

10η ΑΣΚΗΣΗ
(Παράδοση: 21 Μαρτίου 2012)

Σε ένα σεισμό, η εδαφική μετακίνηση μπορεί να προσομοιαστεί από την αναλυτική σχέση (Σχ. 1):

$$d_g(t) = \begin{cases} A_1 \cdot \sin(\omega_1 t) + A_2 \cdot \sin(\omega_2 t) & \text{για } 0 \leq t \leq 0.6 \text{ sec} \\ 0 & \text{για } t > 0.6 \text{ sec} \end{cases}$$

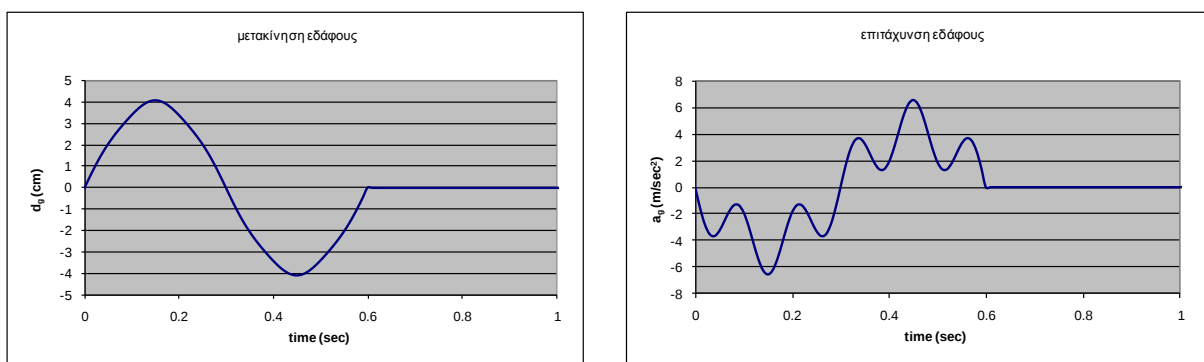
όπου: $A_1=4 \text{ cm}$, $A_2=0.08 \text{ cm}$ και οι αντίστοιχες περίοδοι είναι: $T_1=2\pi/\omega_1=0.6 \text{ sec}$ και $T_2=2\pi/\omega_2=0.12 \text{ sec}$.

Ζητούνται:

1. Να υπολογιστούν οι τιμές της εδαφικής επιτάχυνσης για $0 \leq t \leq 10 \text{ sec}$ και χρονικό βήμα $dt=0.01 \text{ sec}$.
2. Να κατασκευαστούν και να σχεδιαστούν τα ελαστικά φάσματα απόκρισης SD και PSA για $\zeta=5\%$.
3. Να σχεδιαστεί το φάσμα απόκρισης σε τριλογαριθμική μορφή.
4. Να κατασκευαστεί το φάσμα απόκρισης σε μορφή ADRS

Υπόδειξη

Να υπολογιστούν οι τιμές της φασματικής μετακίνησης για περιόδους από 0.1 sec έως 3.0 sec με βήμα 0.1 sec . Οι φασματικές τιμές να υπολογιστούν από τη μέγιστη τιμή της αντίστοιχης απόκρισης. Για τον υπολογισμό της ιστορίας της απόκρισης για κάθε περίοδο να εφαρμοστεί η μέθοδος κεντρικής διαφοράς για χρονικό βήμα $\Delta t=0.01 \text{ sec}$ και $t_{\max}=10 \text{ sec}$, με τη βοήθεια κατάλληλου φύλλου εργασίας excel. Να ληφθεί $m=1 \text{ Mgr}$ και να υπολογιστούν τα αντιστοιχούντα C και K για κάθε ιδιοπερίοδο και για απόσβεση $\zeta=5\%$.



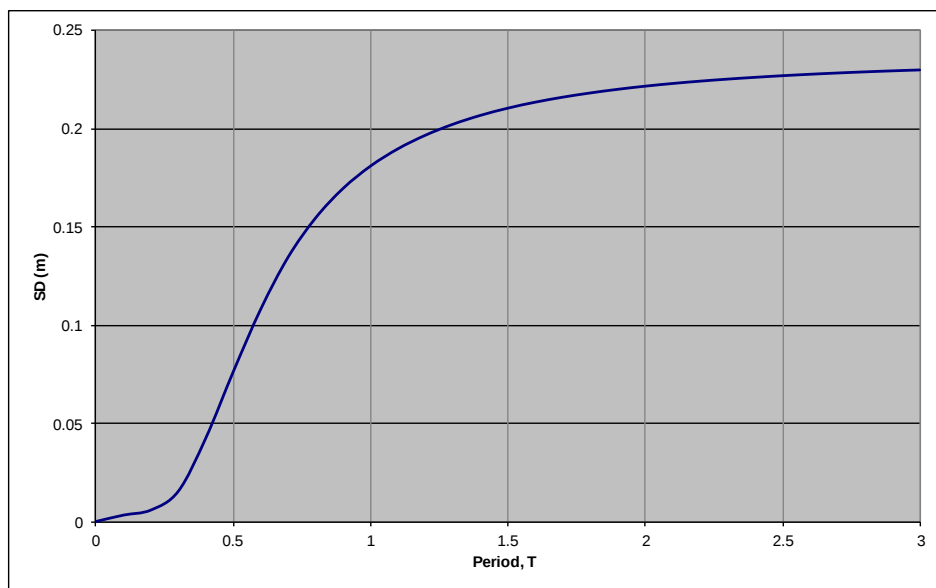
Σχήμα 1

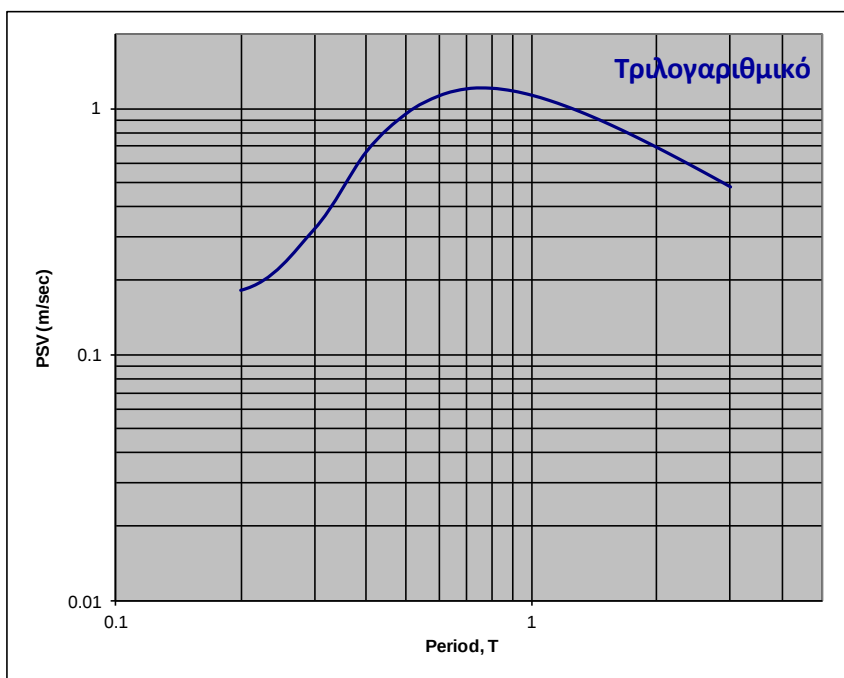
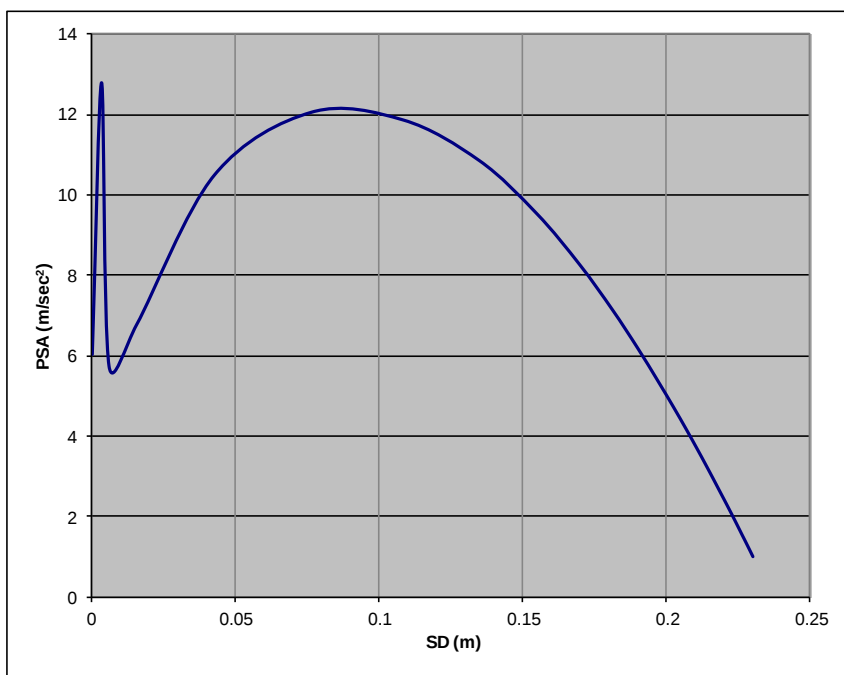
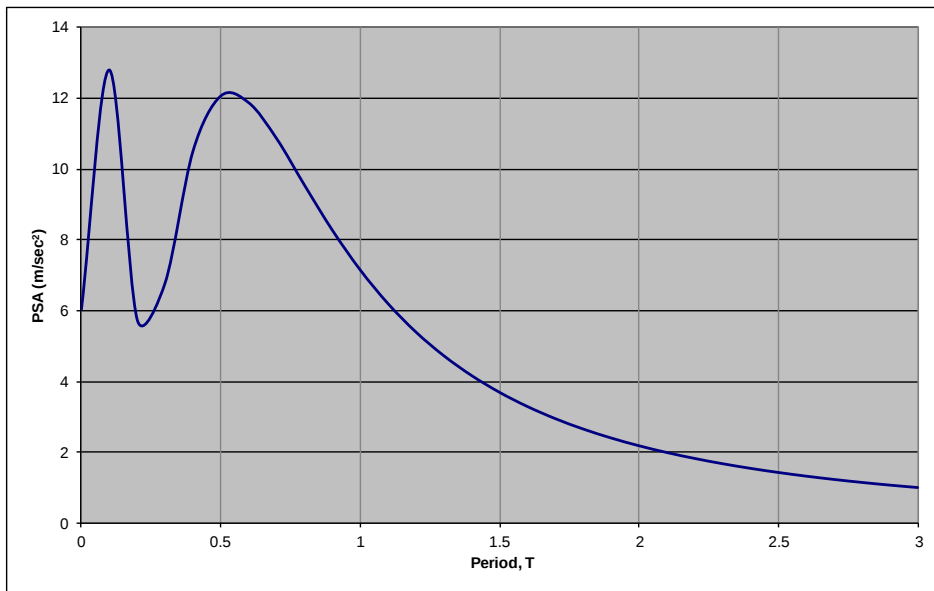
Γίνεται επίλυση για διάφορες τιμές ιδιοπεριοδών και υπολογίζονται τα φάσματα.

