

## Динамические реакции вала

Кирсанов М.Н. **Решебник. Теоретическая механика** с. 272.

**Вариант 1**

$a = 45 \text{ см}, b = 55 \text{ см},$   
 $c = 50 \text{ см}, R = 50 \text{ см},$   
 $m_1 = 40 \text{ кг}, m_2 = 10 \text{ кг},$   
 $\alpha = 0.1 \text{ рад}, L = 35 \text{ см},$   
 $M_z = 1.6 \text{ Нм}, t = 4 \text{ с}.$

**Вариант 2**

$a = 35 \text{ см}, b = 55 \text{ см},$   
 $c = 45 \text{ см}, R = 45 \text{ см},$   
 $m_1 = 85 \text{ кг}, m_2 = 18 \text{ кг},$   
 $\alpha = 0.17 \text{ рад}, L = 25 \text{ см},$   
 $M_z = 1.5 \text{ Нм}, t = 6 \text{ с}.$

**Вариант 3**

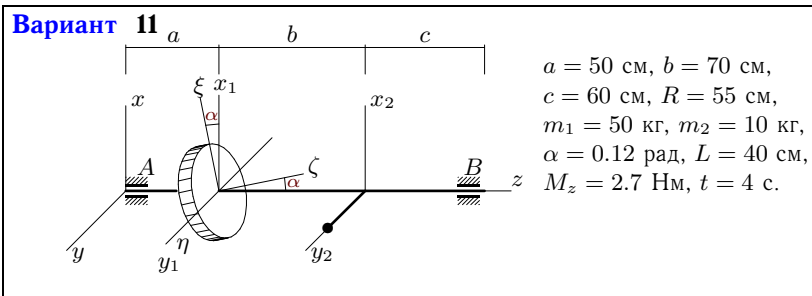
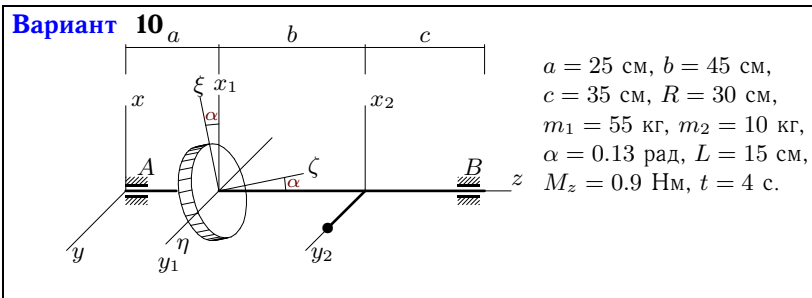
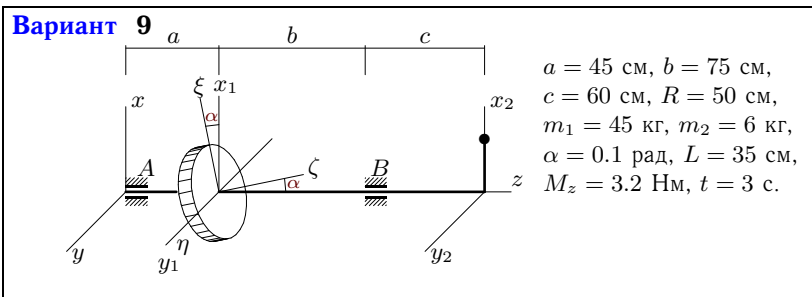
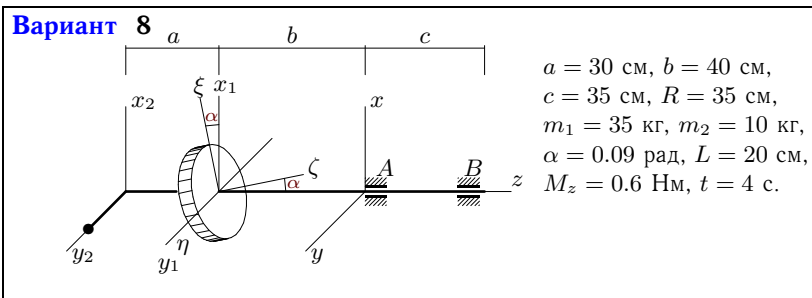
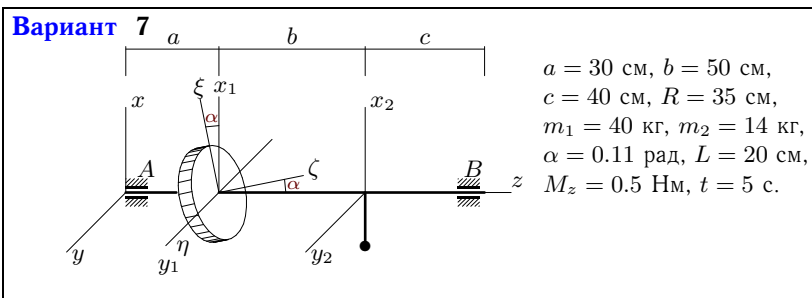
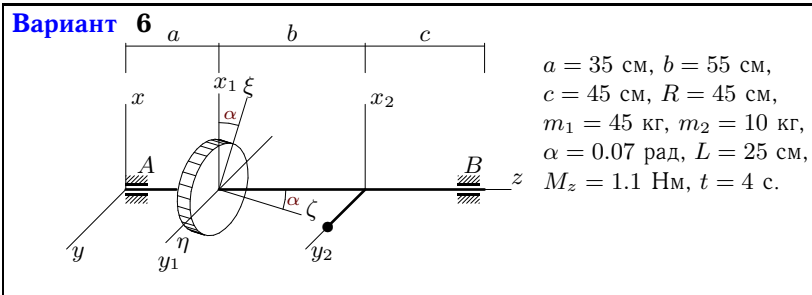
$a = 55 \text{ см}, b = 65 \text{ см},$   
 $c = 60 \text{ см}, R = 60 \text{ см},$   
 $m_1 = 50 \text{ кг}, m_2 = 18 \text{ кг},$   
 $\alpha = 0.14 \text{ рад}, L = 45 \text{ см},$   
 $M_z = 1.7 \text{ Нм}, t = 6 \text{ с}.$

