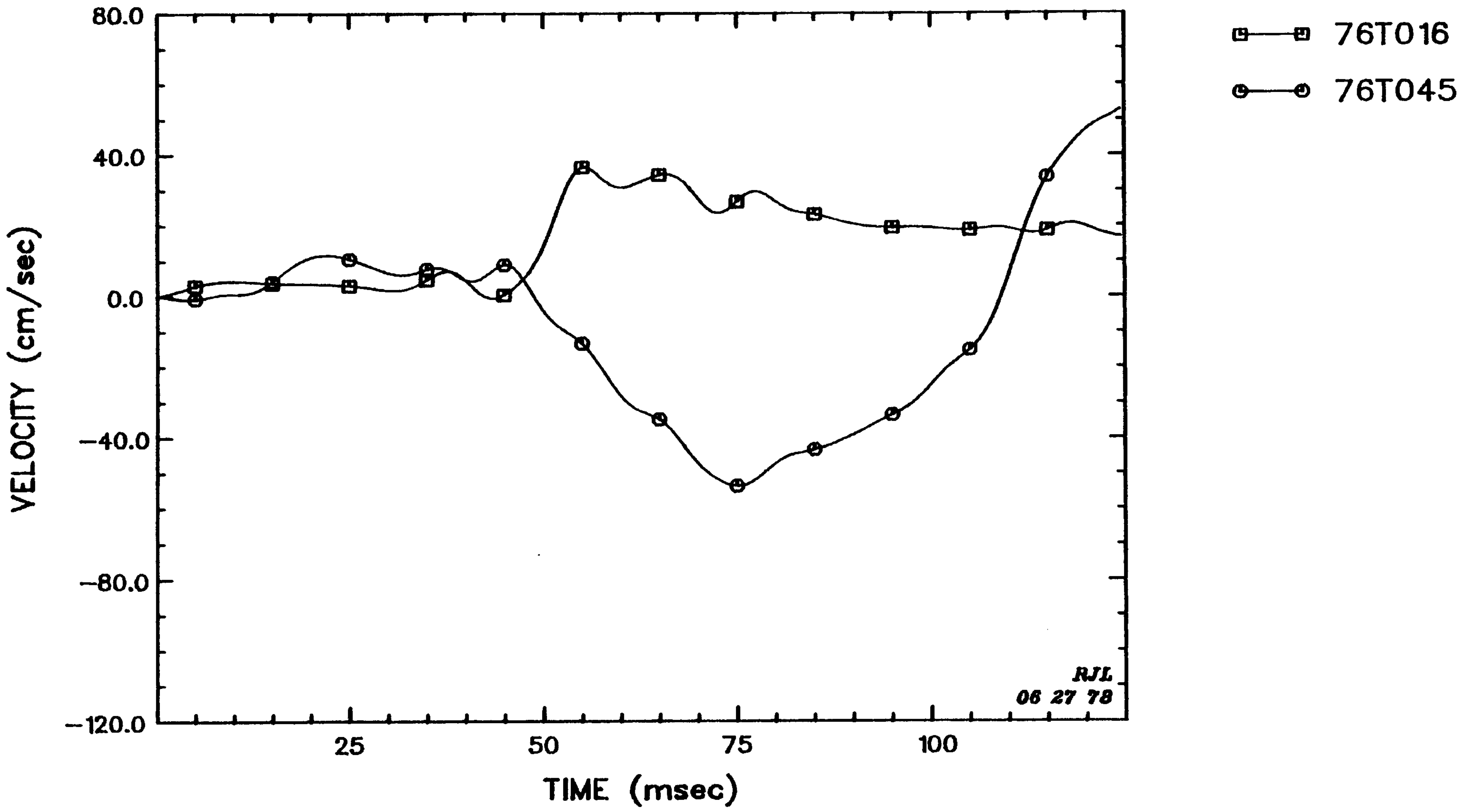
THORAX R-L -- DUMMY TESTS (T-14-R,P)

Figure 246



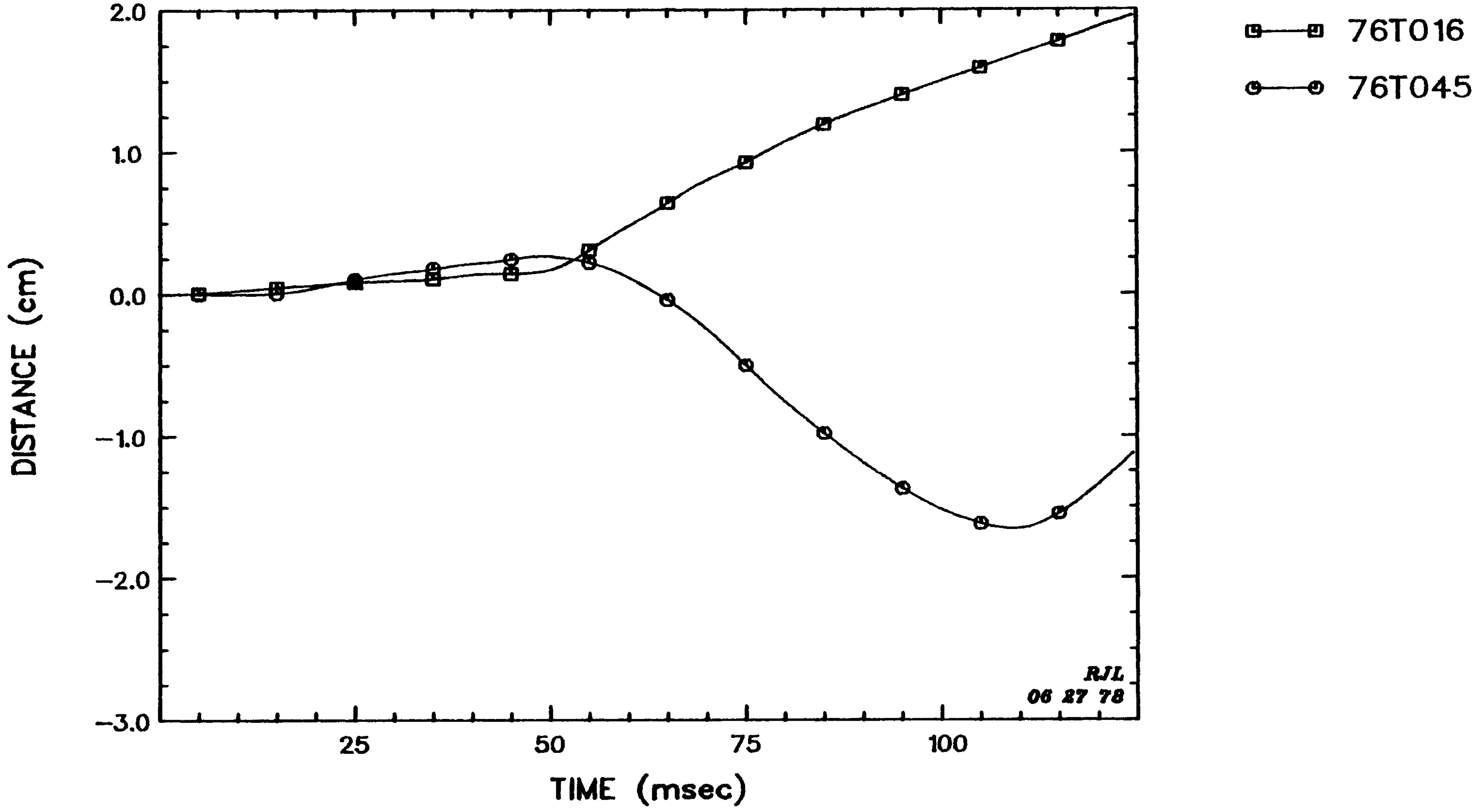
PELVIS P–A –– DUMMY TESTS (T–14–R,P)

Figure 247



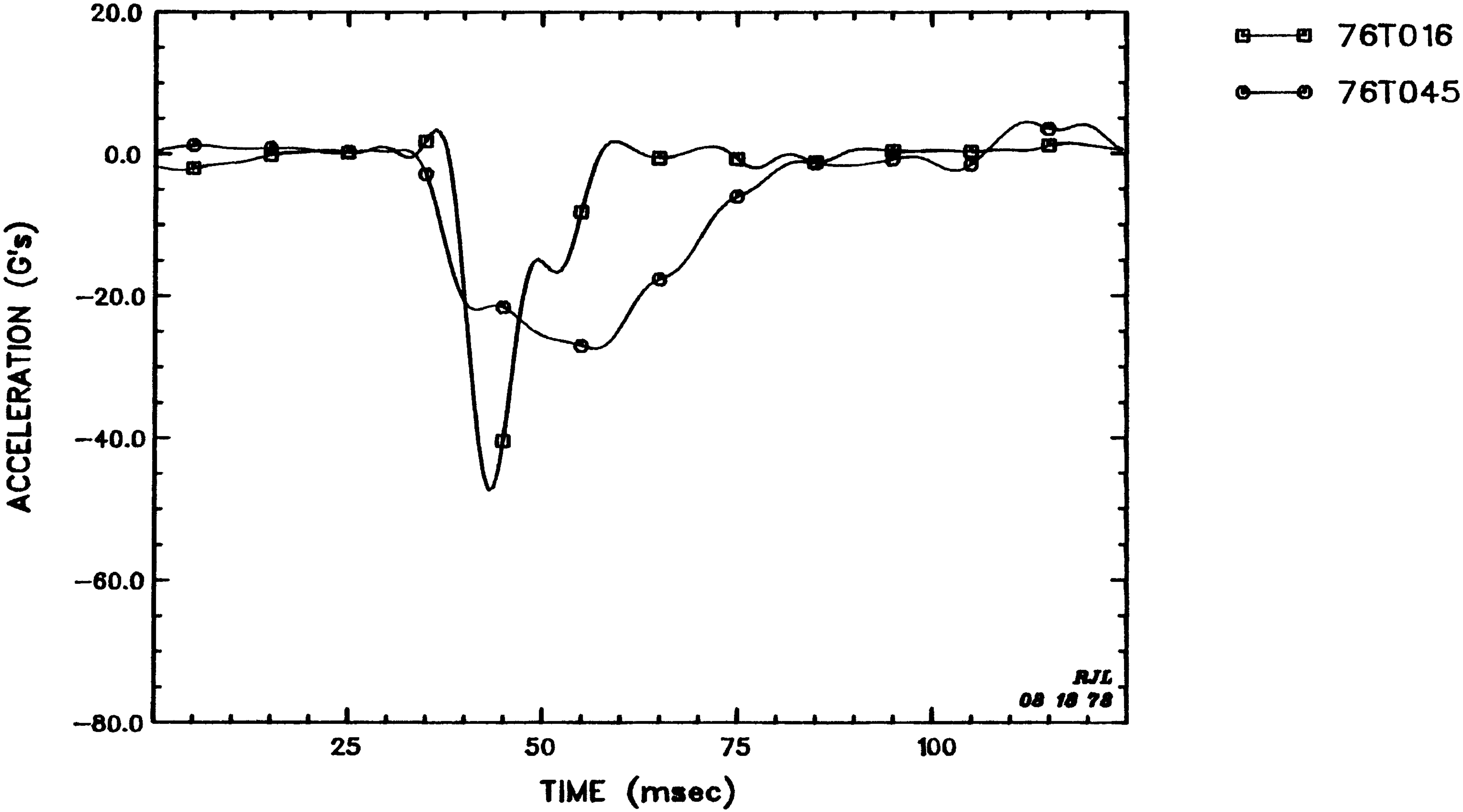
PELVIS P-A -- DUMMY TESTS (T-14-R,P)

Figure 248



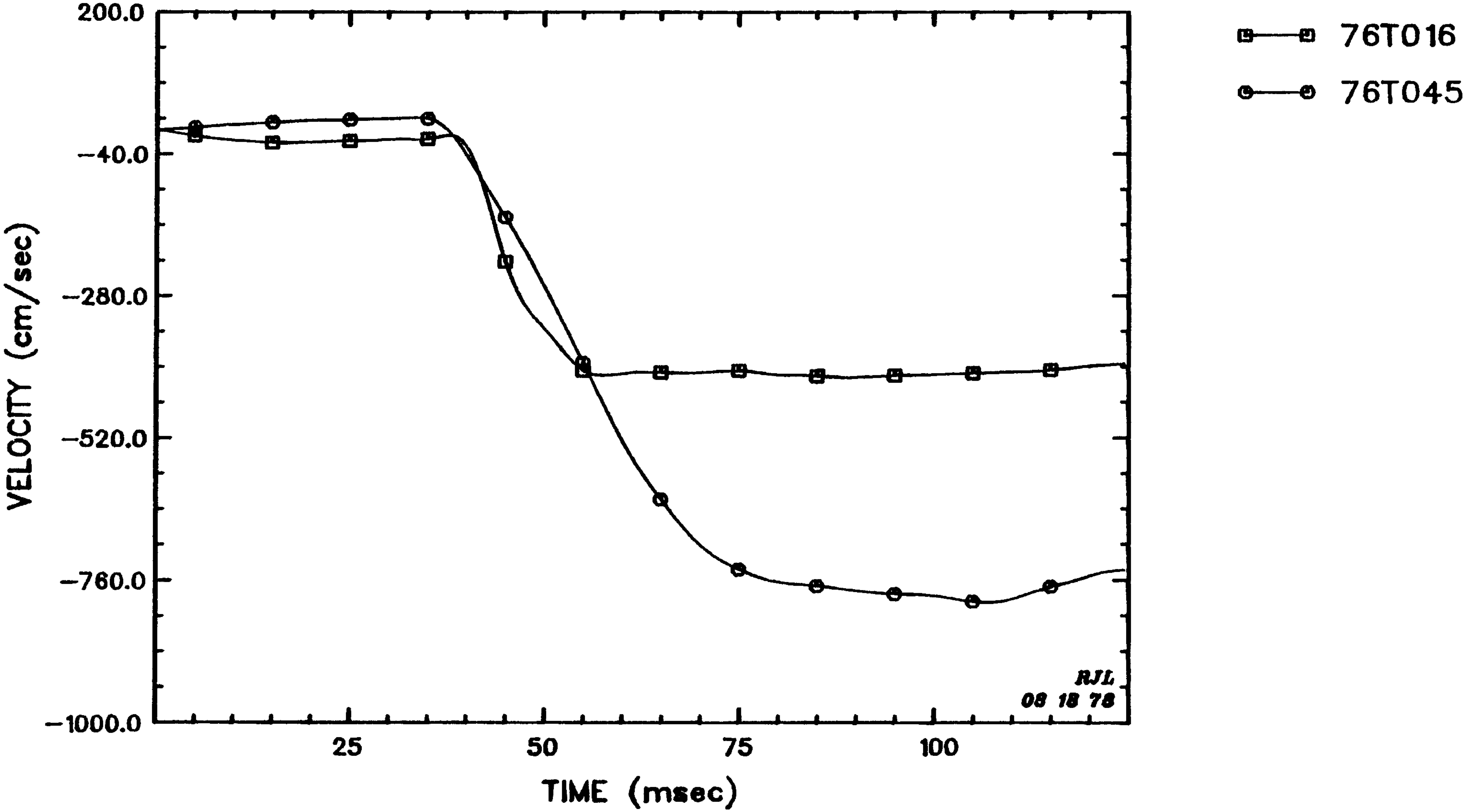
PELVIS P—A -- DUMMY TESTS (T—14—R,P)

Figure 249



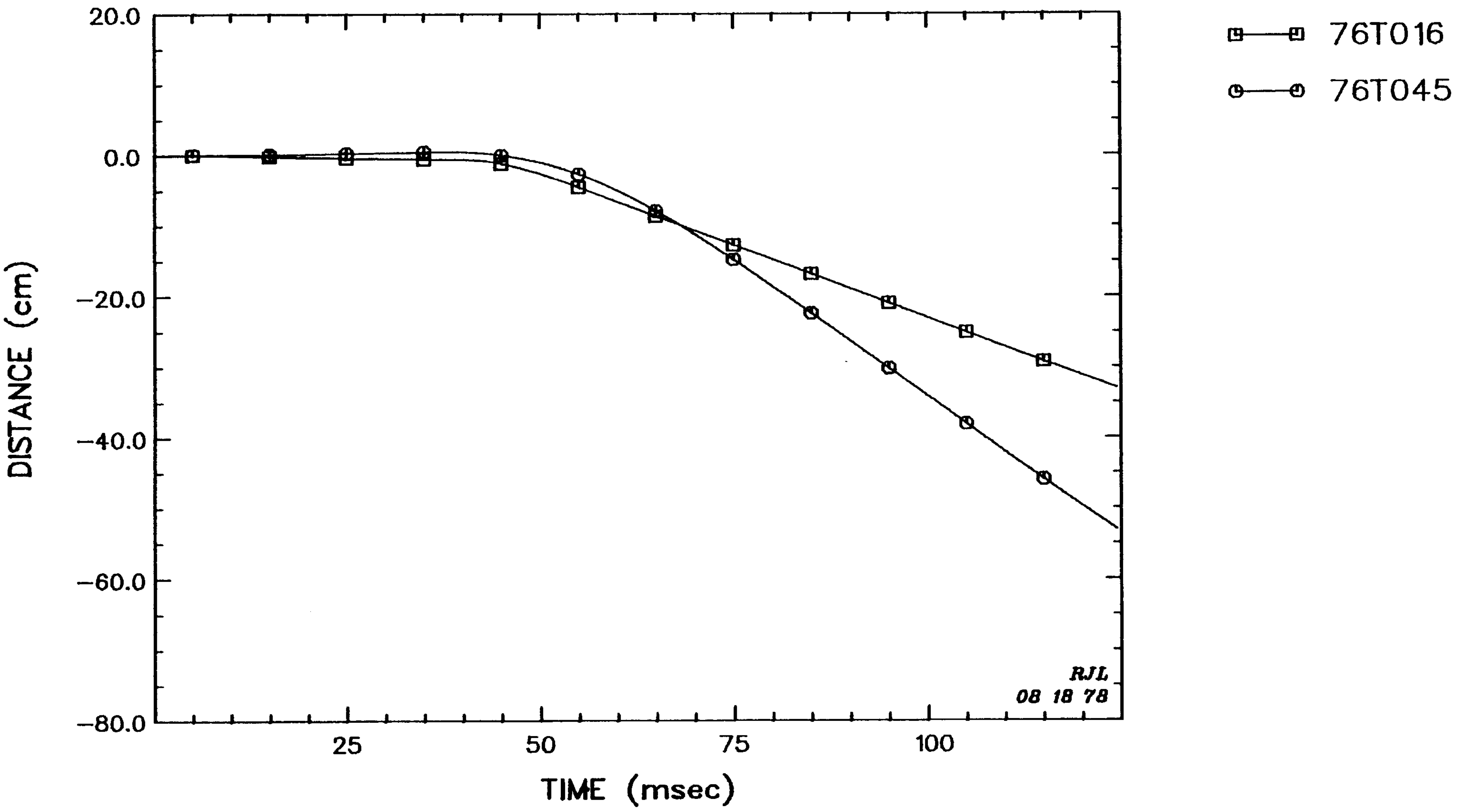
PELVIS R-L -- DUMMY TESTS (T-14-R,P)