ΦΑΣΜΑΤΑ

T (sec)	SD (m)	PSV (m/s)	PSA (m/s ²)
0	0	0	6.031424912
0.1	0.003236966	0.203384573	12.77902959
0.2	0.005818262	0.182786101	5.742394708
0.3	0.015434583	0.32326116	6.770365902
0.4	0.042497408	0.667547728	10.48581519
0.5	0.076281151	0.958577218	12.04583658
0.6	0.108110101	1.132126327	11.85559917
0.7	0.134638048	1.208508288	10.84754503
0.8	0.154575311	1.21403165	9.534982282
0.9	0.169574343	1.183852244	8.264847807
1	0.180967833	1.137054427	7.144323668
1.1	0.189764936	1.083934781	6.191420992
1.2	0.196668145	1.029752002	5.391768872
1.3	0.202246435	0.977501405	4.724478819
1.4	0.20675431	0.927911176	4.164455618
1.5	0.210437548	0.88147874	3.692329513
1.6	0.213481502	0.838339896	3.292153075
1.7	0.216023215	0.798419937	2.950953185
1.8	0.218172232	0.761564758	2.658362498
1.9	0.220032446	0.727634017	2.406241772
2	0.221624099	0.696252642	2.187342185
2.1	0.222995579	0.667201211	1.996261357
2.2	0.224184982	0.640270813	1.828609165
2.3	0.225222608	0.615267556	1.68080003
2.4	0.226133292	0.592015574	1.549893148
2.5	0.226958606	0.570409191	1.433594659
2.6	0.227688812	0.550234999	1.329703253
2.7	0.228337664	0.531365872	1.236544533
2.8	0.228916546	0.513687528	1.152712117
2.9	0.229434941	0.497097329	1.077018838
3	0.229900798	0.481503106	1.008457747

ΔΙΑΓΡΑΜΜΑΤΑ





Ενδεικτικά παρακάτω δίνεται η επίλυση για **T=0.5 sec.**

t(sec)	d _g (cm)	v _g (cm/s)	a _g (m/s ²)	p'	u
0	0	46.07669	0	0	0
0.01	0.45811	45.28603	-1.5551	1.55514	0
0.02	0.90093	43.06695	-2.8114	5.87786	0.00015
0.03	1.31607	39.83776	-3.5487	13.6031	0.00058
0.04	1.69623	36.17211	-3.6836	24.702	0.00135
0.05	2.04	32.64839	-3.2899	38.5644	0.00245
0.06	2.35114	29.69923	-2.5783	54.2269	0.00383
0.07	2.63652	27.50118	-1.8385	70.6814	0.00539
0.08	2.9033	25.93408	-1.3604	87.1816	0.00702
0.09	3.15607	24.62109	-1.3555	103.463	0.00866
0.1	3.39482	23.03835	-1.8994	119.817	0.01028
0.11	3.61418	20.66494	-2.9106	136.997	0.01191
0.12	3.80423	17.13286	-4.1718	155.985	0.01361
0.13	3.95259	12.33658	-5.3873	177.674	0.0155
0.14	4.04737	6.472873	-6.2619	202.567	0.01766
0.15	4.08	3.85E-15	-6.5797	230.55	0.02013
0.16	4.04737	-6.47287	-6.2619	260.827	0.02291
0.17	3.95259	-12.3366	-5.3873	292.02	0.02592
0.18	3.80423	-17.1329	-4.1718	322.413	0.02902
0.19	3.61418	-20.6649	-2.9106	350.277	0.03204
0.2	3.39482	-23.0383	-1.8994	374.196	0.03481
0.21	3.15607	-24.6211	-1.3555	393.3	0.03719
0.22	2.9033	-25.9341	-1.3604	407.353	0.03908
0.23	2.63652	-27.5012	-1.8385	416.677	0.04048
0.24	2.35114	-29.6992	-2.5783	421.925	0.04141
0.25	2.04	-32.6484	-3.2899	423.775	0.04193
0.26	1.69623	-36.1721	-3.6836	422.635	0.04211
0.27	1.31607	-39.8378	-3.5487	418.426	0.042
0.28	0.90093	-43.0669	-2.8114	410.515	0.04158
0.29	0.45811	-45.286	-1.5551	397.816	0.0408
0.3	5.4E-16	-46.0767	-2E-15	379.032	0.03953
0.31	-0.4581	-45.286	1.55514	352.98	0.03767
0.32	-0.9009	-43.0669	2.81141	318.903	0.03508
0.33	-1.3161	-39.8378	3.54875	276.697	0.03169
0.34	-1.6962	-36.1721	3.68355	226.994	0.0275
0.35	-2.04	-32.6484	3.28987	171.058	0.02256
0.36	-2.3511	-29.6992	2.57831	110.559	0.017
0.37	-2.6365	-27.5012	1.83851	47.2418	0.01099
0.38	-2.9033	-25.9341	1.36039	-17.387	0.00469
0.39	-3.1561	-24.6211	1.3555	-82.29	-0.0017
0.4	-3.3948	-23.0383	1.89941	-146.99	-0.0082
0.41	-3.6142	-20.6649	2.91064	-211.49	-0.0146
0.42	-3.8042	-17.1329	4.1718	-276.03	-0.021
0.43	-3.9526	-12.3366	5.38726	-340.83	-0.0274
0.44	-4.0474	-6.47287	6.26187	-405.73	-0.0339
0.45	-4.08	-4.1E-15	6.57974	-470.03	-0.0403
0.46	-4.0474	6.472873	6.26187	-532.41	-0.0467
0.47	-3.9526	12.33658	5.38726	-591.05	-0.0529
0.48	-3.8042	17.13286	4.1718	-643.85	-0.0587
0.49	-3.6142	20.66494	2.91064	-688.8	-0.064
0.5	-3.3948	23.03835	1.89941	-724.28	-0.0684
0.51	-3.1561	24.62109	1.3555	-749.3	-0.072
0.52	-2.9033	25.93408	1.36039	-763.61	-0.0745
0.53	-2.6365	27.50118	1.83851	-767.6	-0.0759
0.54	-2.3511	29.69923	2.57831	-762.08	-0.0763
0.55	-2.04	32.64839	3.28987	-747.95	-0.0757
0.56	-1.6962	36.17211	3.68355	-725.94	-0.0743
0.57	-1.3161	39.83776	3.54875	-696.37	-0.0721
0.58	-0.9009	43.06695	2.81141	-659.05	-0.0692
0.59	-0.4581	45.28603	1.55514	-613.41	-0.0655
0.6	0	0	0	-558.71	-0.061
0.61	0	0	0	-495.93	-0.0555
0.62	0	0	0	-426.15	-0.0493
0.63	0	0	0	-350.55	-0.0423
0.64	0	0	0	-270.4	-0.0348
0.65	0	0	0	-187	-0.0269
0.66	0	0	0	-101.71	-0.0186
0.67	0	0	0	-15.889	-0.0101
0.68	0	0	0	69.1088	-0.0016
0.69	0	0	0	151.961	0.00687
0.7	0	0	0	231.394	0.0151
0.71	0	0	0	306.204	0.02299
0.72	0	0	0	375.274	0.03043
0.73	0	0	0	437.593	0.03729
0.74	0	0	0	492.266	0.04349
0.75	0	0	0	538.532	0.04892
0.76	0	0	0	575.769	0.05352
0.77	0	0	0	603.505	0.05722
0.78	0	0	0	621.424	0.05997