Figure 250



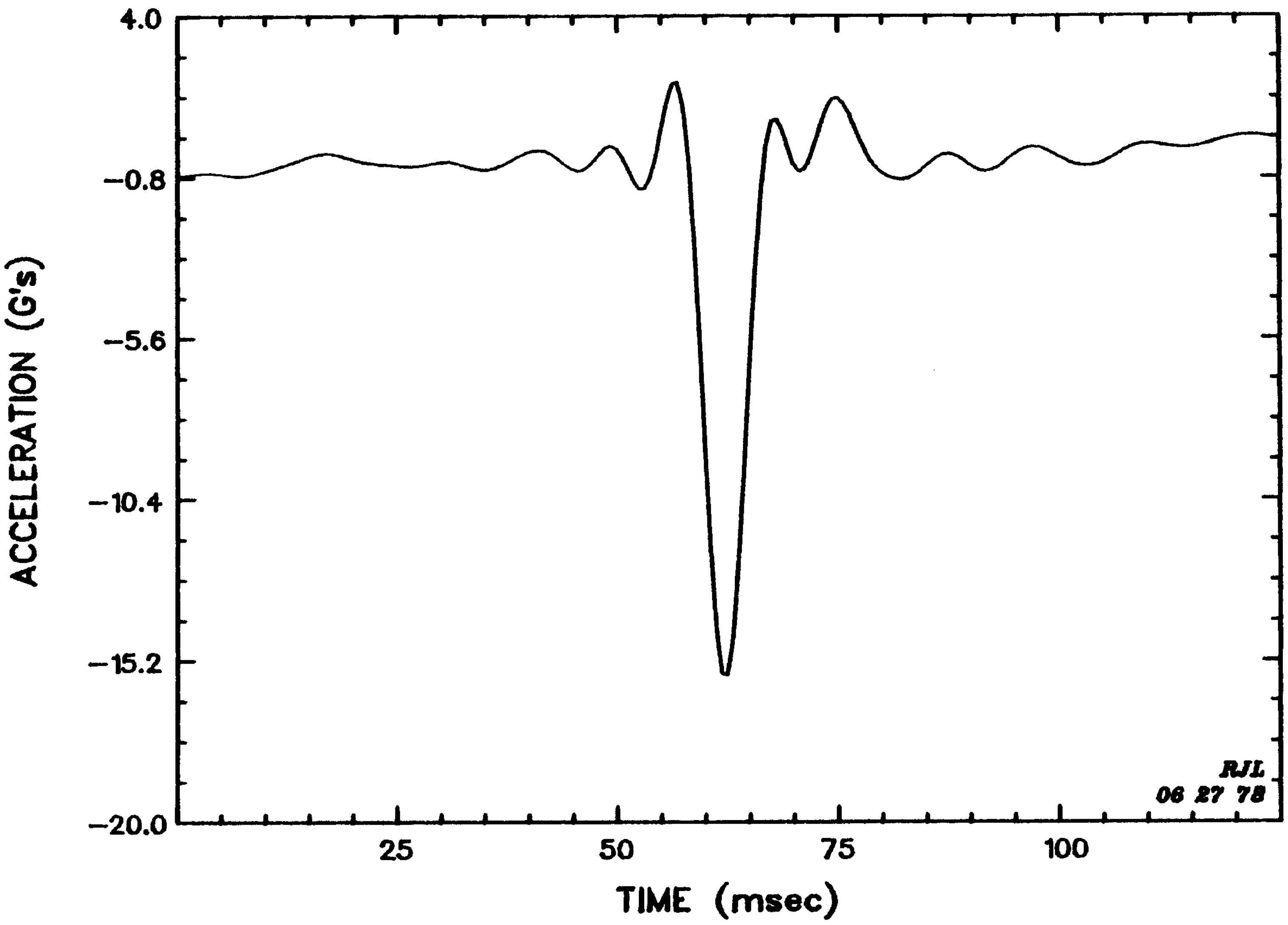
PELVIS R-L -- DUMMY TESTS (T-14-R,P)

Figure 251



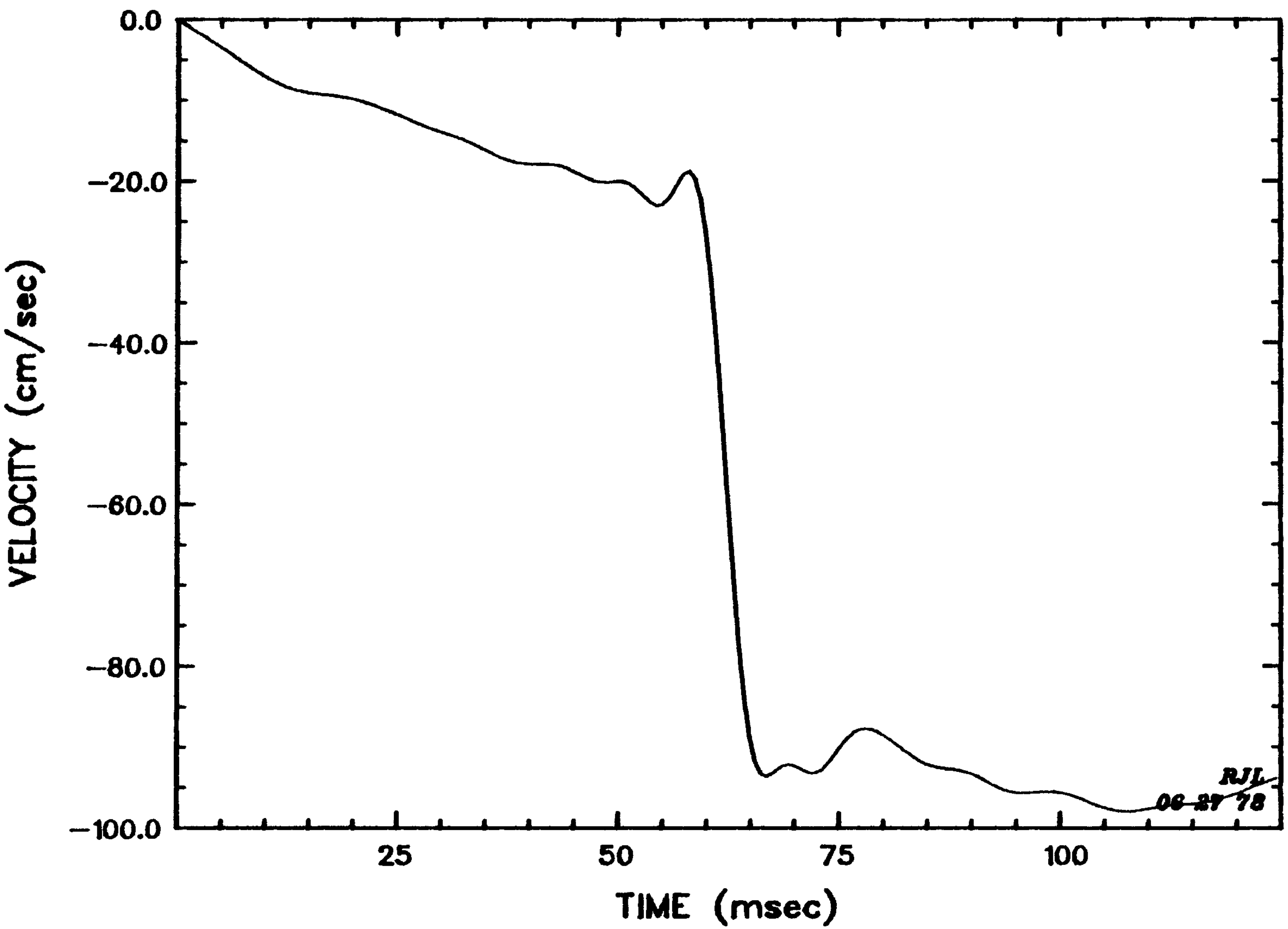
PELVIS R-L -- DUMMY TESTS (T-14-R,P)

Figure 252



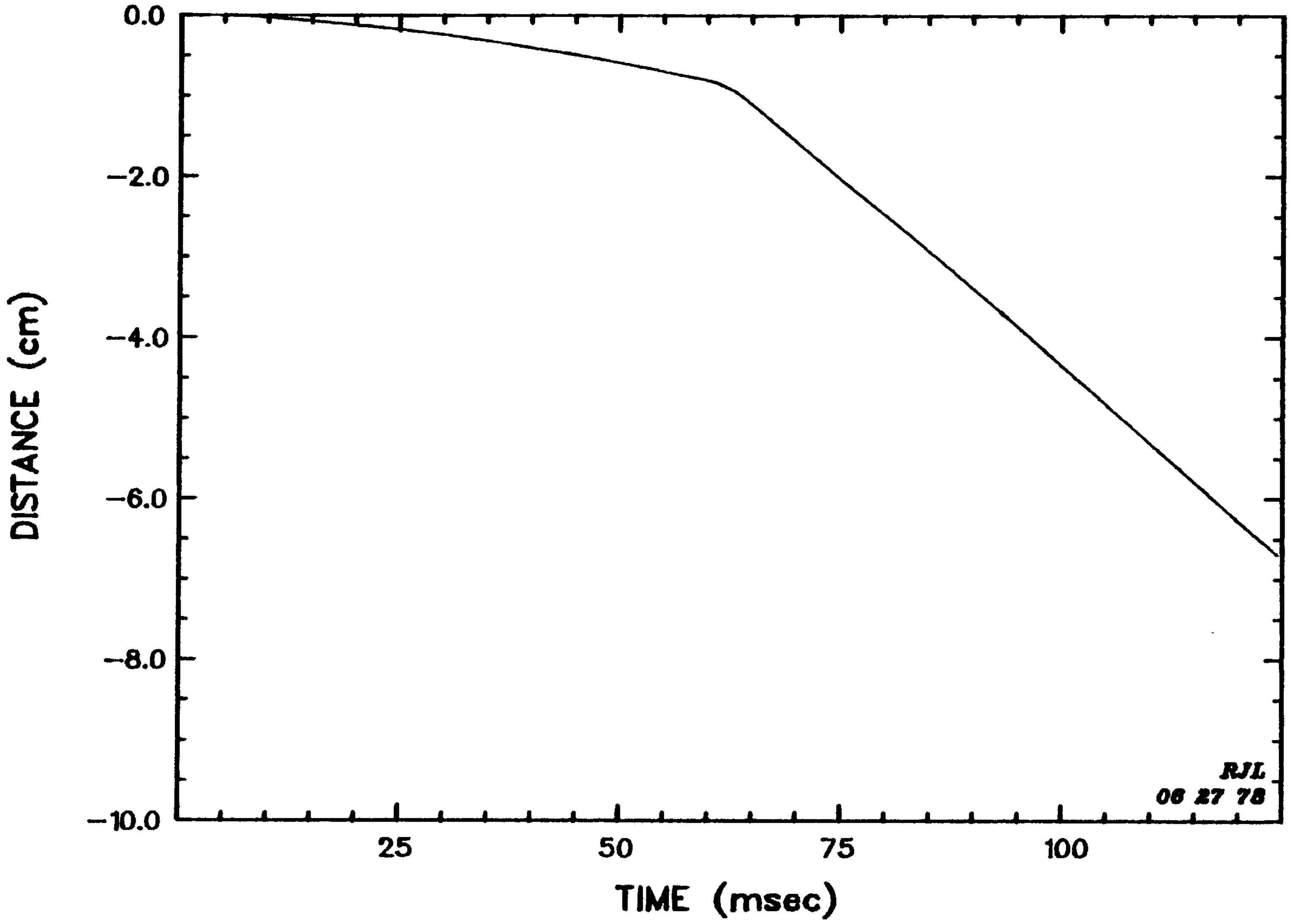
HEAD P-A -- 76T047 -- DUMMY (T-20-P)

Figure 253



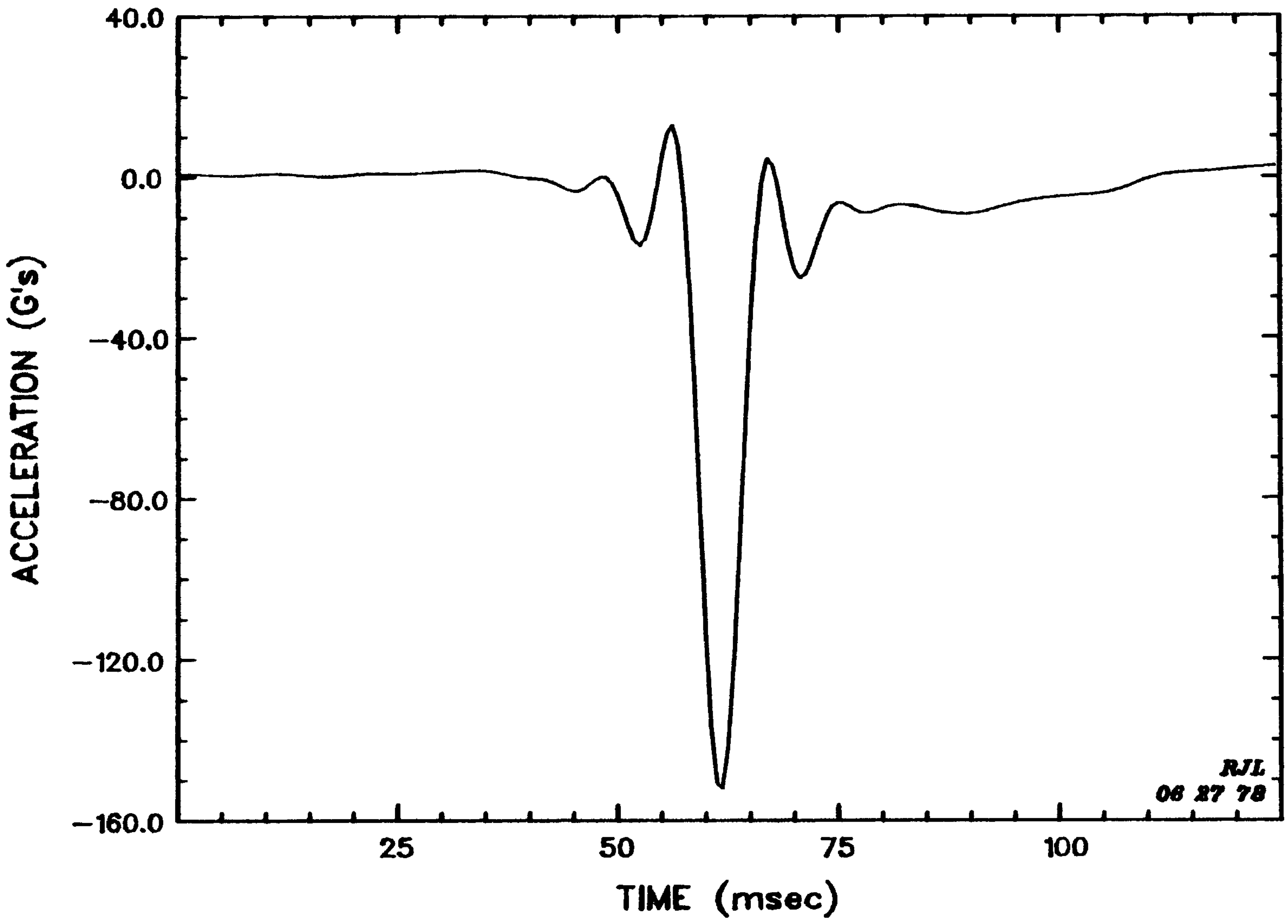
HEAD P-A -- 76T047 -- DUMMY (T-20-P)

Figure 254



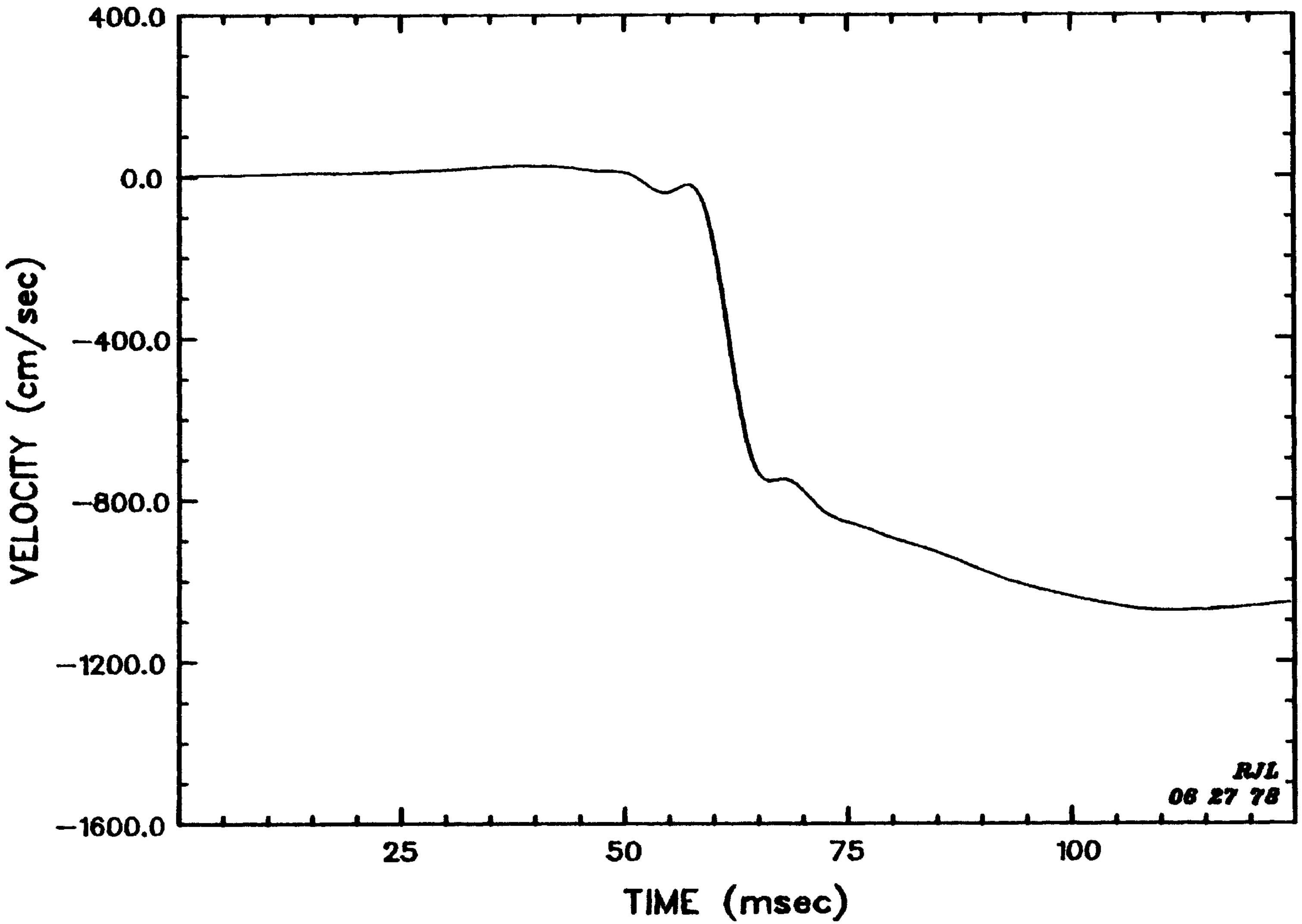
HEAD P-A -- 76T047 -- DUMMY (T-20-P)

Figure 255



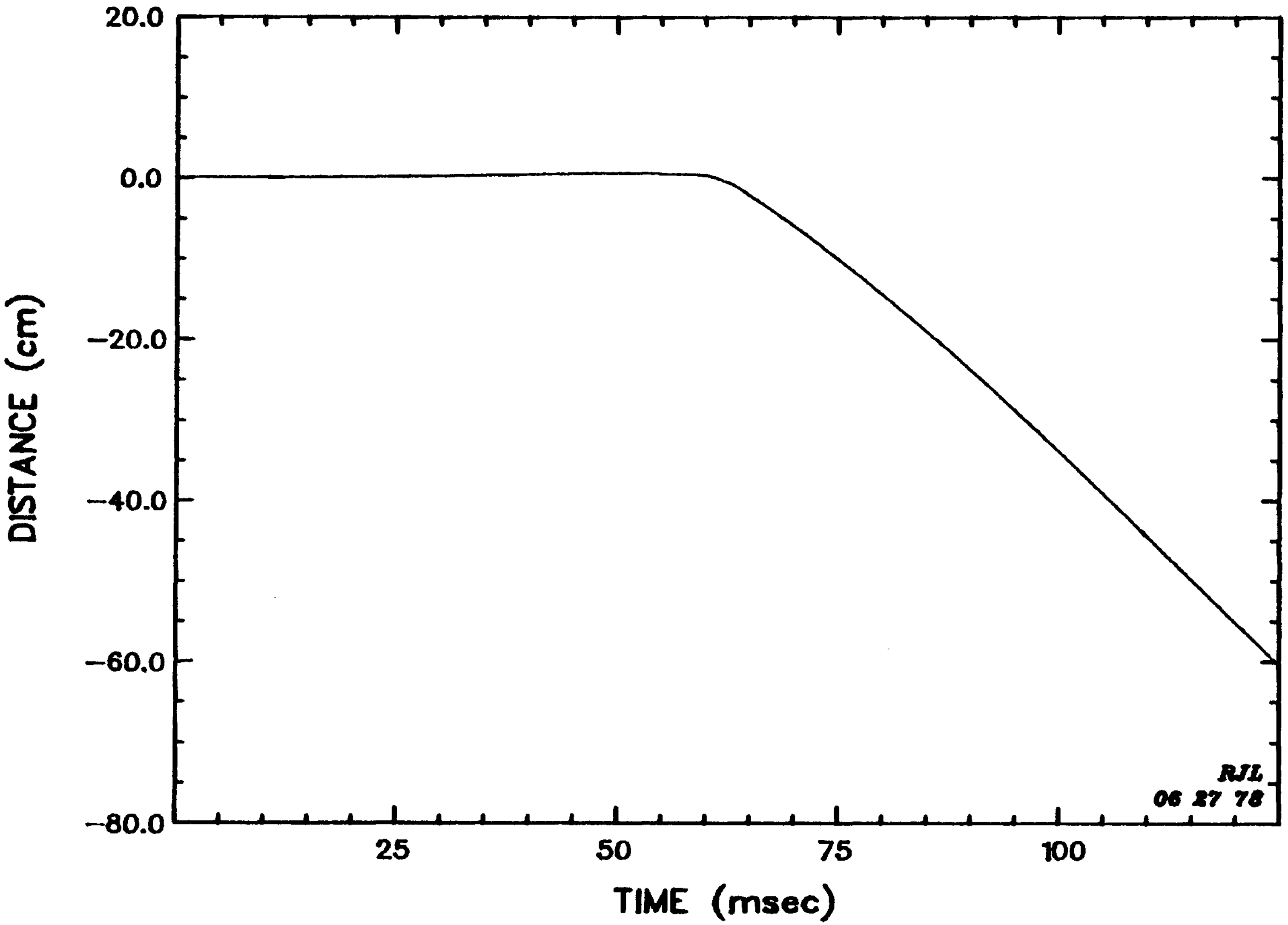
HEAD R-L -- 76T047 -- DUMMY (T-20-P)

Figure 256



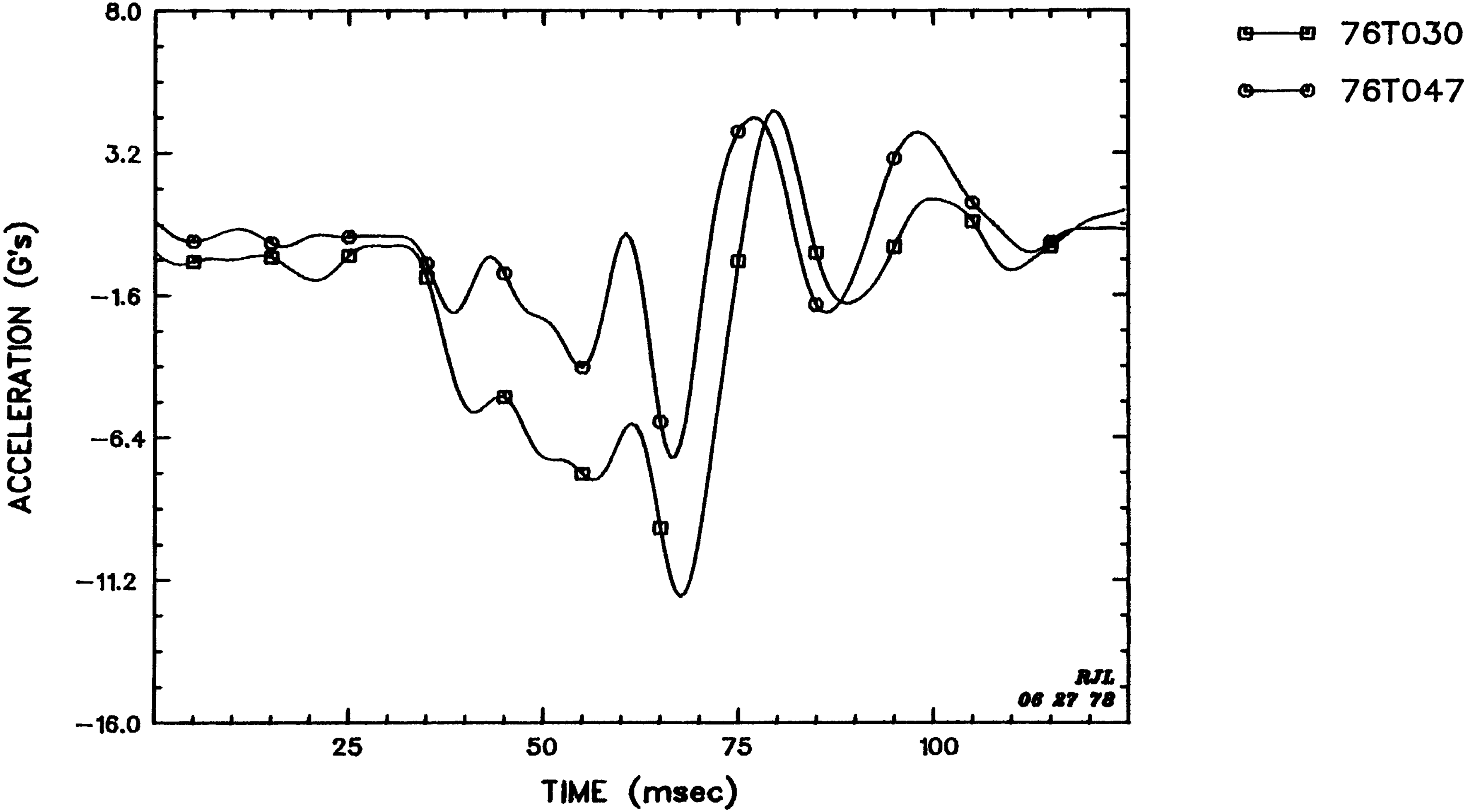
HEAD R–L –– 76T047 –– DUMMY (T–20–P)

Figure 257



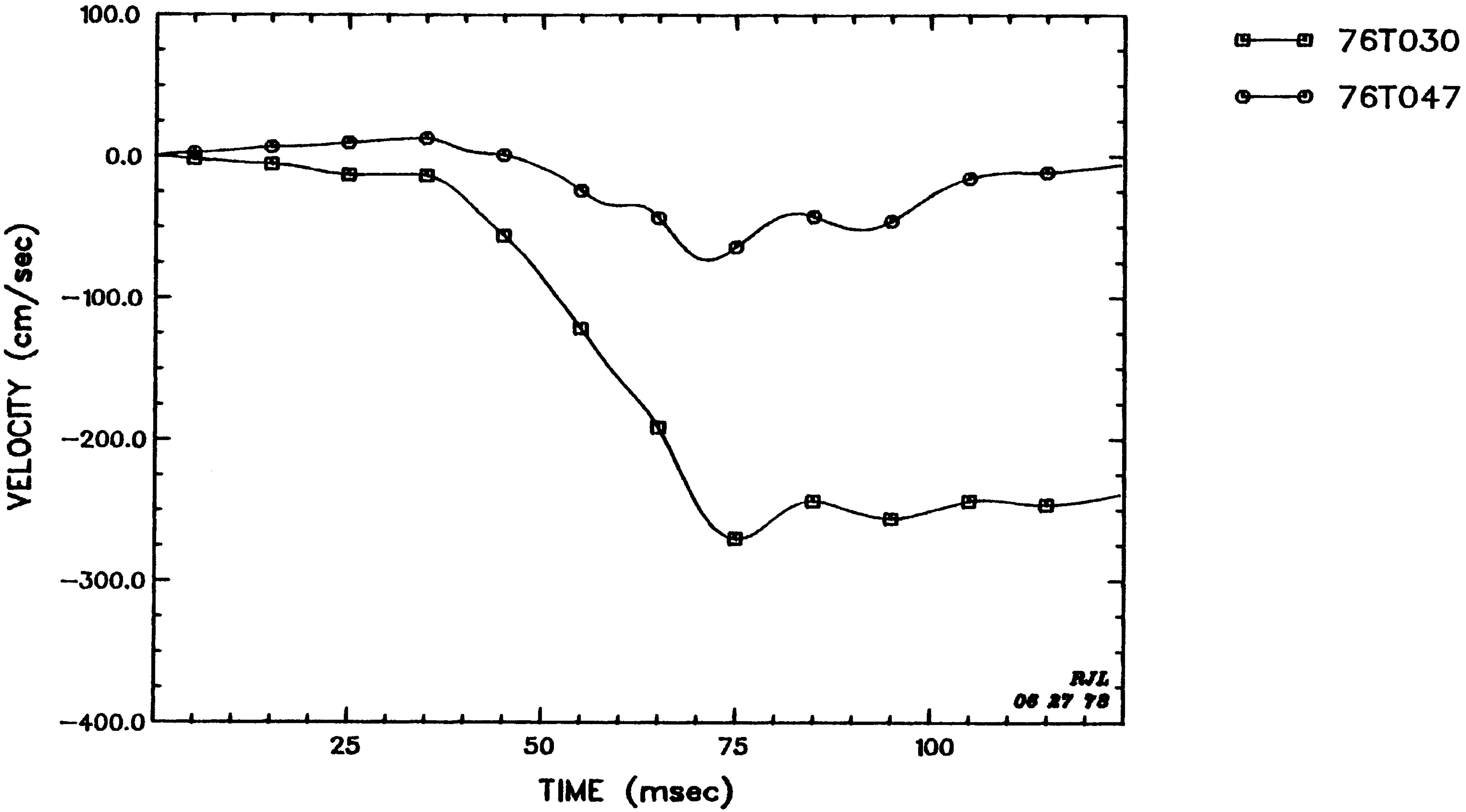
HEAD R—L —— 76T047 —— DUMMY (T—20—P)

Figure 258



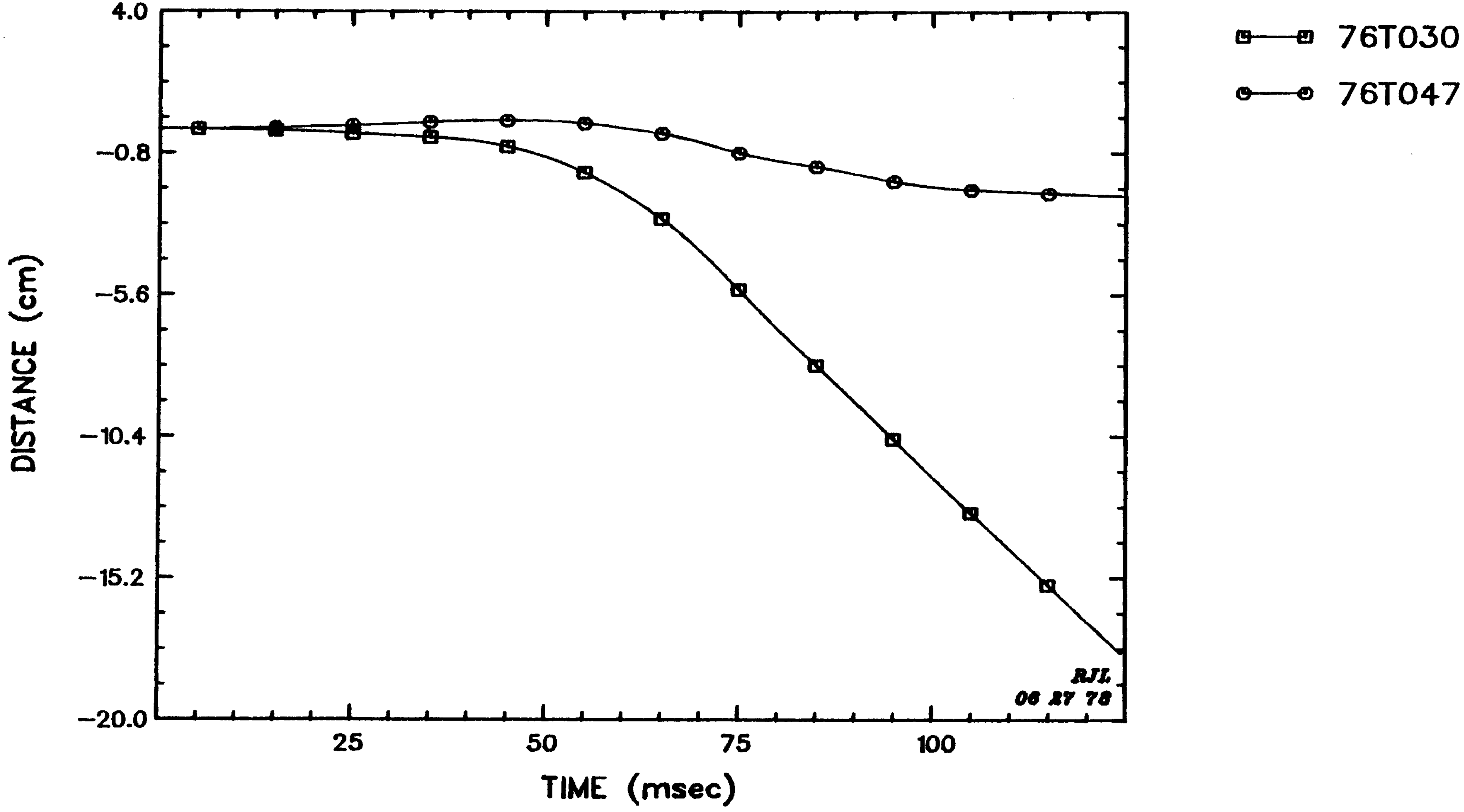
THORAX P-A -- DUMMY TESTS (T-20-P)

Figure 259



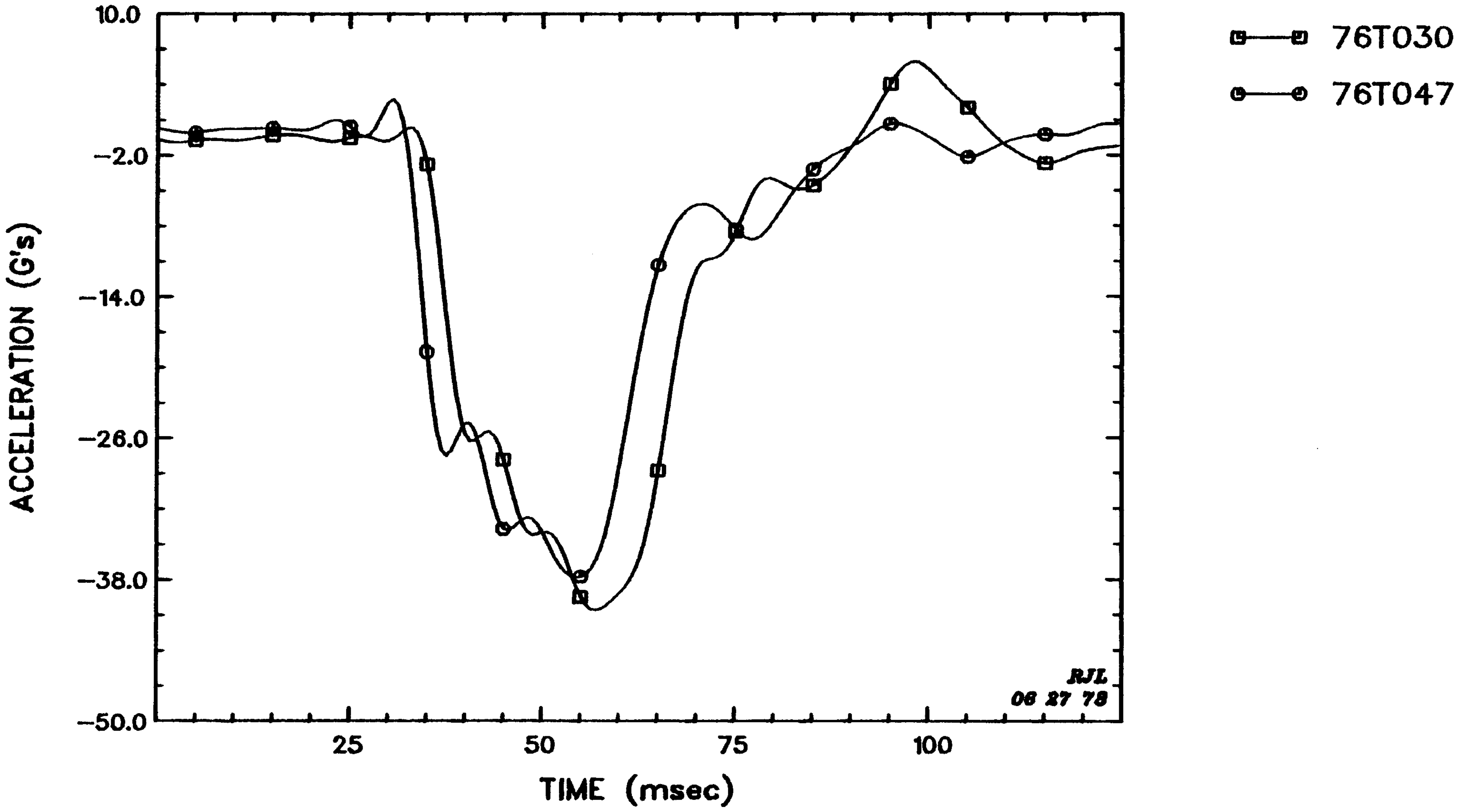
THORAX P-A -- DUMMY TESTS (T-20-P)