t(sec)	d _g (cm)	v _g (cm/s)	a _g (m/s ²)	p'	u
0.79	0	0	0	629.368	0.06175
0.8	0	0	0	627.336	0.06254
0.81	0	0	0	615.485	0.06234
0.82	0	0	0	594.123	0.06116
0.83	0	0	0	563.704	0.05904
0.84	0	0	0	524.82	0.05602
0.85	0	0	0	478.185	0.05215
0.86	0	0	0	424.628	0.04752
0.87	0	0	0	365.076	0.0422
0.88	0	0	0	300.539	0.03628
0.89	0	0	0	232.092	0.02987
0.9	0	0	0	160.857	0.02306
0.91	0	0	0	87.9881	0.01599
0.92	0	0	0	14.6479	0.00874
0.93	0	0	0	-58.006	0.00146
0.94	0	0	0	-128.84	-0.0058
0.95	0	0	0	-196.77	-0.0128
0.96	0	0	0	-260.77	-0.0196
0.97	0	0	0	-319.87	-0.0259
0.98	0	0	0	-373.21	-0.0318
0.99	0	0	0	-420.04	-0.0371
1	0	0	0	-459.68	-0.0417
1.01	0	0	0	-491.62	-0.0457
1.02	0	0	0	-515.44	-0.0489
1.03	0	0	0	-530.88	-0.0512
1.04	0	0	0	-537.79	-0.0528
1.05	0	0	0	-536.18	-0.0534
1.06	0	0	0	-526.17	-0.0533
1.07	0	0	0	-508.03	-0.0523
1.08	0	0	0	-482.15	-0.0505
1.09	0	0	0	-449.02	-0.0479
1.1	0	0	0	-409.26	-0.0446
1.11	0	0	0	-363.58	-0.0407
1.12	0	0	0	-312.75	-0.0361
1.13	0	0	0	-257.66	-0.0311
1.14	0	0	0	-199.21	-0.0256
1.15	0	0	0	-138.36	-0.0198
1.16	0	0	0	-76.106	-0.0137
1.17	0	0	0	-13.432	-0.0076
1.18	0	0	0	48.6711	-0.0013
1.19	0	0	0	109.234	0.00484
1.2	0	0	0	167.327	0.01086
1.21	0	0	0	222.069	0.01663
1.22	0	0	0	272.642	0.02207
1.23	0	0	0	318.305	0.02709
1.24	0	0	0	358.403	0.03163
1.25	0	0	0	392.375	0.03562
1.26	0	0	0	419.766	0.03899
1.27	0	0	0	440.228	0.04171
1.28	0	0	0	453.525	0.04375
1.29	0	0	0	459.54	0.04507
1.3	0	0	0	458.268	0.04567
1.31	0	0	0	449.82	0.04554
1.32	0	0	0	434.419	0.0447
1.33	0	0	0	412.393	0.04317
1.34	0	0	0	384.171	0.04098
1.35	0	0	0	350.272	0.03818
1.36	0	0	0	311.3	0.03481
1.37	0	0	0	267.929	0.03094
1.38	0	0	0	220.896	0.02663
1.39	0	0	0	170.983	0.02195
1.4	0	0	0	119.01	0.01699
1.41	0	0	0	65.8191	0.01183
1.42	0	0	0	12.2593	0.00654
1.43	0	0	0	-40.824	0.00122
1.44	0	0	0	-92.604	-0.0041
1.45	0	0	0	-142.28	-0.0092
1.46	0	0	0	-189.11	-0.0141
1.47	0	0	0	-232.38	-0.0188
1.48	0	0	0	-271.47	-0.0231
1.49	0	0	0	-305.81	-0.027
1.5	0	0	0	-334.92	-0.0304
1.51	0	0	0	-358.41	-0.0333
1.52	0	0	0	-375.99	-0.0356
1.53	0	0	0	-387.44	-0.0374
1.54	0	0	0	-392.67	-0.0385
1.55	0	0	0	-391.68	-0.039
1.56	0	0	0	-384.55	-0.0389
1.57	0	0	0	-371.47	-0.0382
1.58	0	0	0	-352.73	-0.0369
1.59	0	0	0	-328.68	-0.0351

t(sec)	d _g (cm)	v _g (cm/s)	a _g (m/s ²)	p'	u
1.6	0	0	0	-299.78	-0.0327
1.61	0	0	0	-266.54	-0.0298
1.62	0	0	0	-229.53	-0.0265
1.63	0	0	0	-189.37	-0.0228
1.64	0	0	0	-146.75	-0.0188
1.65	0	0	0	-102.36	-0.0146
1.66	0	0	0	-56.914	-0.0102
1.67	0	0	0	-11.144	-0.0057
1.68	0	0	0	34.2298	-0.0011
1.69	0	0	0	78.4998	0.0034
1.7	0	0	0	120.985	0.0078
1.71	0	0	0	161.041	0.01202
1.72	0	0	0	198.07	0.016
1.73	0	0	0	231.528	0.01968
1.74	0	0	0	260.935	0.02301
1.75	0	0	0	285.88	0.02593
1.76	0	0	0	306.027	0.02841
1.77	0	0	0	321.12	0.03041
1.78	0	0	0	330.985	0.03191
1.79	0	0	0	335.533	0.03289
1.8	0	0	0	334.759	0.03334
1.81	0	0	0	328.742	0.03327
1.82	0	0	0	317.64	0.03267
1.83	0	0	0	301.693	0.03157
1.84	0	0	0	281.21	0.02998
1.85	0	0	0	256.57	0.02795
1.86	0	0	0	228.211	0.0255
1.87	0	0	0	196.626	0.02268
1.88	0	0	0	162.349	0.01954
1.89	0	0	0	125.953	0.01613
1.9	0	0	0	88.0341	0.01252
1.91	0	0	0	49.2076	0.00875
1.92	0	0	0	10.0938	0.00489
1.93	0	0	0	-28.69	0.001
1.94	0	0	0	-66.539	-0.0029
1.95	0	0	0	-102.87	-0.0066
1.96	0	0	0	-137.14	-0.0102
1.97	0	0	0	-168.82	-0.0136
1.98	0	0	0	-197.46	-0.0168
1.99	0	0	0	-222.64	-0.0196
2	0	0	0	-244.02	-0.0221
2.01	0	0	0	-261.3	-0.0242
2.02	0	0	0	-274.26	-0.026
2.03	0	0	0	-282.75	-0.0273
2.04	0	0	0	-286.71	-0.0281
2.05	0	0	0	-286.11	-0.0285
2.06	0	0	0	-281.03	-0.0284
2.07	0	0	0	-271.61	-0.0279
2.08	0	0	0	-258.04	-0.027
2.09	0	0	0	-240.59	-0.0256
2.1	0	0	0	-219.58	-0.0239
2.11	0	0	0	-195.39	-0.0218
2.12	0	0	0	-168.44	-0.0194
2.13	0	0	0	-139.18	-0.0167
2.14	0	0	0	-108.1	-0.0138
2.15	0	0	0	-75.71	-0.0107
2.16	0	0	0	-42.539	-0.0075
2.17	0	0	0	-9.1135	-0.0042
2.18	0	0	0	24.0373	-0.0009
2.19	0	0	0	56.3968	0.00239
2.2	0	0	0	87.4673	0.0056
2.21	0	0	0	116.777	0.00869
2.22	0	0	0	143.888	0.0116
2.23	0	0	0	168.403	0.0143
2.24	0	0	0	189.969	0.01674
2.25	0	0	0	208.284	0.01888
2.26	0	0	0	223.102	0.0207
2.27	0	0	0	234.234	0.02217
2.28	0	0	0	241.552	0.02328
2.29	0	0	0	244.987	0.024
2.3	0	0	0	244.534	0.02435
2.31	0	0	0	240.25	0.0243
2.32	0	0	0	232.25	0.02388
2.33	0	0	0	220.704	0.02308
2.34	0	0	0	205.84	0.02193
2.35	0	0	0	187.93	0.02046
2.36	0	0	0	167.296	0.01868
2.37	0	0	0	144.293	0.01663
2.38	0	0	0	119.314	0.01434
2.39	0	0	0	92.7736	0.01186
2.4	0	0	0	65.1093	0.00922