Figure 260



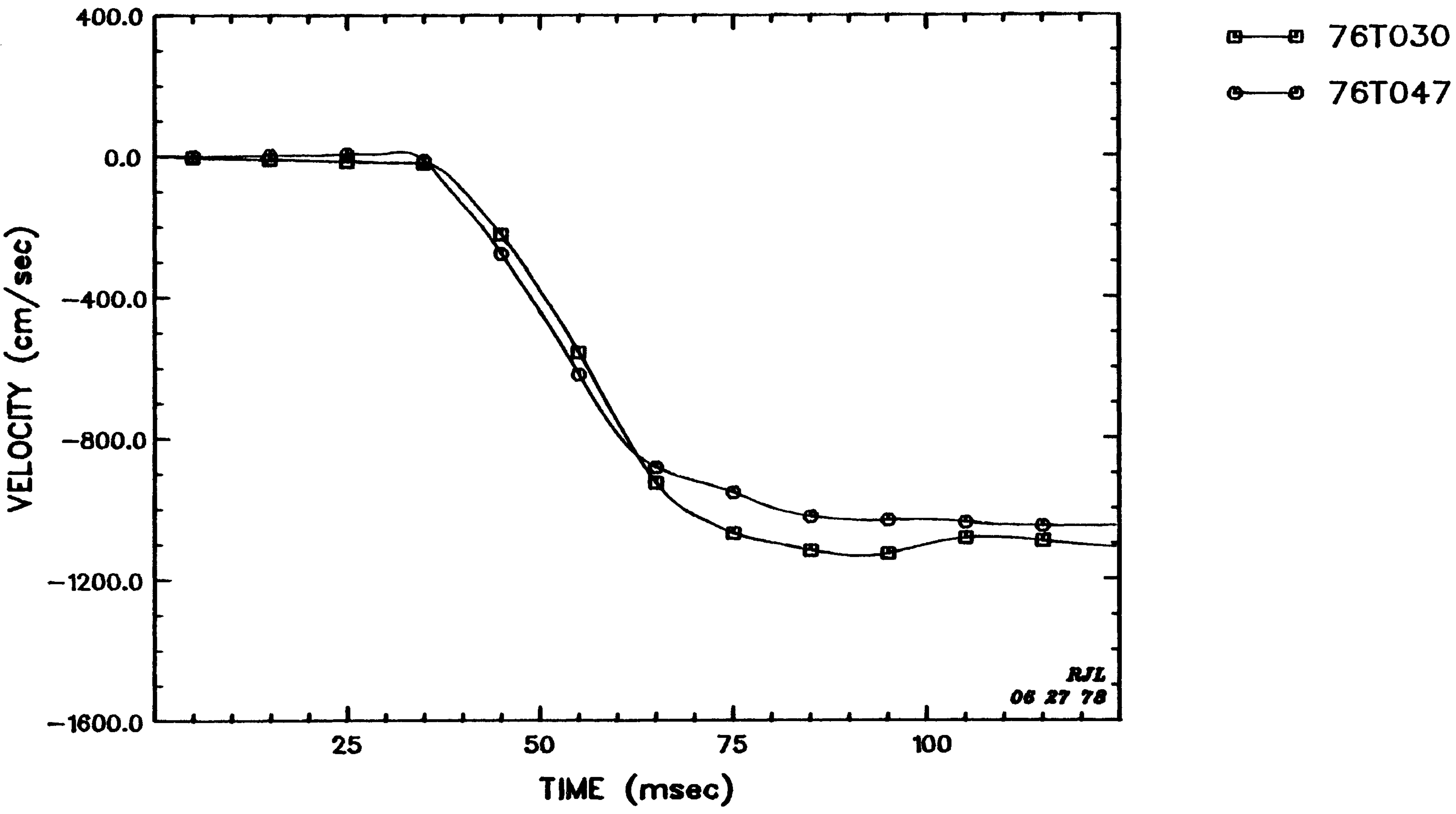
THORAX P-A -- DUMMY TESTS (T-20-P)

Figure 261



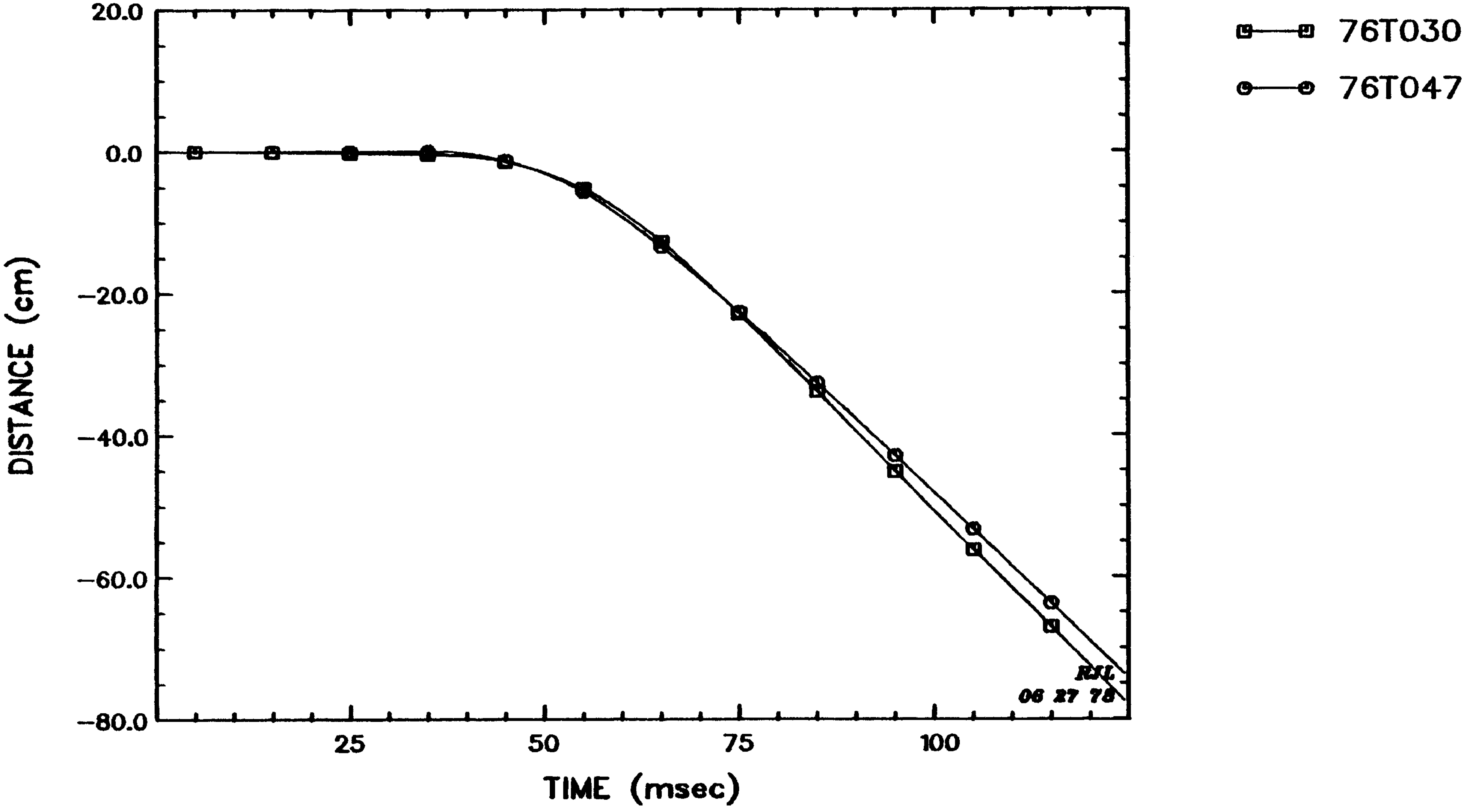
THORAX R-L -- DUMMY TESTS (T-20-P)

Figure 262



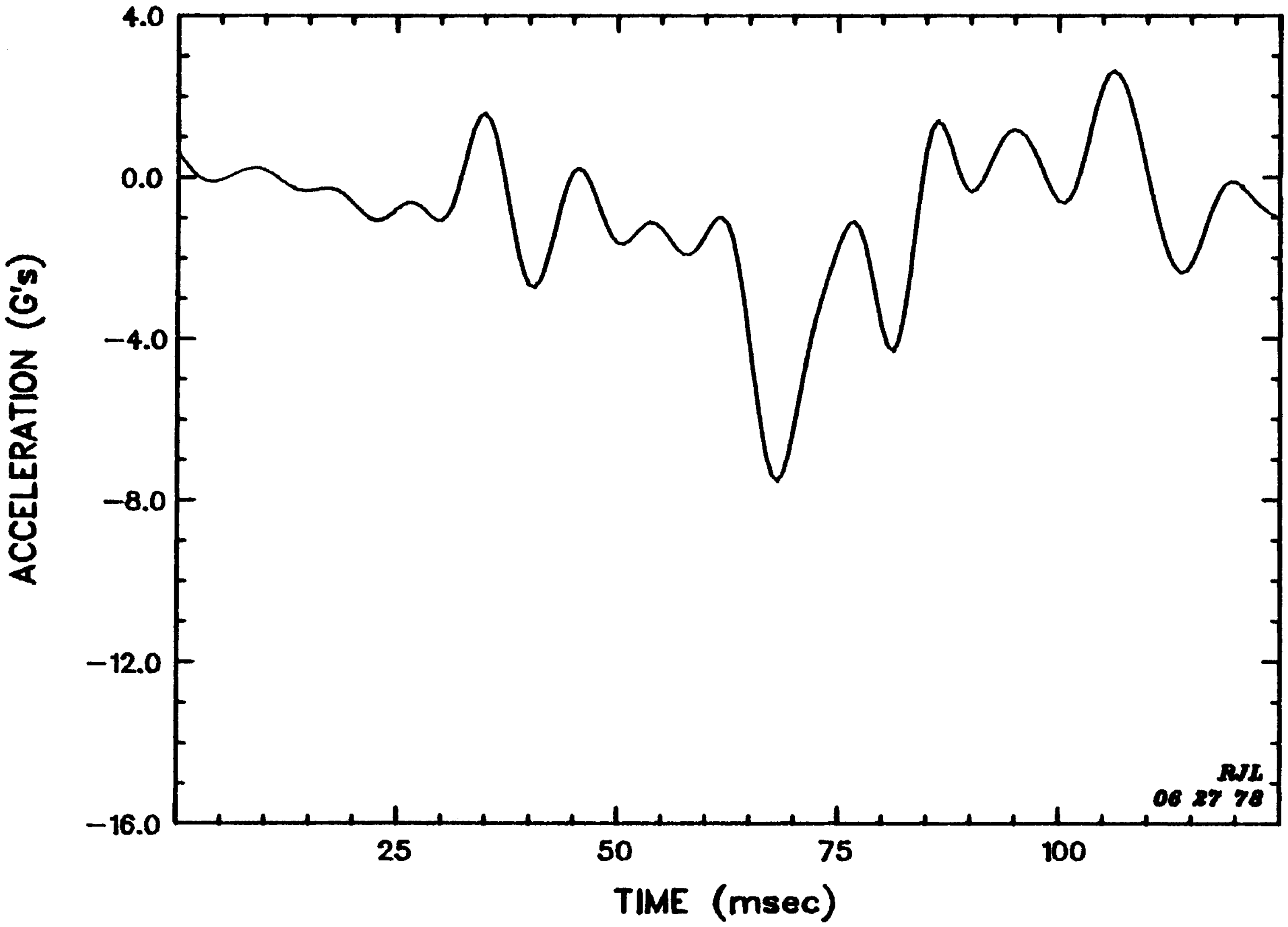
THORAX R-L -- DUMMY TESTS (T-20-P)

Figure 263



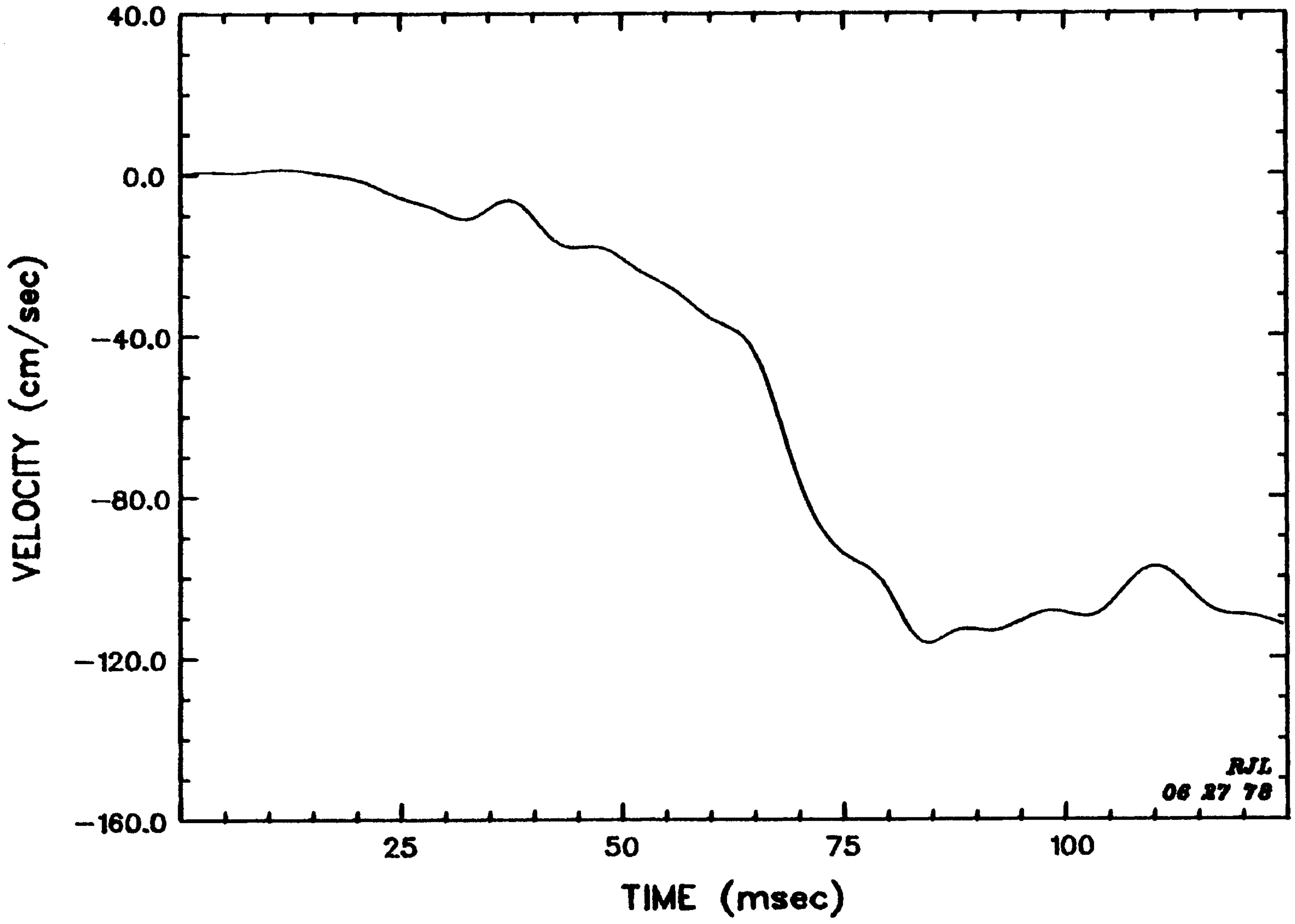
THORAX R-L -- DUMMY TESTS (T-20-P)

Figure 264



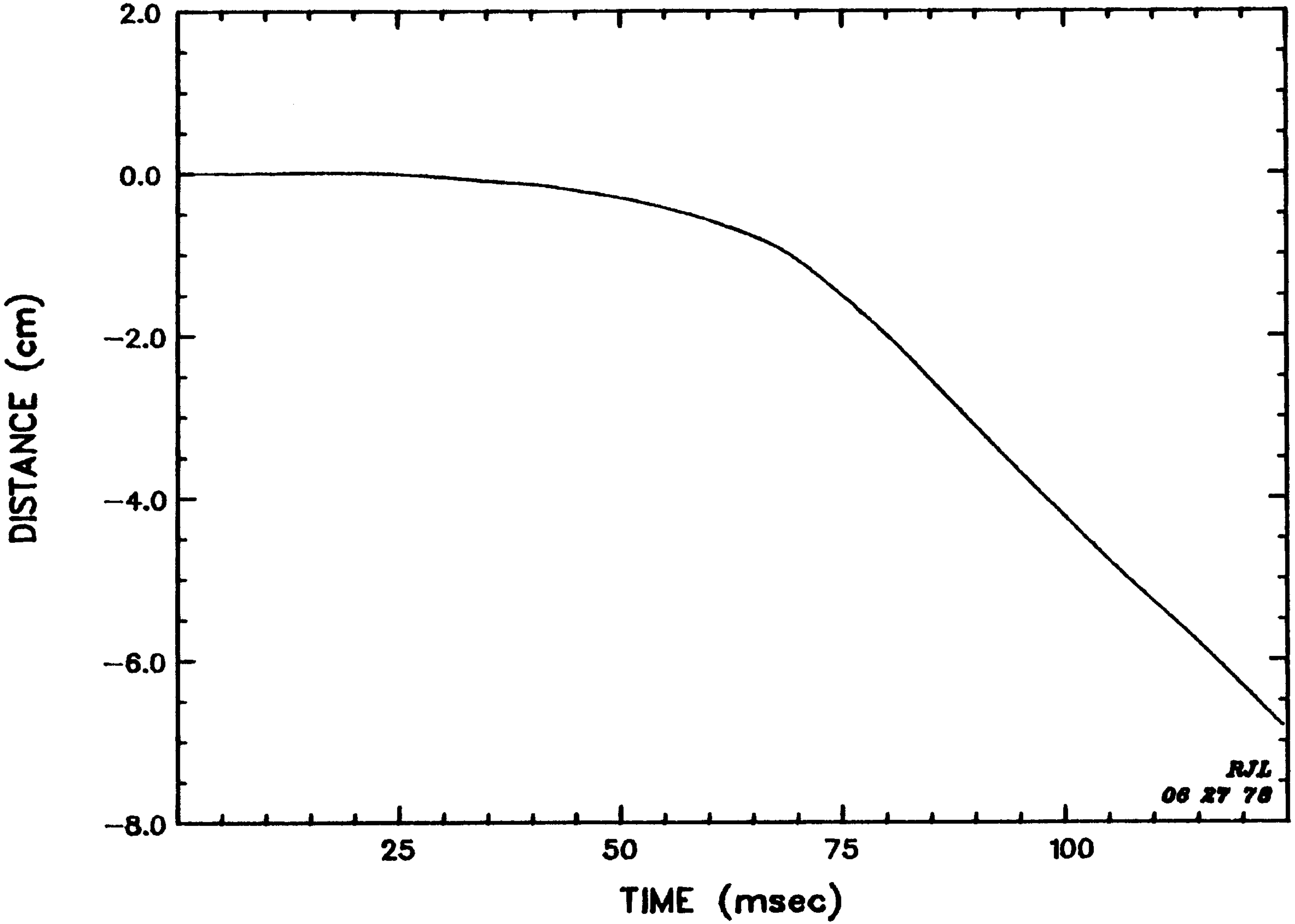
PELVIS P—A —— 76T047 —— DUMMY (T—20—P)

Figure 265



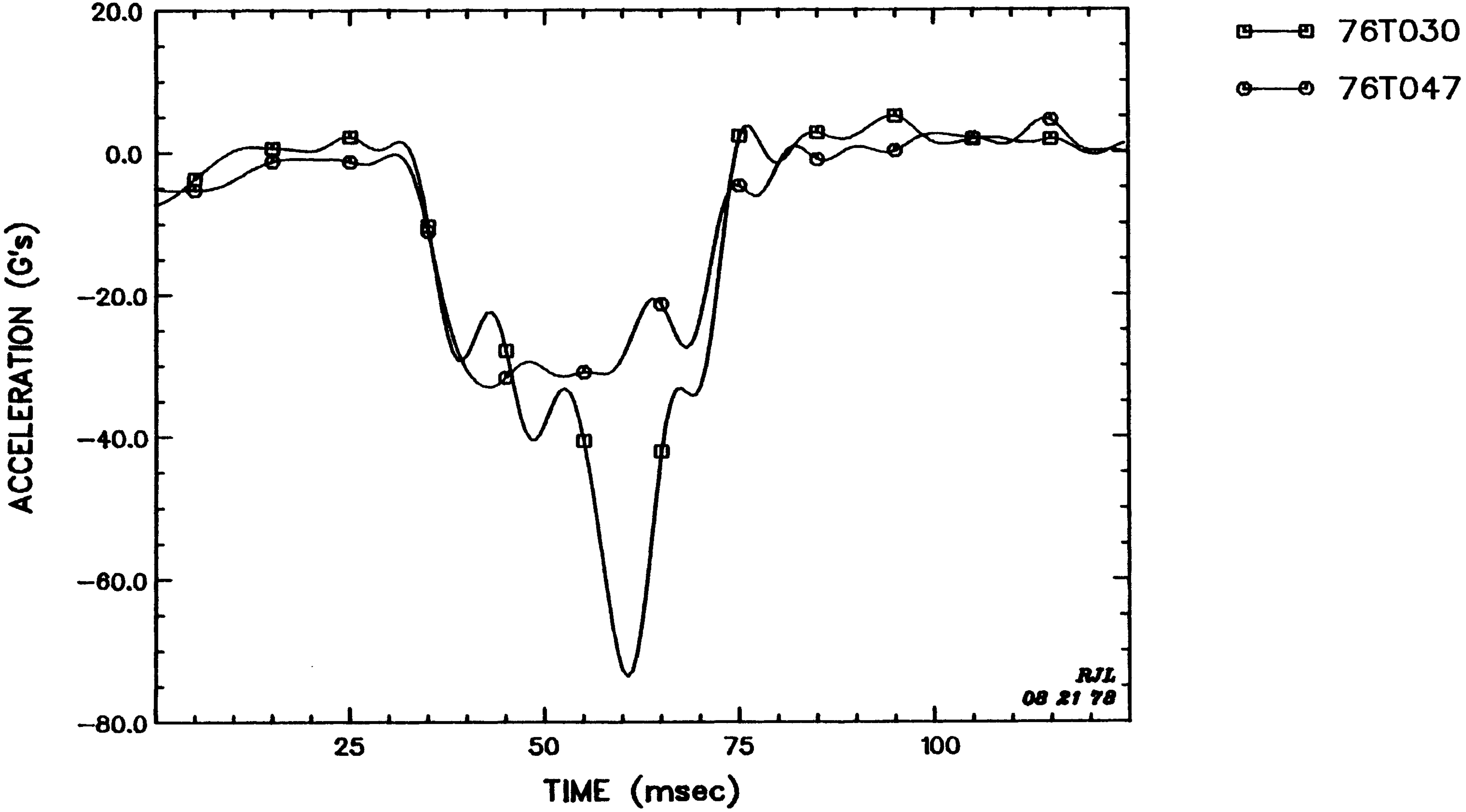
PELVIS P-A -- 76T047 -- DUMMY (T-20-P)

Figure 266



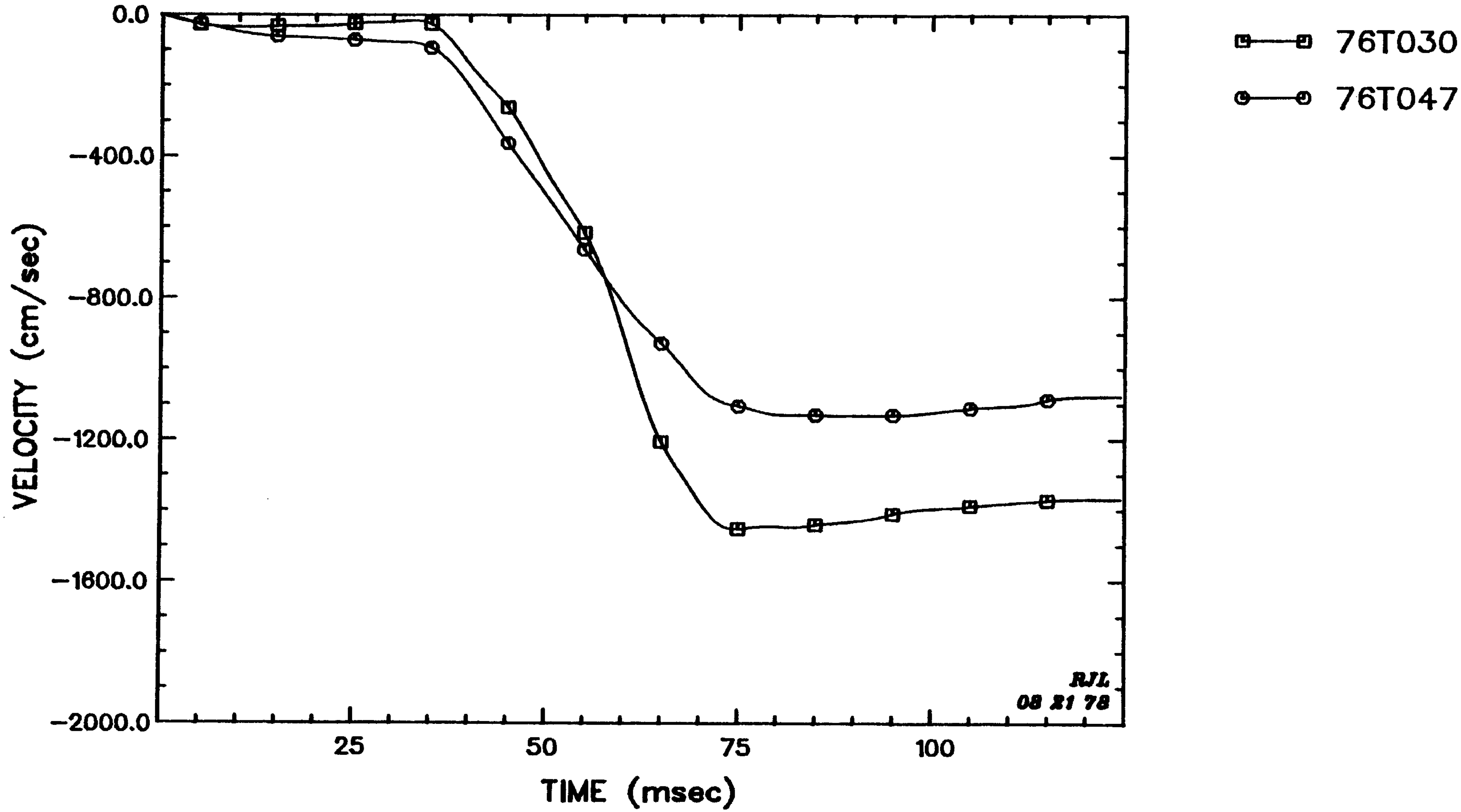
PELVIS P–A –– 76T047 –– DUMMY (T–20–P)

Figure 267



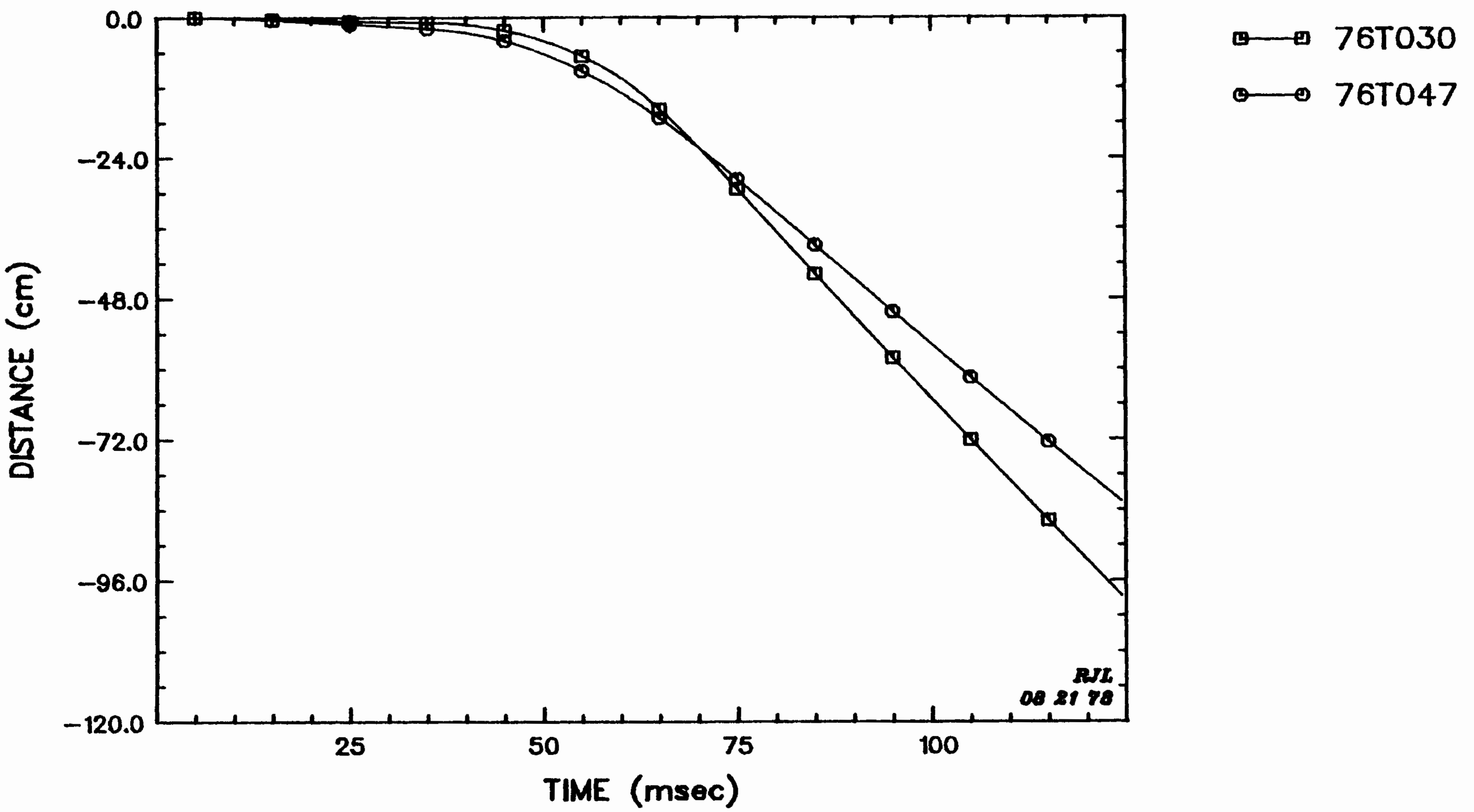
PELVIS R-L -- DUMMY SIDE TESTS (T-20-P)

Figure 268



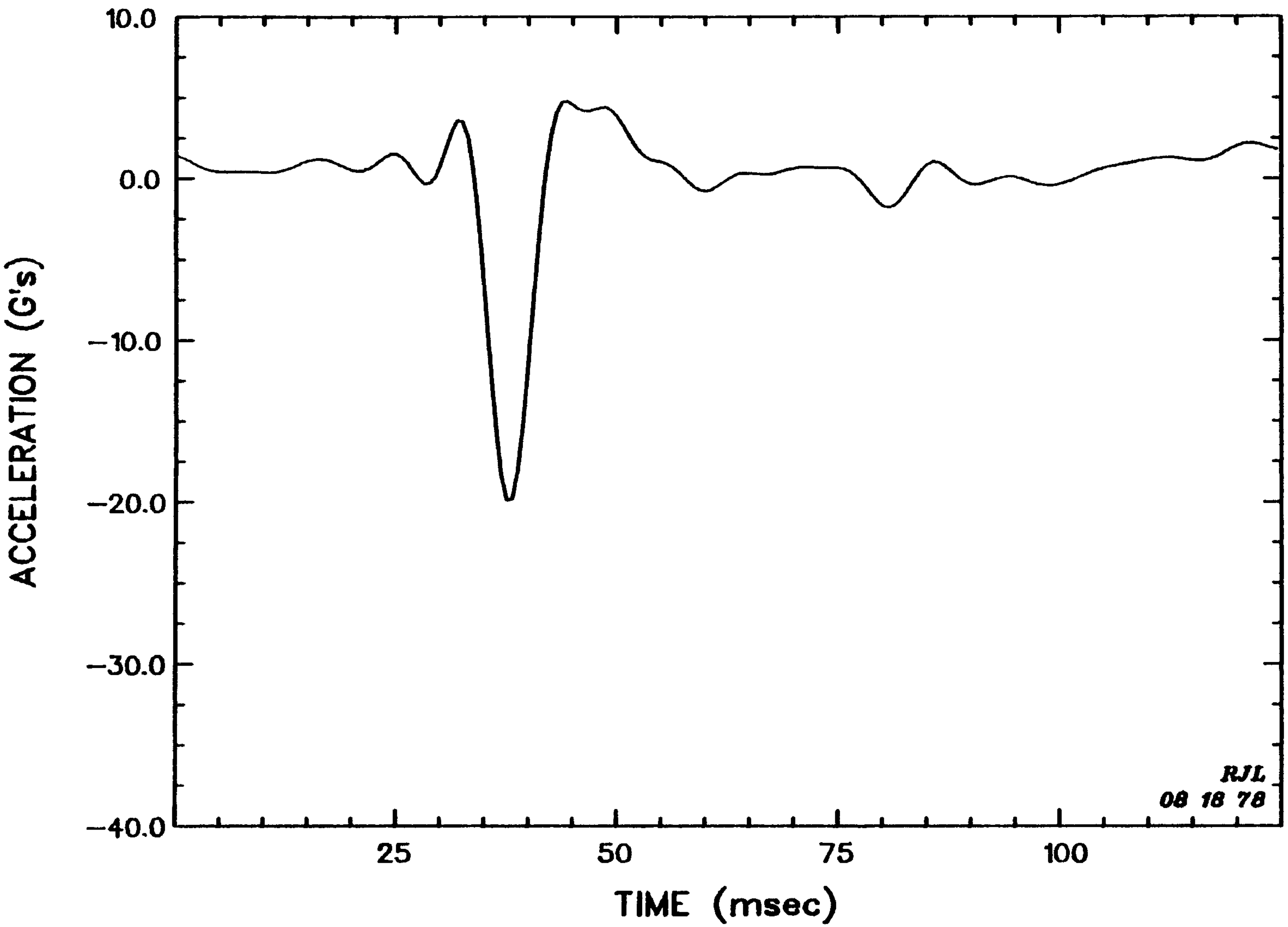
PELVIS R-L -- DUMMY SIDE TESTS (T-20-P)

Figure 269



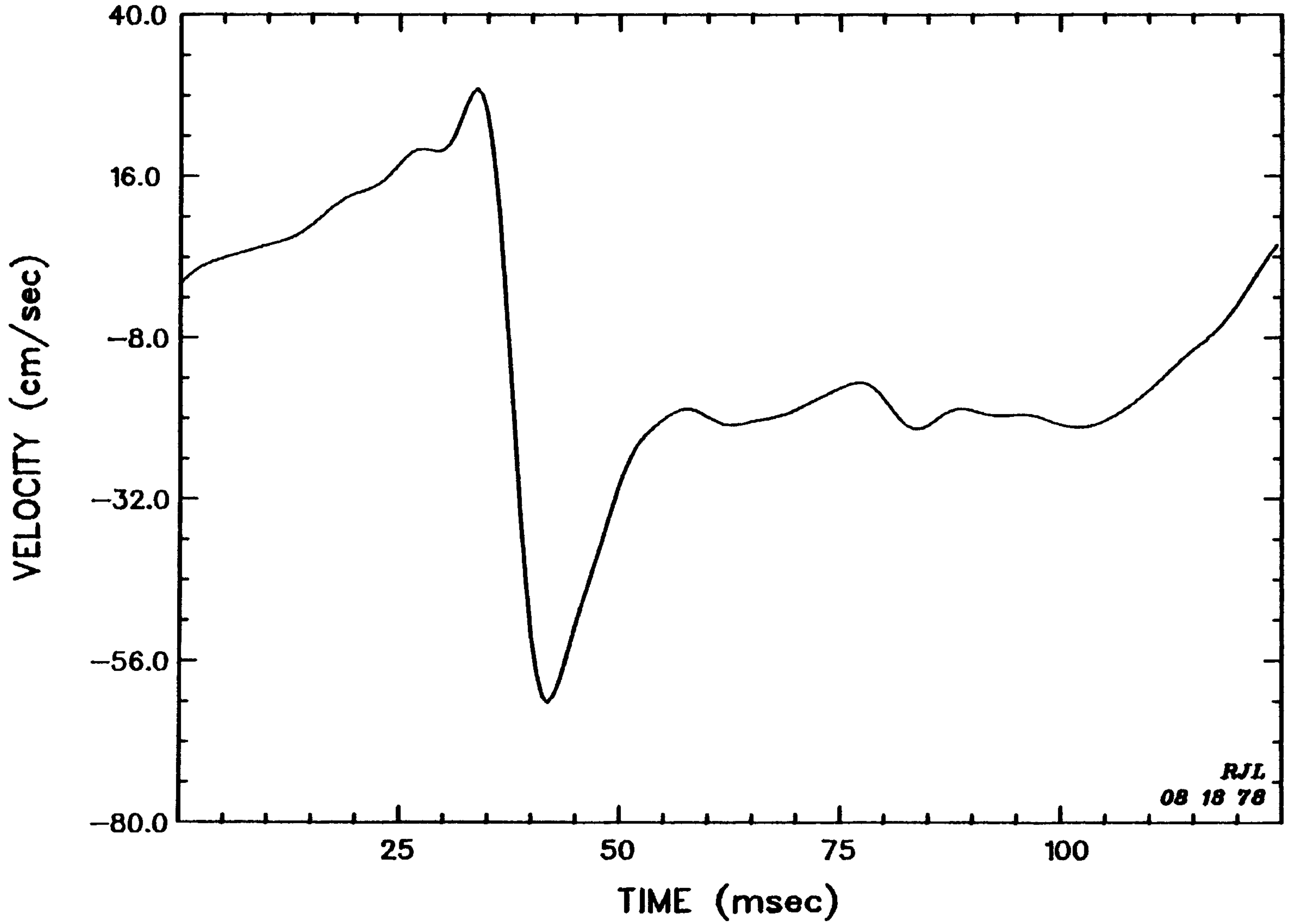
PELVIS R-L -- DUMMY SIDE TESTS (T-20-P)