t(sec)	d _g (cm)	v _g (cm/s)	a _g (m/s ²)	p'	u
2.41	0	0	0	36.7686	0.00647
2.42	0	0	0	8.20483	0.00365
2.43	0	0	0	-20.131	0.00082
2.44	0	0	0	-47.797	-0.002
2.45	0	0	0	-74.368	-0.0047
2.46	0	0	0	-99.439	-0.0074
2.47	0	0	0	-122.64	-0.0099
2.48	0	0	0	-143.62	-0.0122
2.49	0	0	0	-162.09	-0.0143
2.5	0	0	0	-177.78	-0.0161
2.51	0	0	0	-190.49	-0.0177
2.52	0	0	0	-200.05	-0.0189
2.53	0	0	0	-206.35	-0.0199
2.54	0	0	0	-209.34	-0.0205
2.55	0	0	0	-209	-0.0208
2.56	0	0	0	-205.38	-0.0208
2.57	0	0	0	-198.59	-0.0204
2.58	0	0	0	-188.77	-0.0197
2.59	0	0	0	-176.11	-0.0188
2.6	0	0	0	-160.84	-0.0175
2.61	0	0	0	-143.24	-0.016
2.62	0	0	0	-123.61	-0.0142
2.63	0	0	0	-102.28	-0.0123
2.64	0	0	0	-79.62	-0.0102
2.65	0	0	0	-55.99	-0.0079
2.66	0	0	0	-31.777	-0.0056
2.67	0	0	0	-7.3677	-0.0032
2.68	0	0	0	16.8524	-0.0007
2.69	0	0	0	40.5056	0.00167
2.7	0	0	0	63.2278	0.00403
2.71	0	0	0	84.674	0.00628
2.72	0	0	0	104.524	0.00841
2.73	0	0	0	122.485	0.01039
2.74	0	0	0	138.3	0.01217
2.75	0	0	0	151.747	0.01374
2.76	0	0	0	162.645	0.01508
2.77	0	0	0	170.855	0.01616
2.78	0	0	0	176.281	0.01698
2.79	0	0	0	178.872	0.01752
2.8	0	0	0	178.625	0.01778
2.81	0	0	0	175.577	0.01775
2.82	0	0	0	169.812	0.01745
2.83	0	0	0	161.454	0.01688
2.84	0	0	0	150.667	0.01604
2.85	0	0	0	137.651	0.01497
2.86	0	0	0	122.636	0.01368
2.87	0	0	0	105.885	0.01219
2.88	0	0	0	87.6815	0.01052
2.89	0	0	0	68.3291	0.00871
2.9	0	0	0	48.1462	0.00679
2.91	0	0	0	27.4597	0.00478
2.92	0	0	0	6.60063	0.00273
2.93	0	0	0	-14.102	0.00066
2.94	0	0	0	-34.324	-0.0014
2.95	0	0	0	-53.755	-0.0034
2.96	0	0	0	-72.1	-0.0053
2.97	0	0	0	-89.084	-0.0072
2.98	0	0	0	-104.46	-0.0089
2.99	0	0	0	-118	-0.0104
3	0	0	0	-129.52	-0.0117
3.01	0	0	0	-138.87	-0.0129
3.02	0	0	0	-145.92	-0.0138
3.03	0	0	0	-150.59	-0.0145
3.04	0	0	0	-152.84	-0.015
3.05	0	0	0	-152.67	-0.0152
3.06	0	0	0	-150.1	-0.0152
3.07	0	0	0	-145.2	-0.0149
3.08	0	0	0	-138.09	-0.0144
3.09	0	0	0	-128.9	-0.0137
3.1	0	0	0	-117.81	-0.0128
3.11	0	0	0	-105	-0.0117
3.12	0	0	0	-90.704	-0.0104
3.13	0	0	0	-75.164	-0.009
3.14	0	0	0	-58.639	-0.0075
3.15	0	0	0	-41.399	-0.0058
3.16	0	0	0	-23.726	-0.0041
3.17	0	0	0	-5.9008	-0.0024
3.18	0	0	0	11.7943	-0.0006
3.19	0	0	0	29.0833	0.00117
3.2	0	0	0	45.7001	0.00289
3.21	0	0	0	61.3922	0.00454

t(sec)	d _g (cm)	v _g (cm/s)	a _g (m/s ²)	p'	u
3.22	0	0	0	75.9249	0.0061
3.23	0	0	0	89.0846	0.00755
3.24	0	0	0	100.682	0.00885
3.25	0	0	0	110.555	0.01001
3.26	0	0	0	118.569	0.01099
3.27	0	0	0	124.623	0.01178
3.28	0	0	0	128.645	0.01238
3.29	0	0	0	130.599	0.01278
3.3	0	0	0	130.478	0.01298
3.31	0	0	0	128.311	0.01297
3.32	0	0	0	124.158	0.01275
3.33	0	0	0	118.109	0.01234
3.34	0	0	0	110.281	0.01174
3.35	0	0	0	100.821	0.01096
3.36	0	0	0	89.8967	0.01002
3.37	0	0	0	77.698	0.00893
3.38	0	0	0	64.4323	0.00772
3.39	0	0	0	50.3212	0.0064
3.4	0	0	0	35.5967	0.005
3.41	0	0	0	20.4974	0.00354
3.42	0	0	0	5.26499	0.00204
3.43	0	0	0	-9.8598	0.00052
3.44	0	0	0	-24.641	-0.001
3.45	0	0	0	-38.851	-0.0024
3.46	0	0	0	-52.274	-0.0039
3.47	0	0	0	-64.709	-0.0052
3.48	0	0	0	-75.973	-0.0064
3.49	0	0	0	-85.904	-0.0075
3.5	0	0	0	-94.363	-0.0085
3.51	0	0	0	-101.24	-0.0094
3.52	0	0	0	-106.43	-0.0101
3.53	0	0	0	-109.9	-0.0106
3.54	0	0	0	-111.59	-0.0109
3.55	0	0	0	-111.51	-0.0111
3.56	0	0	0	-109.69	-0.0111
3.57	0	0	0	-106.16	-0.0109
3.58	0	0	0	-101.02	-0.0106
3.59	0	0	0	-94.35	-0.01
3.6	0	0	0	-86.285	-0.0094
3.61	0	0	0	-76.966	-0.0086
3.62	0	0	0	-66.557	-0.0076
3.63	0	0	0	-55.232	-0.0066
3.64	0	0	0	-43.183	-0.0055
3.65	0	0	0	-30.606	-0.0043
3.66	0	0	0	-17.706	-0.003
3.67	0	0	0	-4.6893	-0.0018
3.68	0	0	0	8.23849	-0.0005
3.69	0	0	0	20.8756	0.00082
3.7	0	0	0	33.0272	0.00207
3.71	0	0	0	44.5088	0.00328
3.72	0	0	0	55.1486	0.00442
3.73	0	0	0	64.7901	0.00548
3.74	0	0	0	73.2944	0.00644
3.75	0	0	0	80.5424	0.00728
3.76	0	0	0	86.4359	0.008
3.77	0	0	0	90.8993	0.00859
3.78	0	0	0	93.8806	0.00903
3.79	0	0	0	95.3514	0.00933
3.8	0	0	0	95.3075	0.00948
3.81	0	0	0	93.7685	0.00947
3.82	0	0	0	90.7773	0.00932
3.83	0	0	0	86.3989	0.00902
3.84	0	0	0	80.7192	0.00859
3.85	0	0	0	73.8439	0.00802
3.86	0	0	0	65.8955	0.00734
3.87	0	0	0	57.0124	0.00655
3.88	0	0	0	47.3454	0.00567
3.89	0	0	0	37.0563	0.0047
3.9	0	0	0	26.3141	0.00368
3.91	0	0	0	15.2931	0.00261
3.92	0	0	0	4.16972	0.00152
3.93	0	0	0	-6.8802	0.00041
3.94	0	0	0	-17.684	-0.0007
3.95	0	0	0	-28.076	-0.0018
3.96	0	0	0	-37.897	-0.0028
3.97	0	0	0	-47.001	-0.0038
3.98	0	0	0	-55.253	-0.0047
3.99	0	0	0	-62.535	-0.0055
4	0	0	0	-68.746	-0.0062
4.01	0	0	0	-73.799	-0.0068
4.02	0	0	0	-77.632	-0.0073