Figure 270



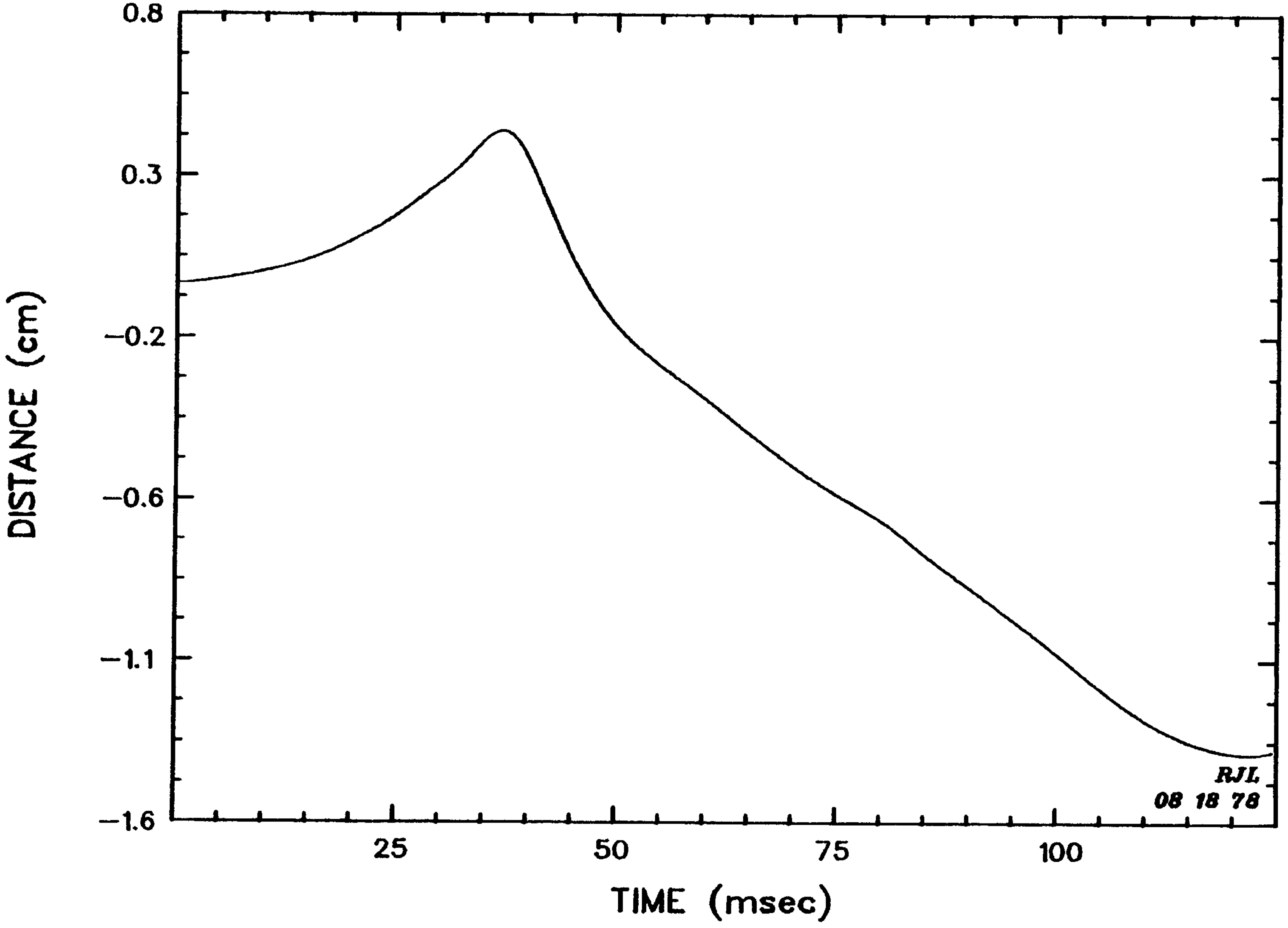
76T046 -- HEAD P-A -- TRRL-27-P

Figure 271



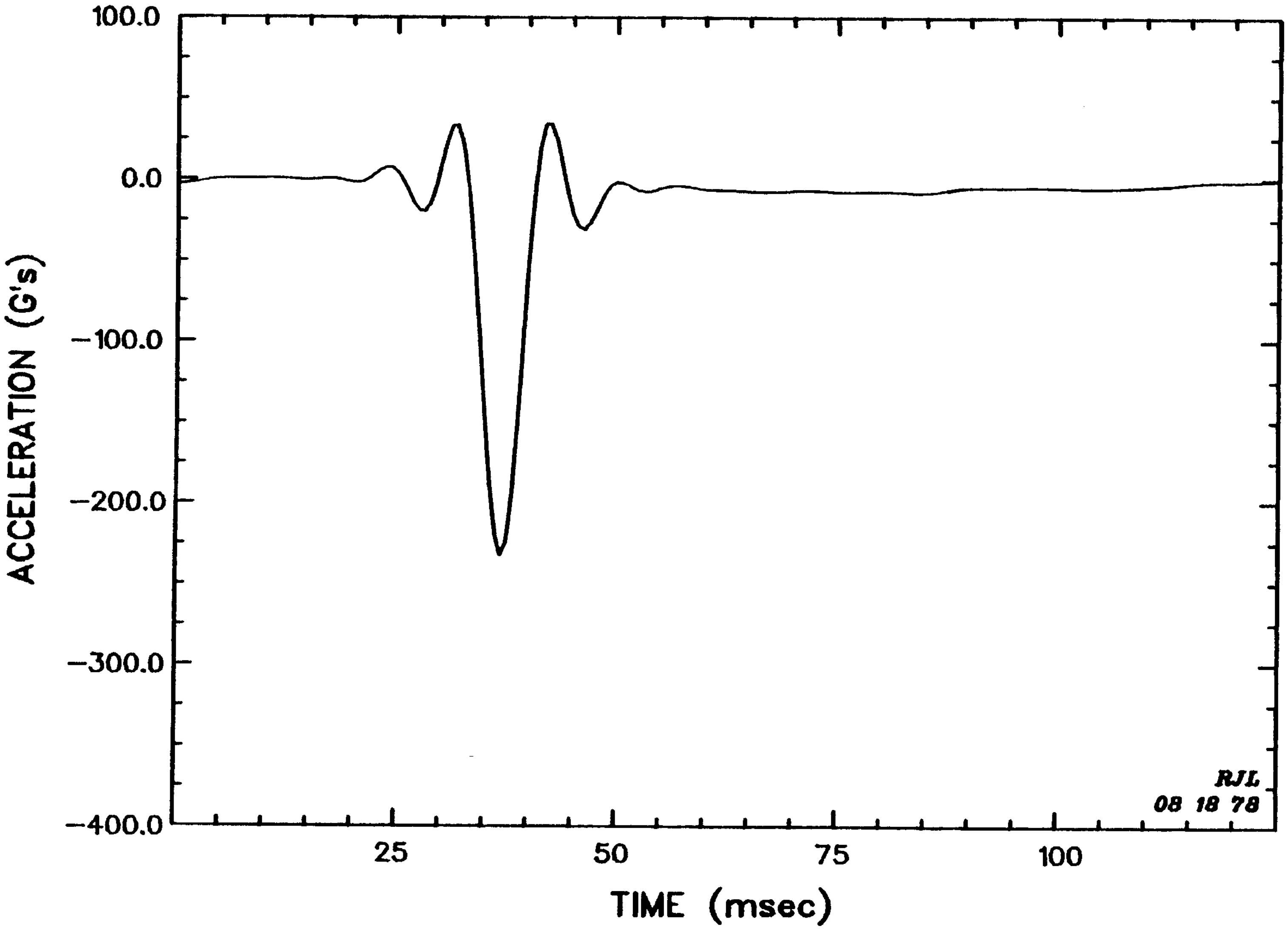
76T046 -- HEAD P-A -- TRRL-27-P

Figure 272



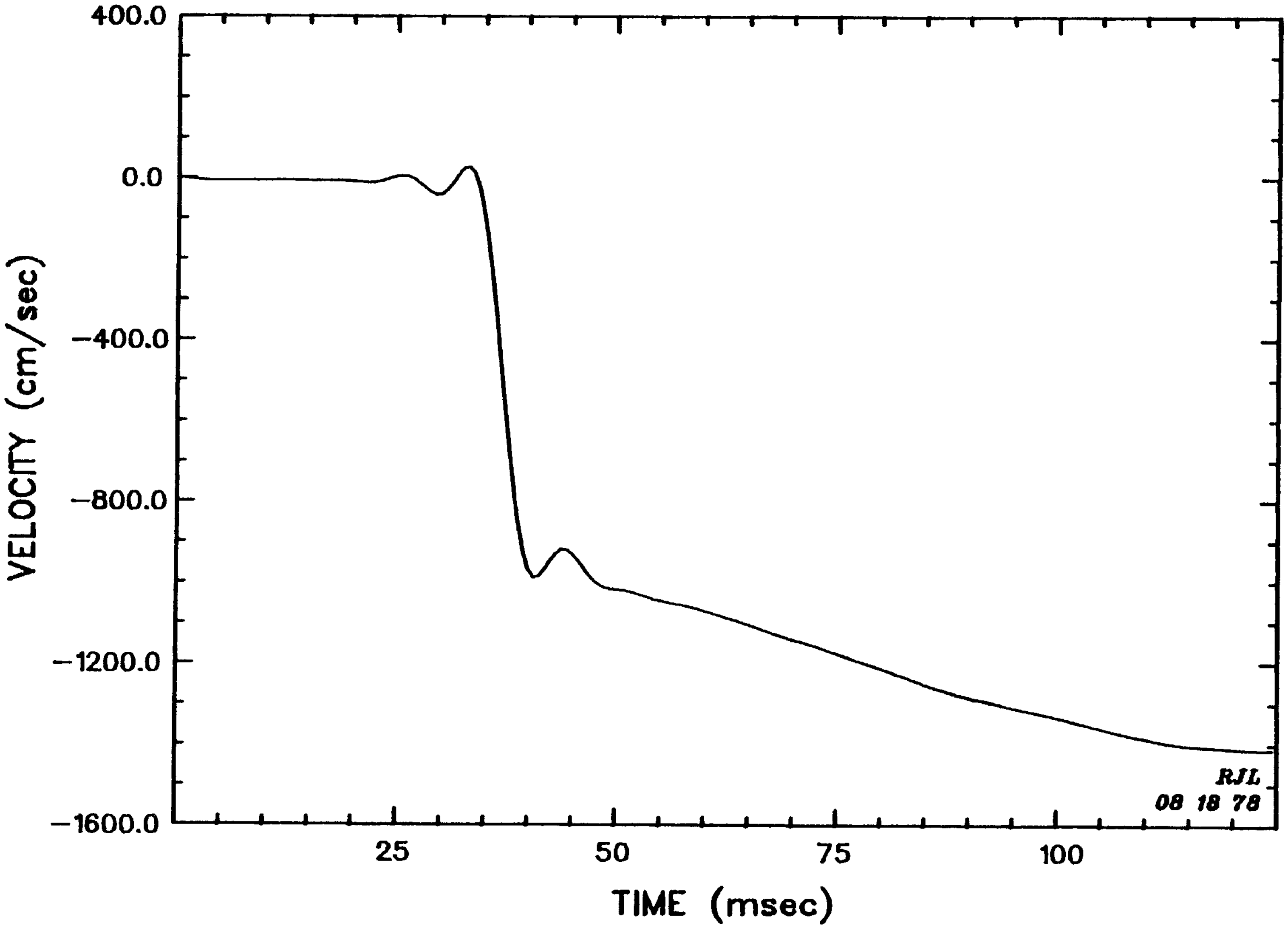
76T046 -- HEAD P-A -- TRRL-27-P

Figure 273



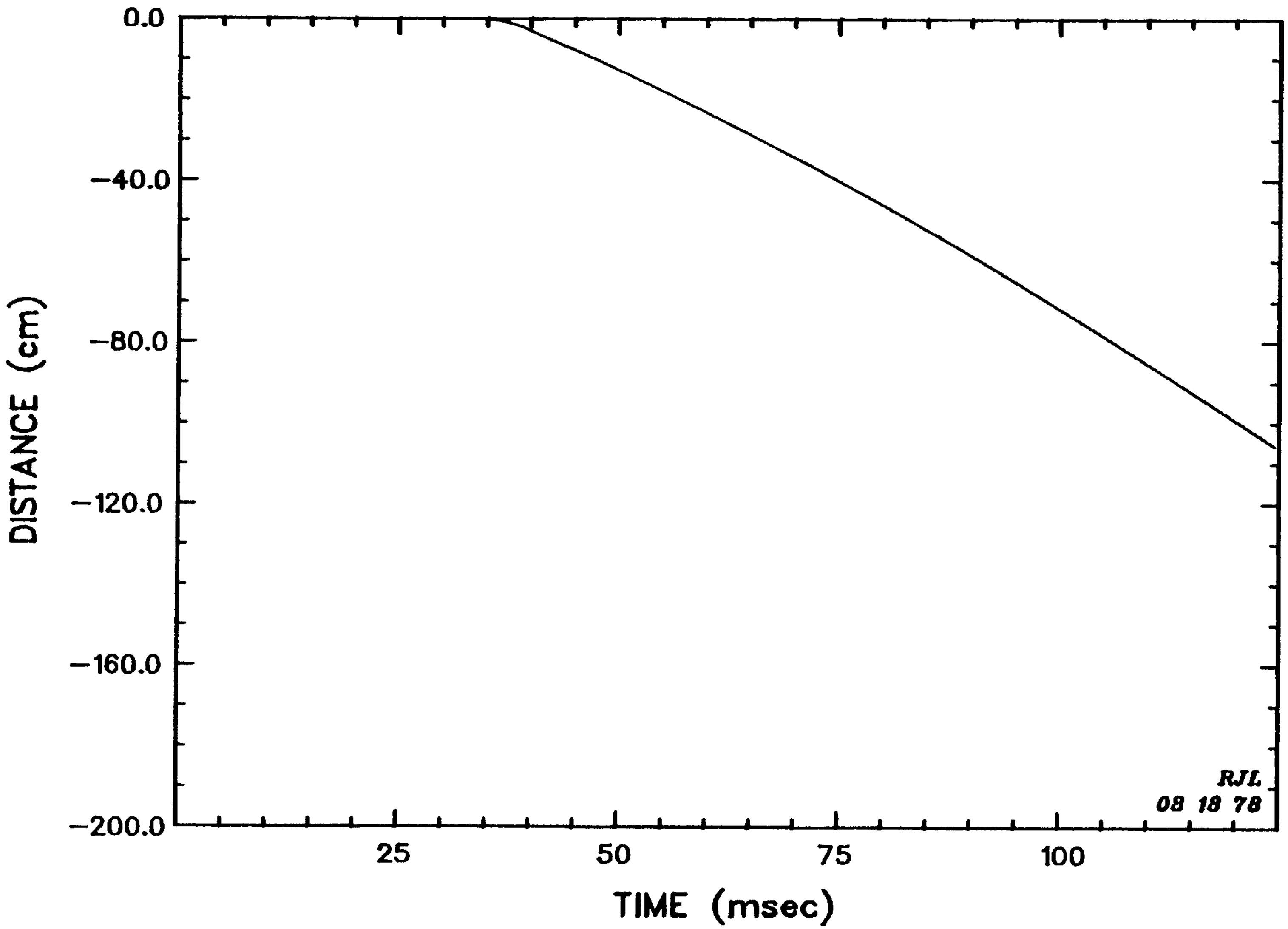
76T046 -- HEAD R-L -- TRRL-27-P

Figure 274



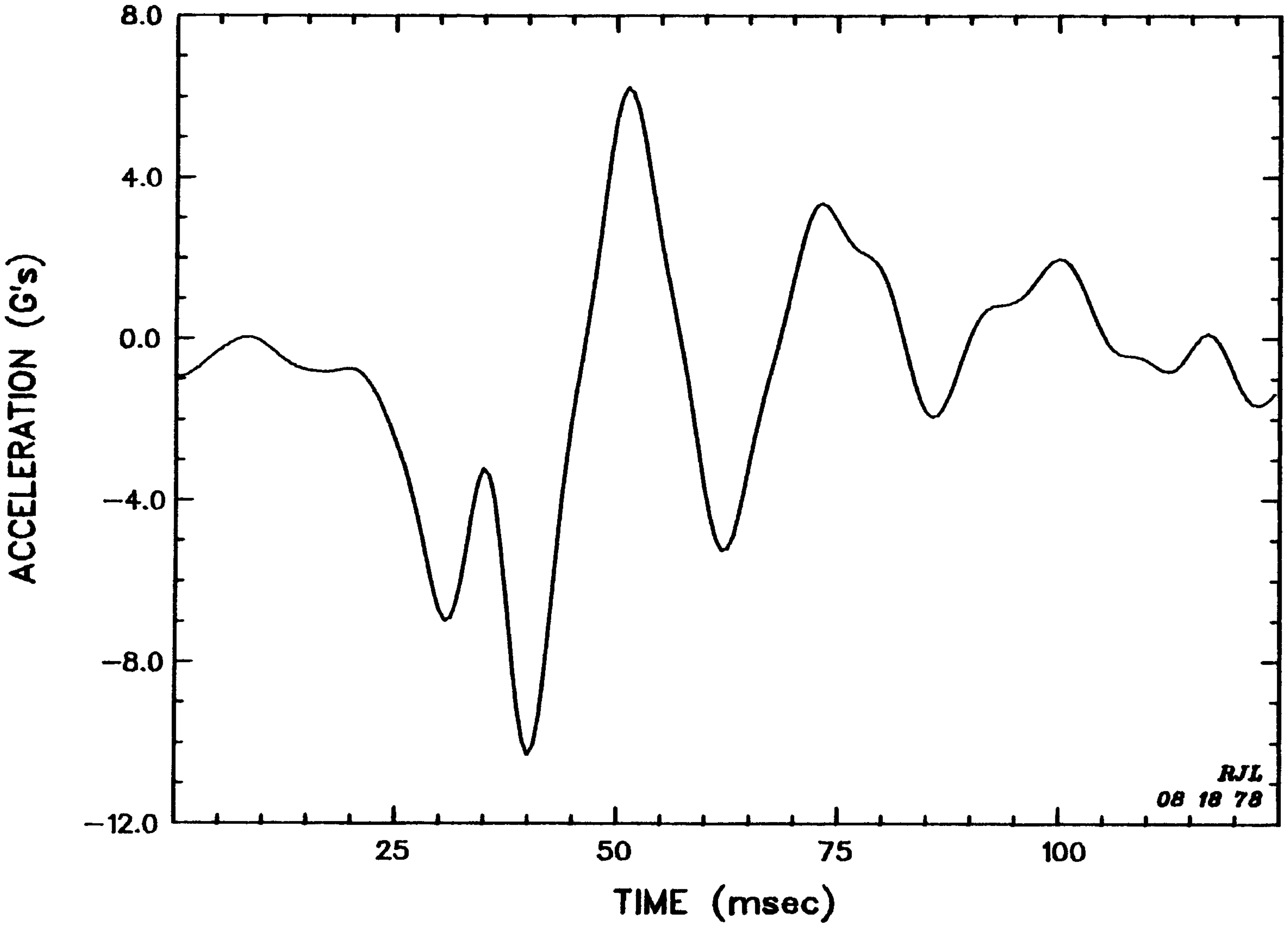
76T046 -- HEAD R-L -- TRRL-27-P

Figure 275



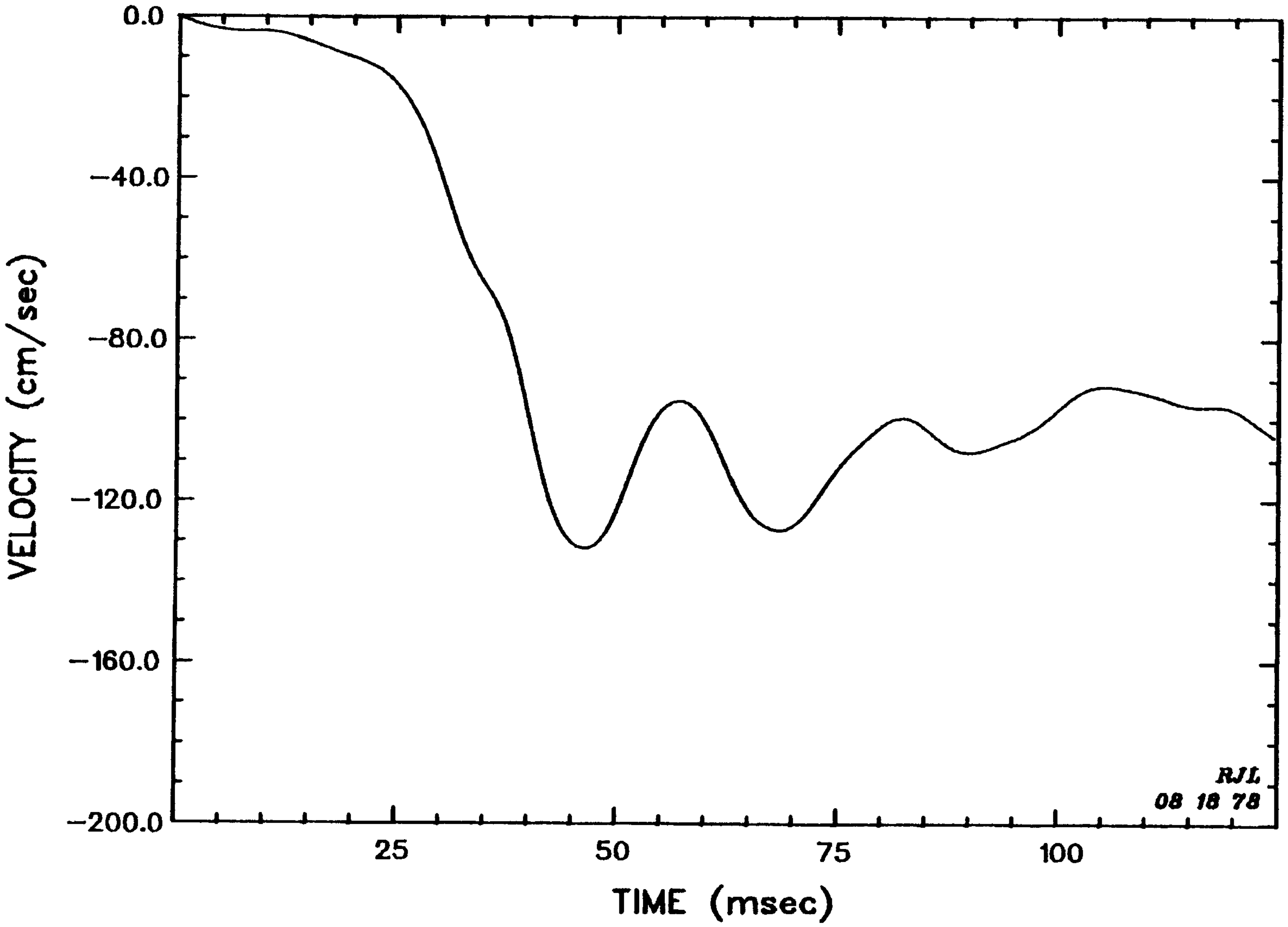
76T046 -- HEAD R-L -- TRRL-27-P

Figure 276



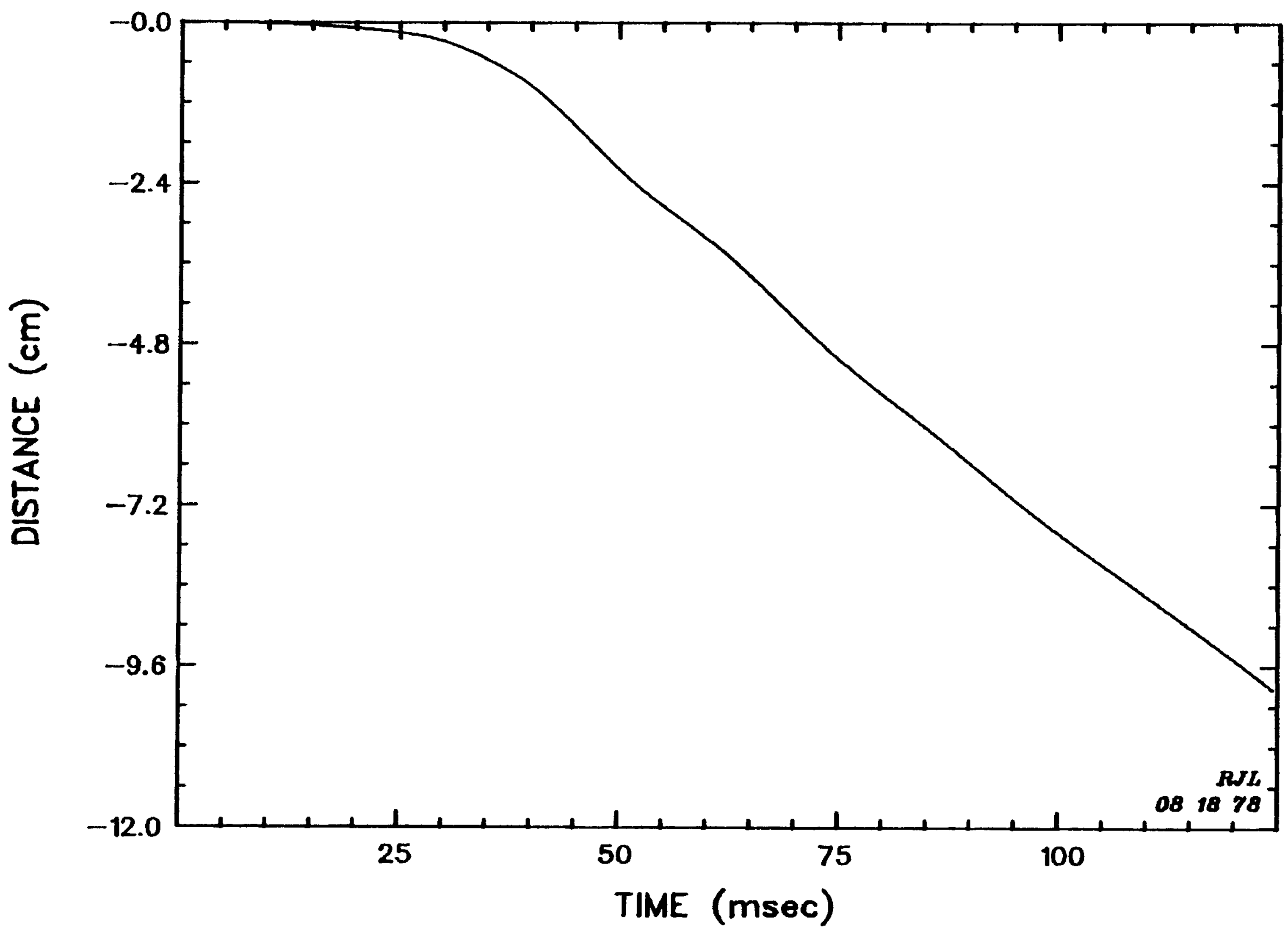
76T046 -- THORAX P-A -- TRRL-27-P

Figure 277



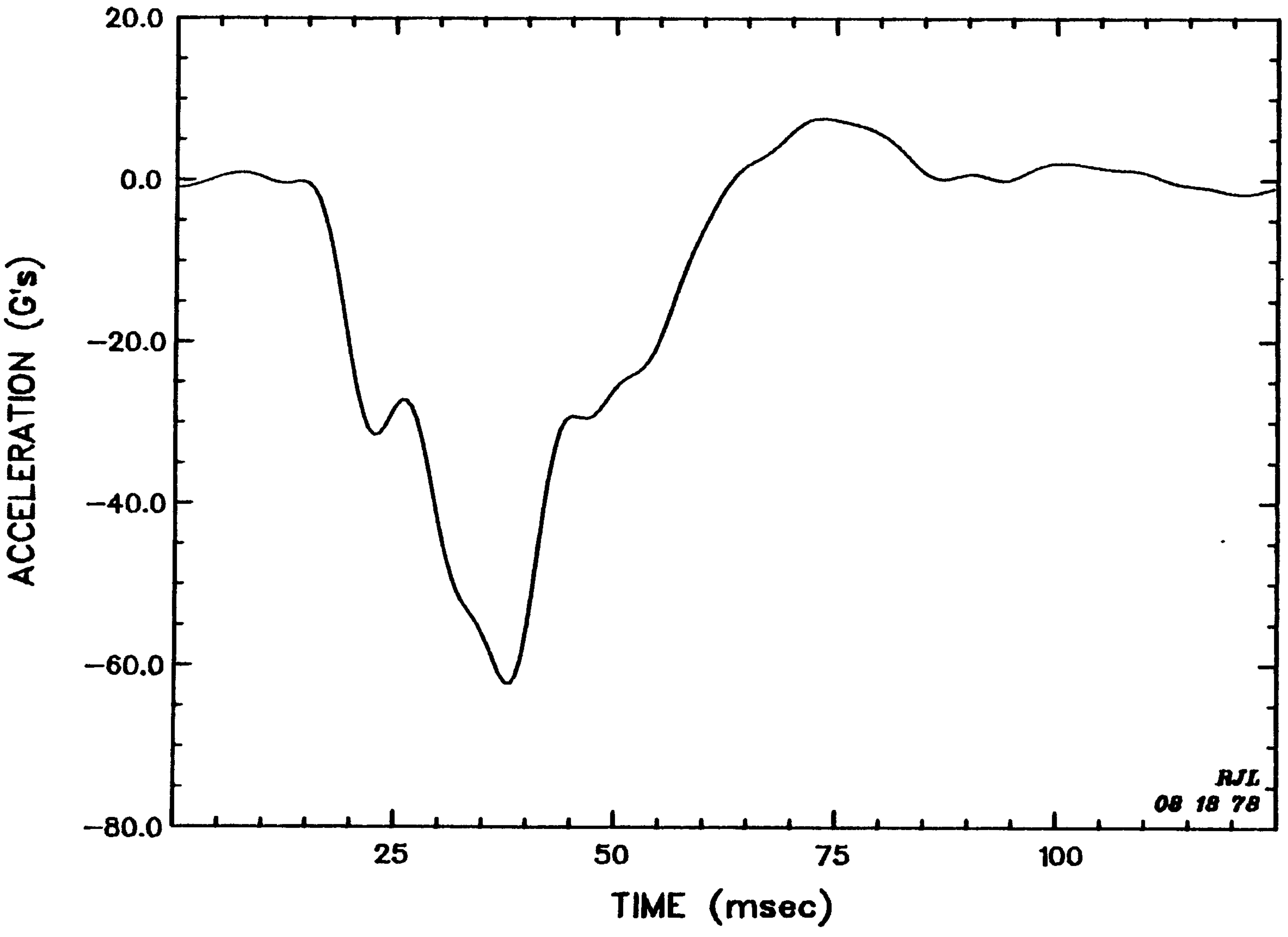
76T046 -- THORAX P-A -- TRRL-27-P

Figure 278



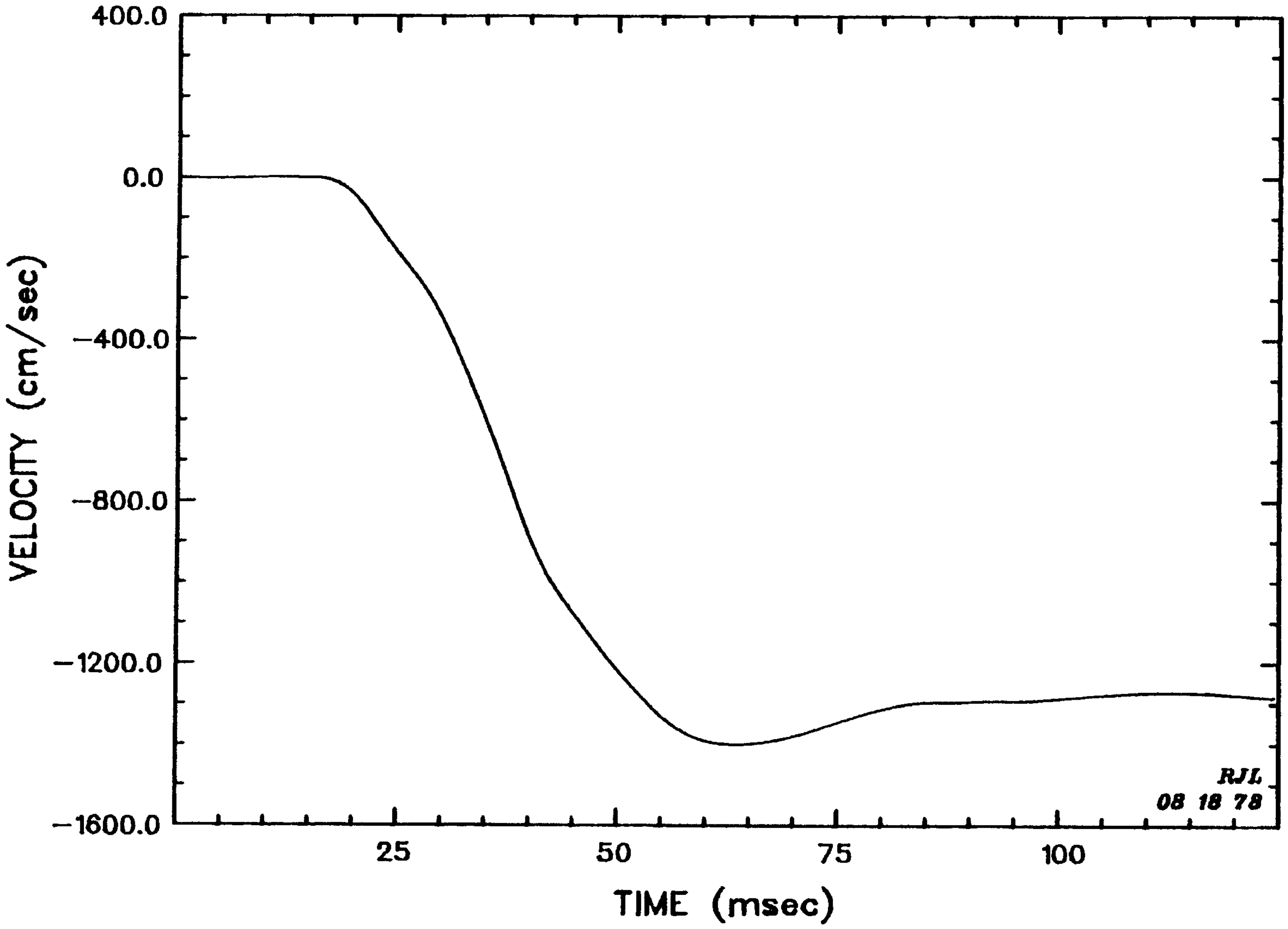
76T046 -- THORAX P-A -- TRRL-27-P

Figure 279



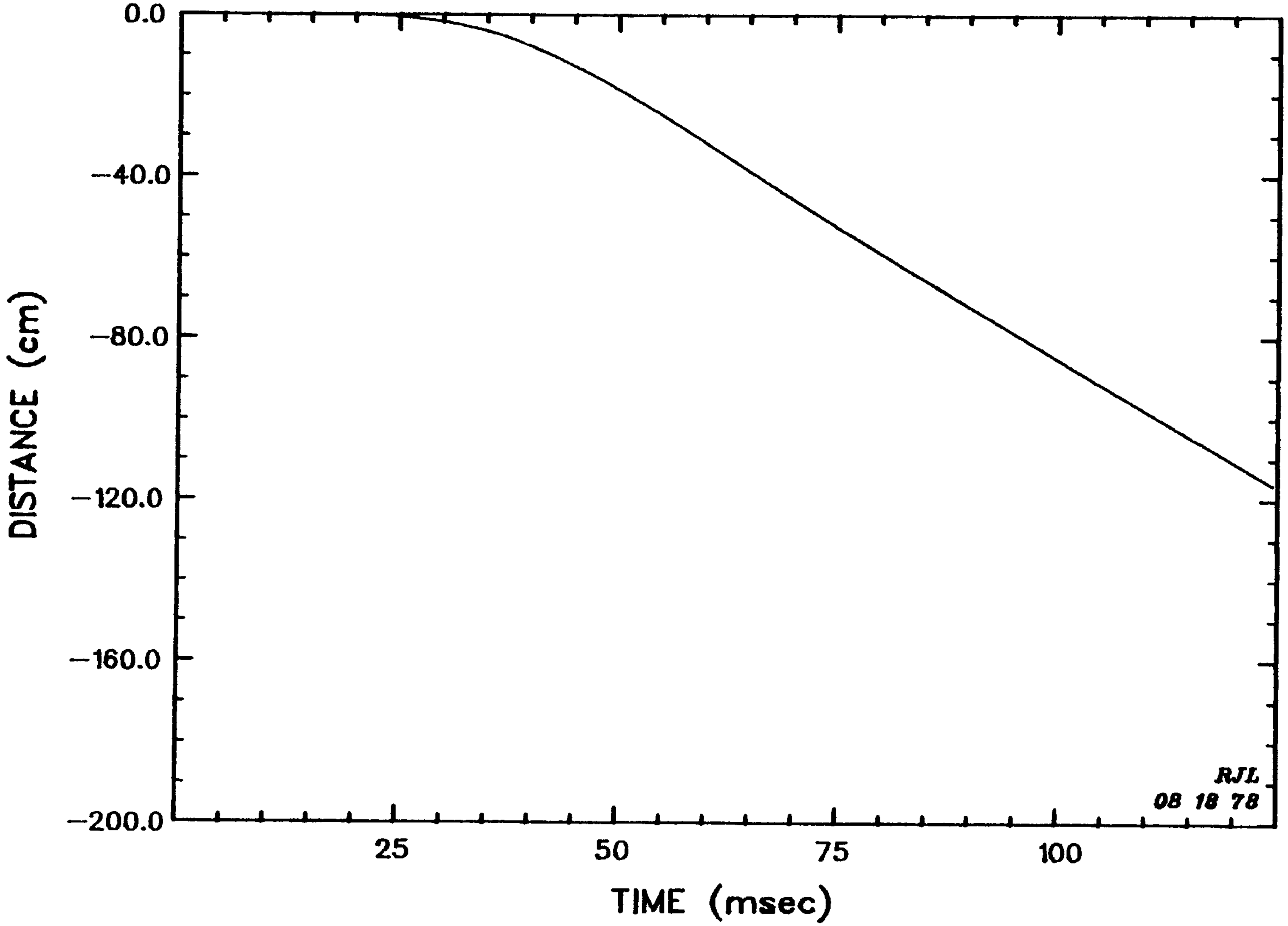
76T046 -- THORAX R-L -- TRRL-27-P

Figure 280



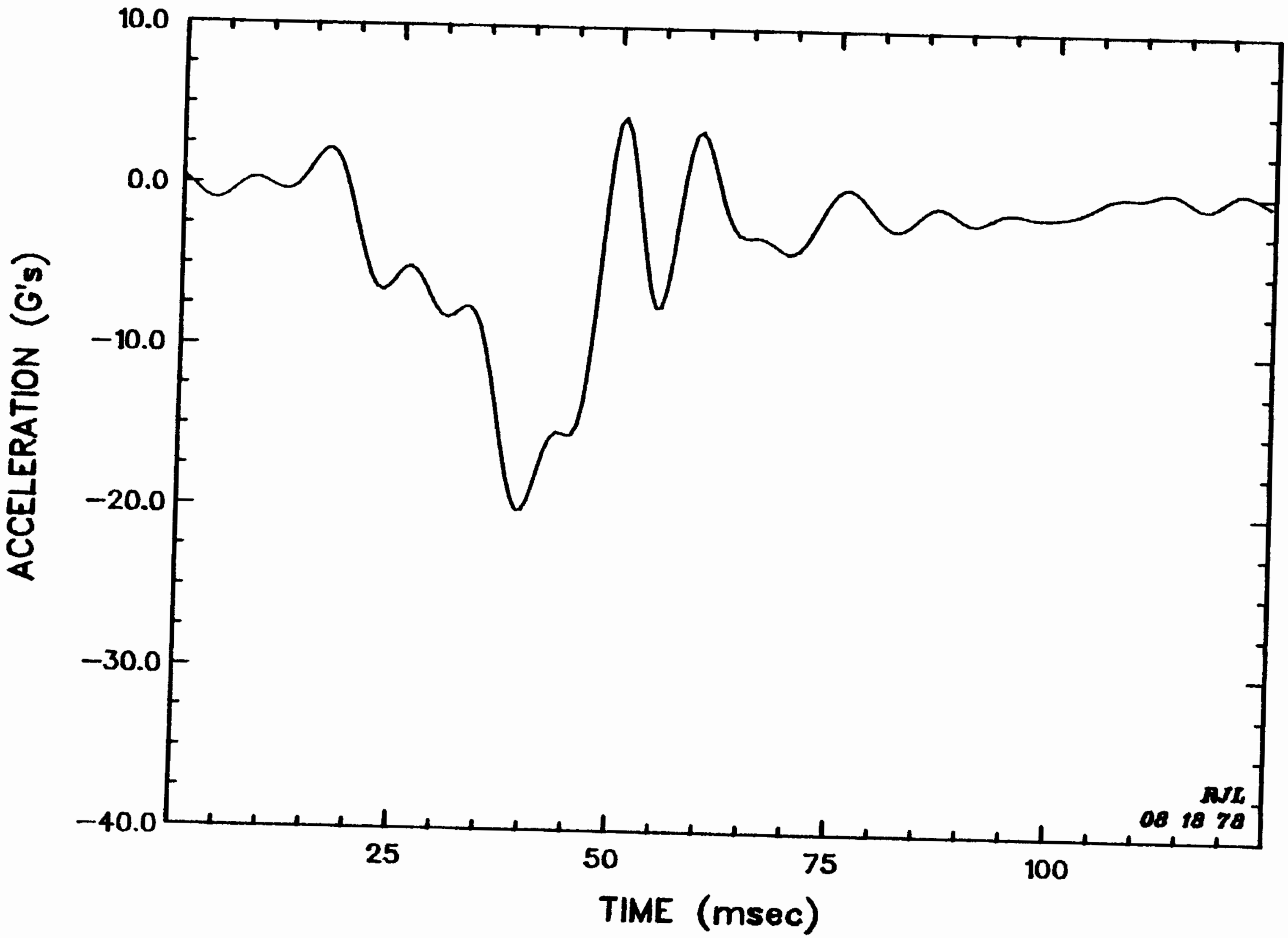
76T046 -- THORAX R-L -- TRRL-27-P

Figure 281



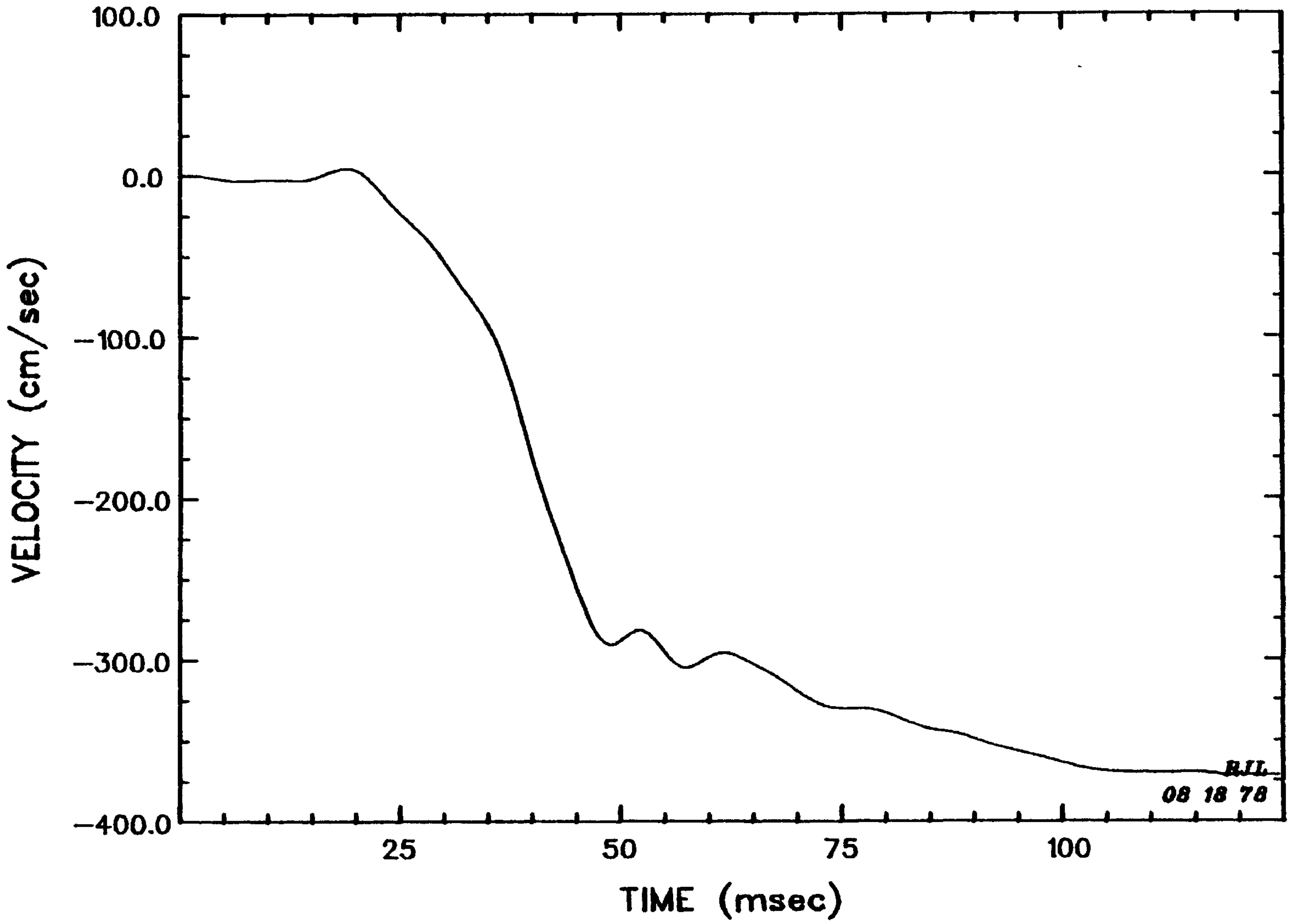