t(sec)	d _g (cm)	v _g (cm/s)	a _g (m/s ²)	p'	u
4.03	0	0	0	-80.198	-0.0077
4.04	0	0	0	-81.474	-0.008
4.05	0	0	0	-81.455	-0.0081
4.06	0	0	0	-80.159	-0.0081
4.07	0	0	0	-77.62	-0.008
4.08	0	0	0	-73.896	-0.0077
4.09	0	0	0	-69.058	-0.0073
4.1	0	0	0	-63.196	-0.0069
4.11	0	0	0	-56.417	-0.0063
4.12	0	0	0	-48.836	-0.0056
4.13	0	0	0	-40.584	-0.0049
4.14	0	0	0	-31.798	-0.004
4.15	0	0	0	-22.623	-0.0032
4.16	0	0	0	-13.207	-0.0022
4.17	0	0	0	-3.7021	-0.0013
4.18	0	0	0	5.74264	-0.0004
4.19	0	0	0	14.9793	0.00057
4.2	0	0	0	23.8656	0.00149
4.21	0	0	0	32.2663	0.00237
4.22	0	0	0	40.0558	0.00321
4.23	0	0	0	47.1195	0.00398
4.24	0	0	0	53.3555	0.00468
4.25	0	0	0	58.6763	0.0053
4.26	0	0	0	63.0099	0.00583
4.27	0	0	0	66.3006	0.00626
4.28	0	0	0	68.5097	0.00659
4.29	0	0	0	69.6162	0.00681
4.3	0	0	0	69.6163	0.00692
4.31	0	0	0	68.524	0.00692
4.32	0	0	0	66.37	0.00681
4.33	0	0	0	63.2014	0.0066
4.34	0	0	0	59.0805	0.00628
4.35	0	0	0	54.084	0.00587
4.36	0	0	0	48.3011	0.00537
4.37	0	0	0	41.8325	0.0048
4.38	0	0	0	34.7881	0.00416
4.39	0	0	0	27.2858	0.00346
4.4	0	0	0	19.4491	0.00271
4.41	0	0	0	11.4049	0.00193
4.42	0	0	0	3.28229	0.00113
4.43	0	0	0	-4.7904	0.00033
4.44	0	0	0	-12.687	-0.0005
4.45	0	0	0	-20.286	-0.0013
4.46	0	0	0	-27.472	-0.002
4.47	0	0	0	-34.137	-0.0027
4.48	0	0	0	-40.183	-0.0034
4.49	0	0	0	-45.523	-0.004
4.5	0	0	0	-50.082	-0.0045
4.51	0	0	0	-53.798	-0.005
4.52	0	0	0	-56.623	-0.0053
4.53	0	0	0	-58.525	-0.0056
4.54	0	0	0	-59.484	-0.0058
4.55	0	0	0	-59.498	-0.0059
4.56	0	0	0	-58.578	-0.0059
4.57	0	0	0	-56.75	-0.0058
4.58	0	0	0	-54.055	-0.0056
4.59	0	0	0	-50.545	-0.0054
4.6	0	0	0	-46.285	-0.005
4.61	0	0	0	-41.353	-0.0046
4.62	0	0	0	-35.833	-0.0041
4.63	0	0	0	-29.819	-0.0036
4.64	0	0	0	-23.413	-0.003
4.65	0	0	0	-16.72	-0.0023
4.66	0	0	0	-9.8474	-0.0017
4.67	0	0	0	-2.9063	-0.001
4.68	0	0	0	3.99369	-0.0003
4.69	0	0	0	10.7449	0.0004
4.7	0	0	0	17.2431	0.00107
4.71	0	0	0	23.3896	0.00171
4.72	0	0	0	29.0923	0.00232
4.73	0	0	0	34.2672	0.00289
4.74	0	0	0	38.8398	0.00341
4.75	0	0	0	42.7457	0.00386
4.76	0	0	0	45.9321	0.00425
4.77	0	0	0	48.3579	0.00456
4.78	0	0	0	49.9945	0.00481
4.79	0	0	0	50.8262	0.00497
4.8	0	0	0	50.8498	0.00505
4.81	0	0	0	50.0752	0.00505
4.82	0	0	0	48.5244	0.00498
4.83	0	0	0	46.2315	0.00482

t(sec)	d _g (cm)	v _g (cm/s)	a _g (m/s ²)	p'	u
4.84	0	0	0	43.2418	0.00459
4.85	0	0	0	39.6108	0.0043
4.86	0	0	0	35.4035	0.00394
4.87	0	0	0	30.6932	0.00352
4.88	0	0	0	25.5601	0.00305
4.89	0	0	0	20.09	0.00254
4.9	0	0	0	14.3729	0.002
4.91	0	0	0	8.50161	0.00143
4.92	0	0	0	2.57026	0.00084
4.93	0	0	0	-3.3274	0.00026
4.94	0	0	0	-9.0991	-0.0003
4.95	0	0	0	-14.656	-0.0009
4.96	0	0	0	-19.913	-0.0015
4.97	0	0	0	-24.793	-0.002
4.98	0	0	0	-29.222	-0.0025
4.99	0	0	0	-33.138	-0.0029
5	0	0	0	-36.484	-0.0033
5.01	0	0	0	-39.216	-0.0036
5.02	0	0	0	-41.299	-0.0039
5.03	0	0	0	-42.708	-0.0041
5.04	0	0	0	-43.428	-0.0042
5.05	0	0	0	-43.459	-0.0043
5.06	0	0	0	-42.807	-0.0043
5.07	0	0	0	-41.491	-0.0043
5.08	0	0	0	-39.54	-0.0041
5.09	0	0	0	-36.994	-0.0039
5.1	0	0	0	-33.899	-0.0037
5.11	0	0	0	-30.31	-0.0034
5.12	0	0	0	-26.291	-0.003
5.13	0	0	0	-21.909	-0.0026
5.14	0	0	0	-17.238	-0.0022
5.15	0	0	0	-12.355	-0.0017
5.16	0	0	0	-7.339	-0.0012
5.17	0	0	0	-2.2705	-0.0007
5.18	0	0	0	2.77034	-0.0002
5.19	0	0	0	7.70475	0.00028
5.2	0	0	0	12.4566	0.00077
5.21	0	0	0	16.9537	0.00124
5.22	0	0	0	21.1285	0.00168
5.23	0	0	0	24.9197	0.0021
5.24	0	0	0	28.2724	0.00248
5.25	0	0	0	31.1396	0.00281
5.26	0	0	0	33.4824	0.00309
5.27	0	0	0	35.2704	0.00333
5.28	0	0	0	36.4827	0.00351
5.29	0	0	0	37.1072	0.00363
5.3	0	0	0	37.1417	0.00369
5.31	0	0	0	36.5929	0.00369
5.32	0	0	0	35.4766	0.00364
5.33	0	0	0	33.8176	0.00353
5.34	0	0	0	31.6487	0.00336
5.35	0	0	0	29.0101	0.00315
5.36	0	0	0	25.9493	0.00288
5.37	0	0	0	22.5194	0.00258
5.38	0	0	0	18.779	0.00224
5.39	0	0	0	14.7907	0.00187
5.4	0	0	0	10.62	0.00147
5.41	0	0	0	6.33471	0.00106
5.42	0	0	0	2.00356	0.00063
5.43	0	0	0	-2.3049	0.0002
5.44	0	0	0	-6.5235	-0.0002
5.45	0	0	0	-10.587	-0.0006
5.46	0	0	0	-14.434	-0.0011
5.47	0	0	0	-18.006	-0.0014
5.48	0	0	0	-21.251	-0.0018
5.49	0	0	0	-24.121	-0.0021
5.5	0	0	0	-26.578	-0.0024
5.51	0	0	0	-28.587	-0.0026
5.52	0	0	0	-30.122	-0.0028
5.53	0	0	0	-31.165	-0.003
5.54	0	0	0	-31.706	-0.0031
5.55	0	0	0	-31.743	-0.0032
5.56	0	0	0	-31.281	-0.0032
5.57	0	0	0	-30.334	-0.0031
5.58	0	0	0	-28.923	-0.003
5.59	0	0	0	-27.076	-0.0029
5.6	0	0	0	-24.826	-0.0027
5.61	0	0	0	-22.216	-0.0025
5.62	0	0	0	-19.289	-0.0022
5.63	0	0	0	-16.096	-0.0019
5.64	0	0	0	-12.691	-0.0016

t(sec)	d _g (cm)	v _g (cm/s)	a _g (m/s ²)	p'	u
5.65	0	0	0	-9.1283	-0.0013
5.66	0	0	0	-5.4673	-0.0009
5.67	0	0	0	-1.7662	-0.0005
5.68	0	0	0	1.91631	-0.0002
5.69	0	0	0	5.52281	0.00019
5.7	0	0	0	8.99761	0.00055
5.71	0	0	0	12.2878	0.00089
5.72	0	0	0	15.3441	0.00122
5.73	0	0	0	18.1214	0.00152
5.74	0	0	0	20.5797	0.0018
5.75	0	0	0	22.6843	0.00205
5.76	0	0	0	24.4067	0.00225
5.77	0	0	0	25.7245	0.00243
5.78	0	0	0	26.6222	0.00256
5.79	0	0	0	27.0909	0.00265
5.8	0	0	0	27.1286	0.00269
5.81	0	0	0	26.7402	0.0027
5.82	0	0	0	25.9369	0.00266
5.83	0	0	0	24.7367	0.00258
5.84	0	0	0	23.1632	0.00246
5.85	0	0	0	21.246	0.0023
5.86	0	0	0	19.0192	0.00211
5.87	0	0	0	16.5218	0.00189
5.88	0	0	0	13.7963	0.00164
5.89	0	0	0	10.8884	0.00137
5.9	0	0	0	7.84585	0.00108
5.91	0	0	0	4.71821	0.00078
5.92	0	0	0	1.55559	0.00047
5.93	0	0	0	-1.592	0.00015
5.94	0	0	0	-4.6752	-0.0002
5.95	0	0	0	-7.6466	-0.0005
5.96	0	0	0	-10.461	-0.0008
5.97	0	0	0	-13.076	-0.001
5.98	0	0	0	-15.453	-0.0013
5.99	0	0	0	-17.558	-0.0015
6	0	0	0	-19.361	-0.0017
6.01	0	0	0	-20.838	-0.0019
6.02	0	0	0	-21.969	-0.0021
6.03	0	0	0	-22.742	-0.0022
6.04	0	0	0	-23.148	-0.0023
6.05	0	0	0	-23.185	-0.0023
6.06	0	0	0	-22.858	-0.0023
6.07	0	0	0	-22.177	-0.0023
6.08	0	0	0	-21.156	-0.0022
6.09	0	0	0	-19.816	-0.0021
6.1	0	0	0	-18.182	-0.002
6.11	0	0	0	-16.283	-0.0018
6.12	0	0	0	-14.151	-0.0016
6.13	0	0	0	-11.825	-0.0014
6.14	0	0	0	-9.342	-0.0012
6.15	0	0	0	-6.7433	-0.0009
6.16	0	0	0	-4.0714	-0.0007
6.17	0	0	0	-1.3688	-0.0004
6.18	0	0	0	1.3214	-0.0001
6.19	0	0	0	3.95731	0.00013
6.2	0	0	0	6.4982	0.00039
6.21	0	0	0	8.90539	0.00065
6.22	0	0	0	11.1428	0.00088
6.23	0	0	0	13.1773	0.00111
6.24	0	0	0	14.9797	0.00131
6.25	0	0	0	16.5245	0.00149
6.26	0	0	0	17.7907	0.00164
6.27	0	0	0	18.7619	0.00177
6.28	0	0	0	19.4265	0.00186
6.29	0	0	0	19.778	0.00193
6.3	0	0	0	19.8148	0.00197
6.31	0	0	0	19.5401	0.00197
6.32	0	0	0	18.9622	0.00194
6.33	0	0	0	18.0939	0.00188
6.34	0	0	0	16.9526	0.0018
6.35	0	0	0	15.5595	0.00168
6.36	0	0	0	13.9396	0.00155
6.37	0	0	0	12.1211	0.00139
6.38	0	0	0	10.1352	0.0012
6.39	0	0	0	8.01504	0.00101
6.4	0	0	0	5.79556	0.0008
6.41	0	0	0	3.51285	0.00058
6.42	0	0	0	1.20352	0.00035
6.43	0	0	0	-1.0959	0.00012
6.44	0	0	0	-3.3493	-0.0001
6.45	0	0	0	-5.5221	-0.0003

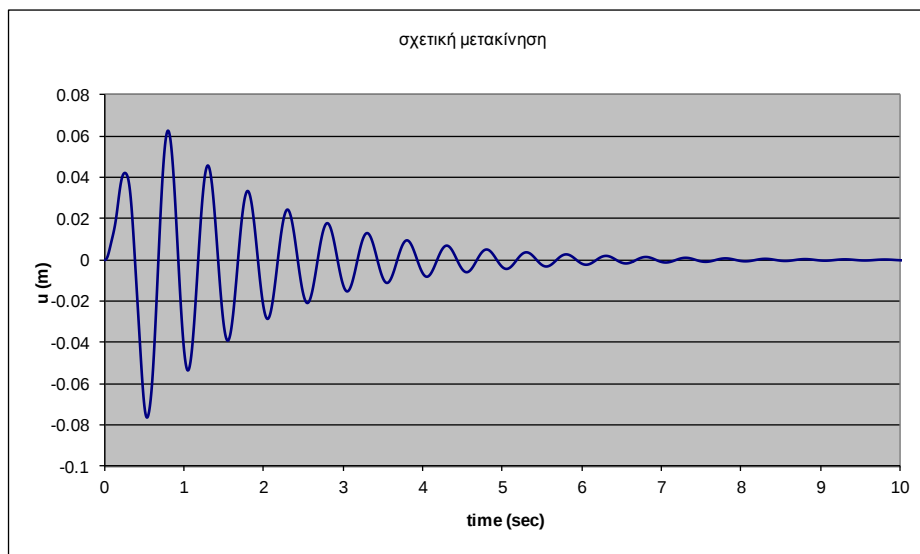
t(sec)	d _g (cm)	v _g (cm/s)	a _g (m/s ²)	p'	u
6.46	0	0	0	-7.5811	-0.0005
6.47	0	0	0	-9.4954	-0.0008
6.48	0	0	0	-11.237	-0.0009
6.49	0	0	0	-12.78	-0.0011
6.5	0	0	0	-14.104	-0.0013
6.51	0	0	0	-15.189	-0.0014
6.52	0	0	0	-16.023	-0.0015
6.53	0	0	0	-16.595	-0.0016
6.54	0	0	0	-16.899	-0.0016
6.55	0	0	0	-16.934	-0.0017
6.56	0	0	0	-16.703	-0.0017
6.57	0	0	0	-16.213	-0.0017
6.58	0	0	0	-15.475	-0.0016
6.59	0	0	0	-14.503	-0.0015
6.6	0	0	0	-13.315	-0.0014
6.61	0	0	0	-11.934	-0.0013
6.62	0	0	0	-10.382	-0.0012
6.63	0	0	0	-8.6868	-0.001
6.64	0	0	0	-6.8765	-0.0009
6.65	0	0	0	-4.9808	-0.0007
6.66	0	0	0	-3.0307	-0.0005
6.67	0	0	0	-1.0573	-0.0003
6.68	0	0	0	0.90796	-0.0001
6.69	0	0	0	2.83447	9E-05
6.7	0	0	0	4.69243	0.00028
6.71	0	0	0	6.45355	0.00047
6.72	0	0	0	8.09141	0.00064
6.73	0	0	0	9.58184	0.0008
6.74	0	0	0	10.9033	0.00095
6.75	0	0	0	12.0371	0.00108
6.76	0	0	0	12.9679	0.0012
6.77	0	0	0	13.6836	0.00129
6.78	0	0	0	14.1756	0.00136
6.79	0	0	0	14.439	0.00141
6.8	0	0	0	14.4725	0.00143
6.81	0	0	0	14.2785	0.00144
6.82	0	0	0	13.8628	0.00142
6.83	0	0	0	13.2348	0.00138
6.84	0	0	0	12.4069	0.00132
6.85	0	0	0	11.3947	0.00123
6.86	0	0	0	10.2163	0.00113
6.87	0	0	0	8.89231	0.00102
6.88	0	0	0	7.4453	0.00088
6.89	0	0	0	5.89952	0.00074
6.9	0	0	0	4.28046	0.00059
6.91	0	0	0	2.61444	0.00043
6.92	0	0	0	0.92821	0.00026
6.93	0	0	0	-0.7515	9.2E-05
6.94	0	0	0	-2.3985	-7E-05
6.95	0	0	0	-3.9873	-0.0002
6.96	0	0	0	-5.4936	-0.0004
6.97	0	0	0	-6.895	-0.0005
6.98	0	0	0	-8.1706	-0.0007
6.99	0	0	0	-9.3021	-0.0008
7	0	0	0	-10.273	-0.0009
7.01	0	0	0	-11.071	-0.001
7.02	0	0	0	-11.686	-0.0011
7.03	0	0	0	-12.109	-0.0012
7.04	0	0	0	-12.337	-0.0012
7.05	0	0	0	-12.369	-0.0012
7.06	0	0	0	-12.206	-0.0012
7.07	0	0	0	-11.853	-0.0012
7.08	0	0	0	-11.319	-0.0012
7.09	0	0	0	-10.614	-0.0011
7.1	0	0	0	-9.7511	-0.0011
7.11	0	0	0	-8.7461	-0.001
7.12	0	0	0	-7.6163	-0.0009
7.13	0	0	0	-6.3812	-0.0008
7.14	0	0	0	-5.0613	-0.0006
7.15	0	0	0	-3.6785	-0.0005
7.16	0	0	0	-2.2552	-0.0004
7.17	0	0	0	-0.8143	-0.0002
7.18	0	0	0	0.6214	-8E-05
7.19	0	0	0	2.0294	6.2E-05
7.2	0	0	0	3.38797	0.0002
7.21	0	0	0	4.6764	0.00034
7.22	0	0	0	5.87536	0.00046
7.23	0	0	0	6.96715	0.00058
7.24	0	0	0	7.93597	0.00069
7.25	0	0	0	8.76816	0.00079
7.26	0	0	0	9.45235	0.00087