76T046 -- THORAX R-L -- TRRL-27-P

Figure 282



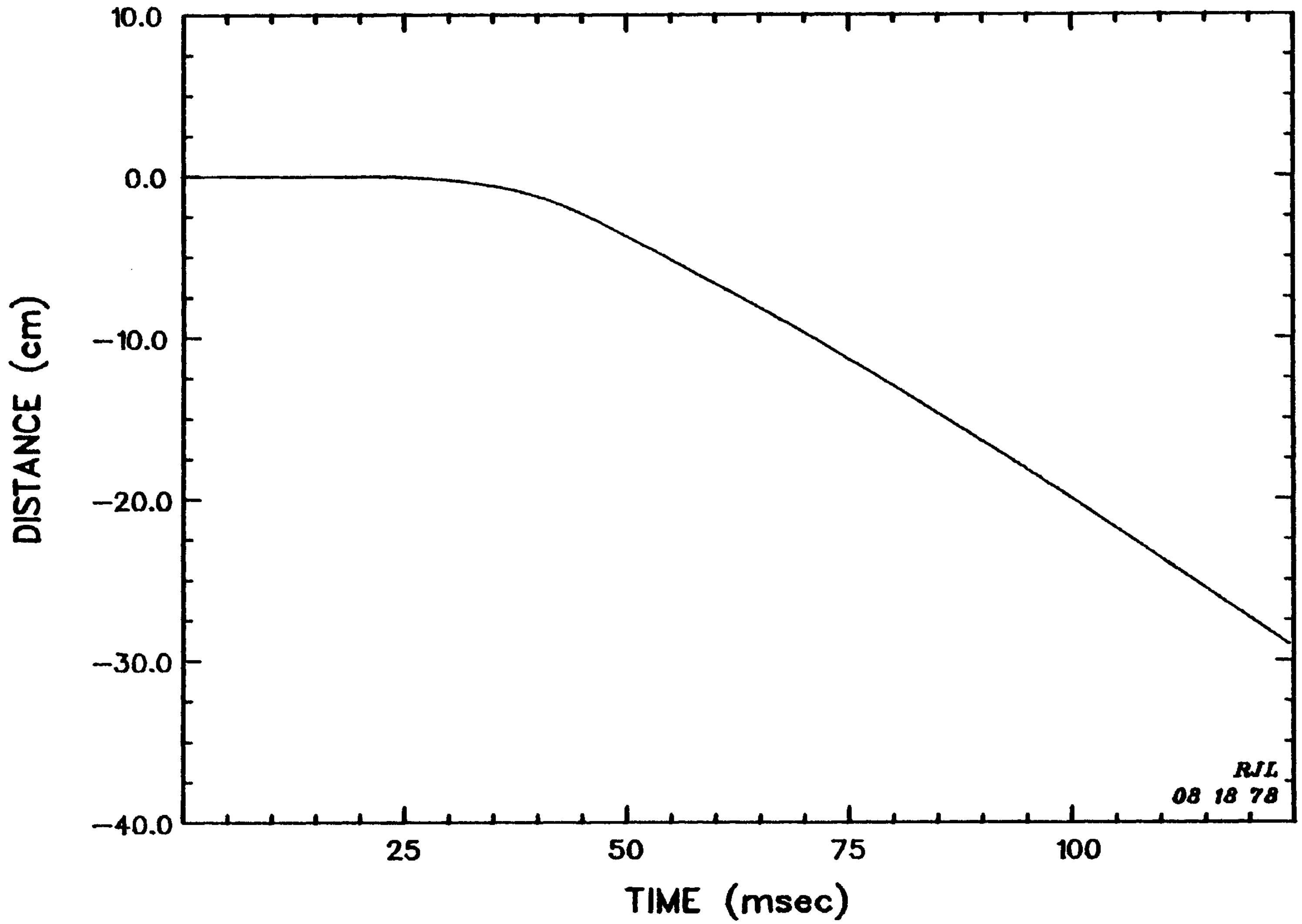
76T046 -- PELVIS P-A -- TRRL-27-P

Figure 283



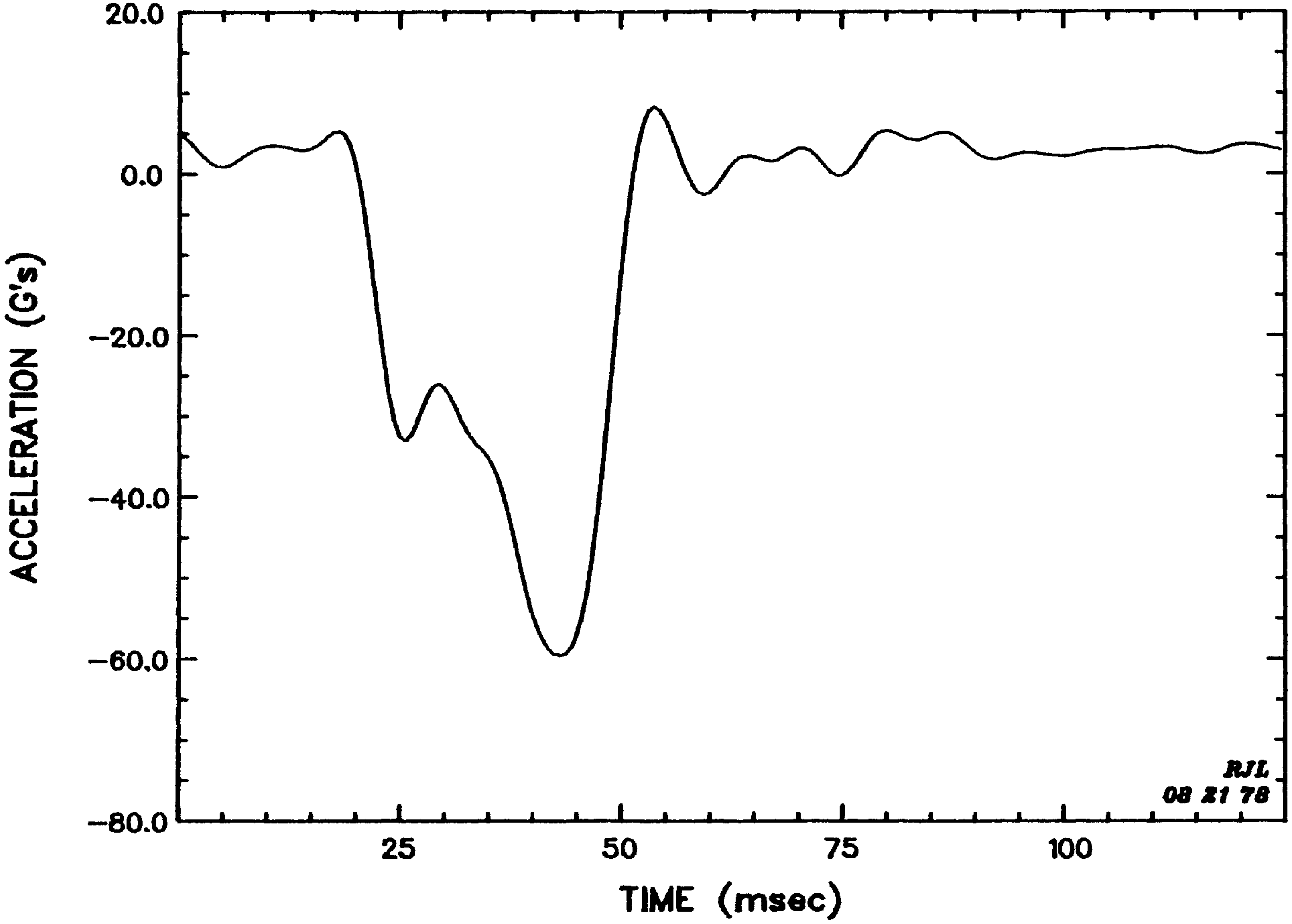
76T046 -- PELVIS P-A -- TRRL-27-P

Figure 284



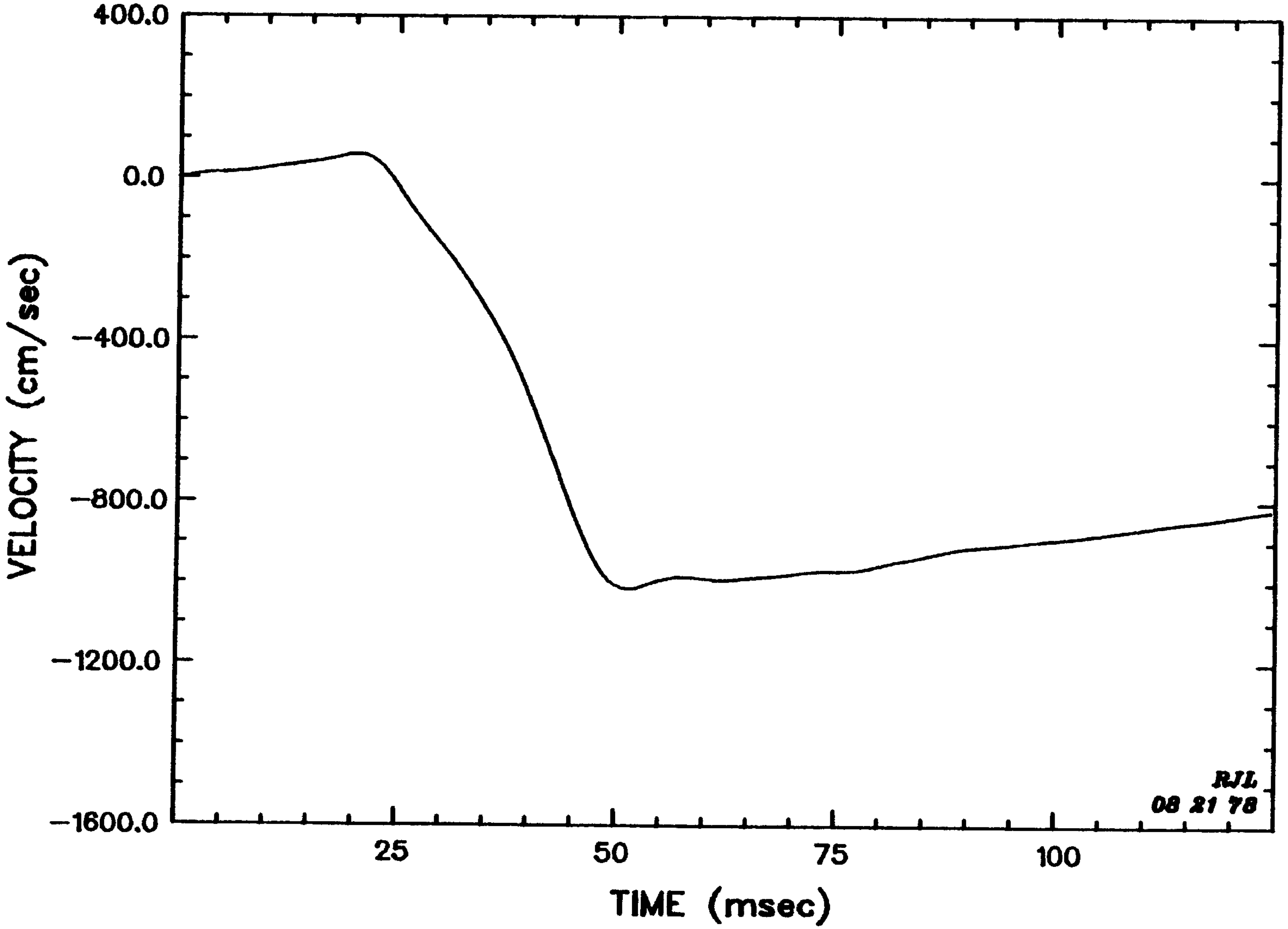
76T046 -- PELVIS P-A -- TRRL-27-P

Figure 285



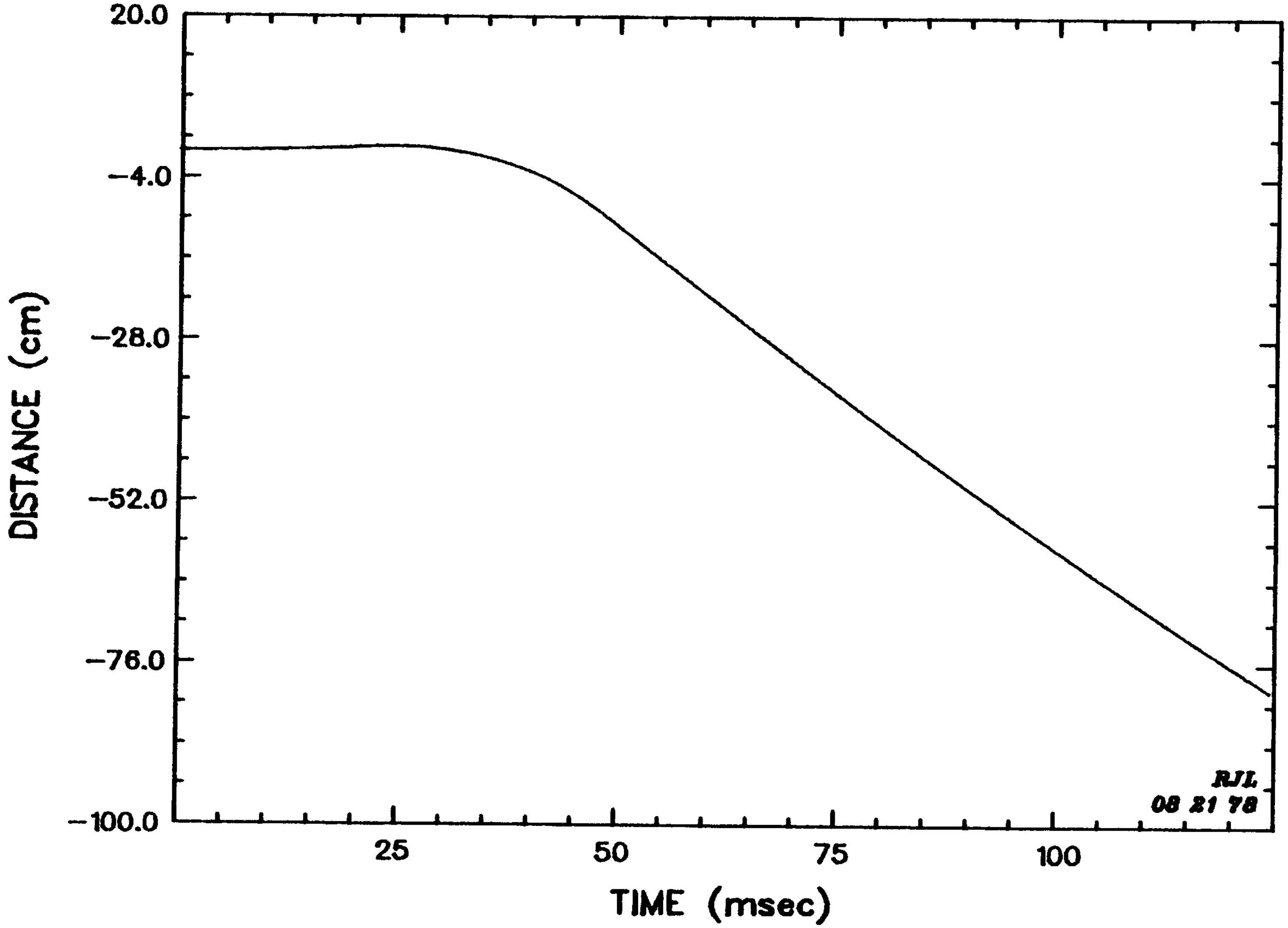
PELVIS R-L -- DUMMY SIDE TESTS (T-27-P)

Figure 286



PELVIS R-L -- DUMMY SIDE TESTS (T-27-P)

Figure 287



PELVIS R—L -- DUMMY SIDE TESTS (T—27—P)

Figure 288