t(sec)	d _g (cm)	v _g (cm/s)	a _g (m/s ²)	p'	u
7.27	0	0	0	9.97967	0.00094
7.28	0	0	0	10.3438	0.00099
7.29	0	0	0	10.541	0.00103
7.3	0	0	0	10.5704	0.00105
7.31	0	0	0	10.4335	0.00105
7.32	0	0	0	10.1347	0.00104
7.33	0	0	0	9.68045	0.00101
7.34	0	0	0	9.08	0.00096
7.35	0	0	0	8.34457	0.0009
7.36	0	0	0	7.48736	0.00083
7.37	0	0	0	6.52337	0.00074
7.38	0	0	0	5.46904	0.00065
7.39	0	0	0	4.34206	0.00054
7.4	0	0	0	3.16101	0.00043
7.41	0	0	0	1.9451	0.00031
7.42	0	0	0	0.71386	0.00019
7.43	0	0	0	-0.5132	7.1E-05
7.44	0	0	0	-1.7169	-5E-05
7.45	0	0	0	-2.8786	-0.0002
7.46	0	0	0	-3.9807	-0.0003
7.47	0	0	0	-5.0065	-0.0004
7.48	0	0	0	-5.9409	-0.0005
7.49	0	0	0	-6.7704	-0.0006
7.5	0	0	0	-7.4834	-0.0007
7.51	0	0	0	-8.07	-0.0007
7.52	0	0	0	-8.5226	-0.0008
7.53	0	0	0	-8.8358	-0.0008
7.54	0	0	0	-9.0065	-0.0009
7.55	0	0	0	-9.0337	-0.0009
7.56	0	0	0	-8.9188	-0.0009
7.57	0	0	0	-8.6653	-0.0009
7.58	0	0	0	-8.2791	-0.0009
7.59	0	0	0	-7.7677	-0.0008
7.6	0	0	0	-7.1409	-0.0008
7.61	0	0	0	-6.4098	-0.0007
7.62	0	0	0	-5.5872	-0.0006
7.63	0	0	0	-4.6873	-0.0006
7.64	0	0	0	-3.725	-0.0005
7.65	0	0	0	-2.7163	-0.0004
7.66	0	0	0	-1.6775	-0.0003
7.67	0	0	0	-0.6254	-0.0002
7.68	0	0	0	0.42335	-6E-05
7.69	0	0	0	1.45238	4.2E-05
7.7	0	0	0	2.44577	0.00014
7.71	0	0	0	3.38838	0.00024
7.72	0	0	0	4.26604	0.00034
7.73	0	0	0	5.06579	0.00042
7.74	0	0	0	5.77606	0.0005
7.75	0	0	0	6.38682	0.00057
7.76	0	0	0	6.88972	0.00063
7.77	0	0	0	7.27823	0.00068
7.78	0	0	0	7.54766	0.00072
7.79	0	0	0	7.69529	0.00075
7.8	0	0	0	7.72032	0.00076
7.81	0	0	0	7.62388	0.00077
7.82	0	0	0	7.409	0.00076
7.83	0	0	0	7.08054	0.00074
7.84	0	0	0	6.64507	0.0007
7.85	0	0	0	6.11076	0.00066
7.86	0	0	0	5.48722	0.00061
7.87	0	0	0	4.78537	0.00055
7.88	0	0	0	4.01718	0.00048
7.89	0	0	0	3.19554	0.0004
7.9	0	0	0	2.33402	0.00032
7.91	0	0	0	1.44662	0.00023
7.92	0	0	0	0.54761	0.00014
7.93	0	0	0	-0.3488	5.4E-05
7.94	0	0	0	-1.2285	-3E-05
7.95	0	0	0	-2.0779	-0.0001
7.96	0	0	0	-2.8842	-0.0002
7.97	0	0	0	-3.6351	-0.0003
7.98	0	0	0	-4.3195	-0.0004
7.99	0	0	0	-4.9277	-0.0004
8	0	0	0	-5.4509	-0.0005
8.01	0	0	0	-5.8821	-0.0005
8.02	0	0	0	-6.2155	-0.0006
8.03	0	0	0	-6.4473	-0.0006
8.04	0	0	0	-6.575	-0.0006
8.05	0	0	0	-6.5979	-0.0007
8.06	0	0	0	-6.517	-0.0007
8.07	0	0	0	-6.3348	-0.0006

t(sec)	d _g (cm)	v _g (cm/s)	a _g (m/s ²)	p'	u
8.08	0	0	0	-6.0555	-0.0006
8.09	0	0	0	-5.6846	-0.0006
8.1	0	0	0	-5.2292	-0.0006
8.11	0	0	0	-4.6974	-0.0005
8.12	0	0	0	-4.0986	-0.0005
8.13	0	0	0	-3.4429	-0.0004
8.14	0	0	0	-2.7413	-0.0003
8.15	0	0	0	-2.0055	-0.0003
8.16	0	0	0	-1.2474	-0.0002
8.17	0	0	0	-0.4792	-0.0001
8.18	0	0	0	0.28692	-5E-05
8.19	0	0	0	1.03897	2.9E-05
8.2	0	0	0	1.76533	0.0001
8.21	0	0	0	2.45492	0.00018
8.22	0	0	0	3.09737	0.00024
8.23	0	0	0	3.68319	0.00031
8.24	0	0	0	4.20389	0.00037
8.25	0	0	0	4.65213	0.00042
8.26	0	0	0	5.02176	0.00046
8.27	0	0	0	5.30797	0.0005
8.28	0	0	0	5.5073	0.00053
8.29	0	0	0	5.61773	0.00055
8.3	0	0	0	5.63861	0.00056
8.31	0	0	0	5.57076	0.00056
8.32	0	0	0	5.41632	0.00055
8.33	0	0	0	5.17882	0.00054
8.34	0	0	0	4.86302	0.00051
8.35	0	0	0	4.47484	0.00048
8.36	0	0	0	4.02129	0.00044
8.37	0	0	0	3.5103	0.0004
8.38	0	0	0	2.9506	0.00035
8.39	0	0	0	2.35159	0.00029
8.4	0	0	0	1.72316	0.00023
8.41	0	0	0	1.07553	0.00017
8.42	0	0	0	0.41912	0.00011
8.43	0	0	0	-0.2357	4.2E-05
8.44	0	0	0	-0.8786	-2E-05
8.45	0	0	0	-1.4997	-9E-05
8.46	0	0	0	-2.0895	-0.0001
8.47	0	0	0	-2.6392	-0.0002
8.48	0	0	0	-3.1406	-0.0003
8.49	0	0	0	-3.5864	-0.0003
8.5	0	0	0	-3.9704	-0.0004
8.51	0	0	0	-4.2873	-0.0004
8.52	0	0	0	-4.5329	-0.0004
8.53	0	0	0	-4.7044	-0.0005
8.54	0	0	0	-4.7998	-0.0005
8.55	0	0	0	-4.8188	-0.0005
8.56	0	0	0	-4.7619	-0.0005
8.57	0	0	0	-4.631	-0.0005
8.58	0	0	0	-4.4291	-0.0005
8.59	0	0	0	-4.1601	-0.0004
8.6	0	0	0	-3.8293	-0.0004
8.61	0	0	0	-3.4425	-0.0004
8.62	0	0	0	-3.0064	-0.0003
8.63	0	0	0	-2.5287	-0.0003
8.64	0	0	0	-2.0173	-0.0003
8.65	0	0	0	-1.4805	-0.0002
8.66	0	0	0	-0.9273	-0.0001
8.67	0	0	0	-0.3664	-9E-05
8.68	0	0	0	0.19328	-4E-05
8.69	0	0	0	0.7429	1.9E-05
8.7	0	0	0	1.274	7.4E-05
8.71	0	0	0	1.77848	0.00013
8.72	0	0	0	2.24874	0.00018
8.73	0	0	0	2.67785	0.00022
8.74	0	0	0	3.05957	0.00027
8.75	0	0	0	3.38851	0.0003
8.76	0	0	0	3.66018	0.00034
8.77	0	0	0	3.87101	0.00036
8.78	0	0	0	4.01846	0.00038
8.79	0	0	0	4.101	0.0004
8.8	0	0	0	4.11816	0.00041
8.81	0	0	0	4.07049	0.00041
8.82	0	0	0	3.95953	0.0004
8.83	0	0	0	3.78782	0.00039
8.84	0	0	0	3.55881	0.00038
8.85	0	0	0	3.27681	0.00035
8.86	0	0	0	2.94692	0.00033
8.87	0	0	0	2.5749	0.00029
8.88	0	0	0	2.16711	0.00026

t(sec)	d _g (cm)	v _g (cm/s)	a _g (m/s ²)	p'	u
8.89	0	0	0	1.73041	0.00022
8.9	0	0	0	1.27201	0.00017
8.91	0	0	0	0.79938	0.00013
8.92	0	0	0	0.3201	7.9E-05
8.93	0	0	0	-0.1582	3.2E-05
8.94	0	0	0	-0.6281	-2E-05
8.95	0	0	0	-1.0822	-6E-05
8.96	0	0	0	-1.5137	-0.0001
8.97	0	0	0	-1.916	-0.0002
8.98	0	0	0	-2.2833	-0.0002
8.99	0	0	0	-2.6101	-0.0002
9	0	0	0	-2.8919	-0.0003
9.01	0	0	0	-3.1248	-0.0003
9.02	0	0	0	-3.3057	-0.0003
9.03	0	0	0	-3.4325	-0.0003
9.04	0	0	0	-3.5039	-0.0003
9.05	0	0	0	-3.5194	-0.0003
9.06	0	0	0	-3.4794	-0.0003
9.07	0	0	0	-3.3854	-0.0003
9.08	0	0	0	-3.2394	-0.0003
9.09	0	0	0	-3.0444	-0.0003
9.1	0	0	0	-2.804	-0.0003
9.11	0	0	0	-2.5227	-0.0003
9.12	0	0	0	-2.2053	-0.0003
9.13	0	0	0	-1.8572	-0.0002
9.14	0	0	0	-1.4843	-0.0002
9.15	0	0	0	-1.0928	-0.0001
9.16	0	0	0	-0.6891	-0.0001
9.17	0	0	0	-0.2795	-7E-05
9.18	0	0	0	0.12927	-3E-05
9.19	0	0	0	0.53094	1.3E-05
9.2	0	0	0	0.91927	5.3E-05
9.21	0	0	0	1.28832	9.1E-05
9.22	0	0	0	1.63254	0.00013
9.23	0	0	0	1.94685	0.00016
9.24	0	0	0	2.22668	0.00019
9.25	0	0	0	2.46807	0.00022
9.26	0	0	0	2.66772	0.00025
9.27	0	0	0	2.82301	0.00027
9.28	0	0	0	2.93206	0.00028
9.29	0	0	0	2.99374	0.00029
9.3	0	0	0	3.00766	0.0003
9.31	0	0	0	2.97422	0.0003
9.32	0	0	0	2.89451	0.0003
9.33	0	0	0	2.77038	0.00029
9.34	0	0	0	2.60433	0.00028
9.35	0	0	0	2.39948	0.00026
9.36	0	0	0	2.15953	0.00024
9.37	0	0	0	1.88869	0.00021
9.38	0	0	0	1.5916	0.00019
9.39	0	0	0	1.27323	0.00016
9.4	0	0	0	0.93887	0.00013
9.41	0	0	0	0.59394	9.3E-05
9.42	0	0	0	0.244	5.9E-05
9.43	0	0	0	-0.1054	2.4E-05
9.44	0	0	0	-0.4488	-1E-05
9.45	0	0	0	-0.7808	-4E-05
9.46	0	0	0	-1.0965	-8E-05
9.47	0	0	0	-1.391	-0.0001
9.48	0	0	0	-1.66	-0.0001
9.49	0	0	0	-1.8996	-0.0002
9.5	0	0	0	-2.1063	-0.0002
9.51	0	0	0	-2.2775	-0.0002
9.52	0	0	0	-2.4108	-0.0002
9.53	0	0	0	-2.5045	-0.0002
9.54	0	0	0	-2.5578	-0.0002
9.55	0	0	0	-2.5703	-0.0003
9.56	0	0	0	-2.5423	-0.0003
9.57	0	0	0	-2.4748	-0.0003
9.58	0	0	0	-2.3693	-0.0002
9.59	0	0	0	-2.2279	-0.0002
9.6	0	0	0	-2.0533	-0.0002
9.61	0	0	0	-1.8486	-0.0002
9.62	0	0	0	-1.6175	-0.0002
9.63	0	0	0	-1.364	-0.0002
9.64	0	0	0	-1.0921	-0.0001
9.65	0	0	0	-0.8066	-0.0001
9.66	0	0	0	-0.5119	-8E-05
9.67	0	0	0	-0.2129	-5E-05
9.68	0	0	0	0.08573	-2E-05
9.69	0	0	0	0.37927	8.5E-06

t(sec)	d _g (cm)	v _g (cm/s)	a _g (m/s ²)	p'	u
9.7	0	0	0	0.6632	3.8E-05
9.71	0	0	0	0.93318	6.6E-05
9.72	0	0	0	1.18514	9.3E-05
9.73	0	0	0	1.41535	0.00012
9.74	0	0	0	1.62048	0.00014
9.75	0	0	0	1.79762	0.00016
9.76	0	0	0	1.94433	0.00018
9.77	0	0	0	2.05871	0.00019
9.78	0	0	0	2.13934	0.0002
9.79	0	0	0	2.1854	0.00021
9.8	0	0	0	2.19659	0.00022
9.81	0	0	0	2.17317	0.00022
9.82	0	0	0	2.11593	0.00022
9.83	0	0	0	2.02621	0.00021
9.84	0	0	0	1.90581	0.0002
9.85	0	0	0	1.75701	0.00019
9.86	0	0	0	1.58249	0.00017
9.87	0	0	0	1.38532	0.00016
9.88	0	0	0	1.16887	0.00014
9.89	0	0	0	0.93678	0.00012
9.9	0	0	0	0.69289	9.3E-05
9.91	0	0	0	0.44117	6.9E-05
9.92	0	0	0	0.18567	4.4E-05
9.93	0	0	0	-0.0696	1.8E-05
9.94	0	0	0	-0.3205	-7E-06
9.95	0	0	0	-0.5633	-3E-05
9.96	0	0	0	-0.7942	-6E-05
9.97	0	0	0	-1.0097	-8E-05
9.98	0	0	0	-1.2068	-0.0001
9.99	0	0	0	-1.3824	-0.0001
10	0	0	0	-1.5341	-0.0001



Φασματικές τιμές:

T (sec)	SD (m)	PSV (m/s)	PSA (m/s ²)
0.5	0.0762812	0.95857722	12.045837