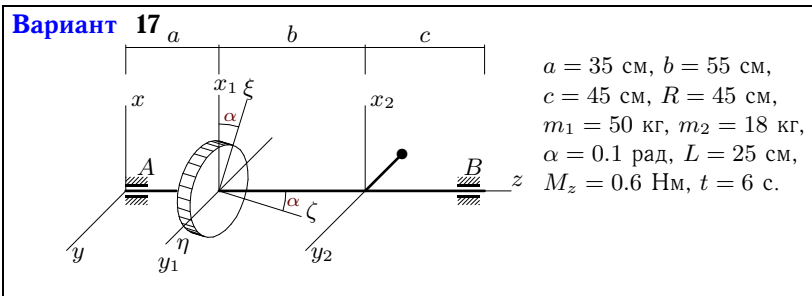
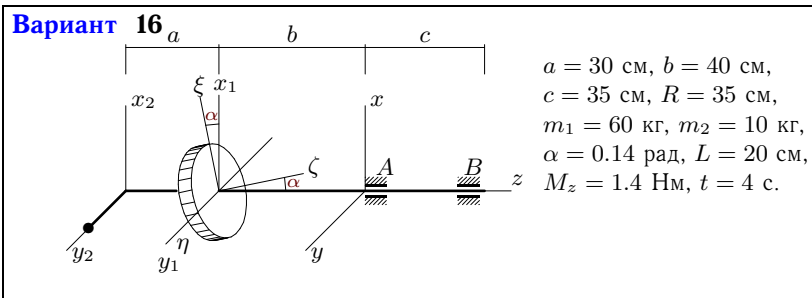
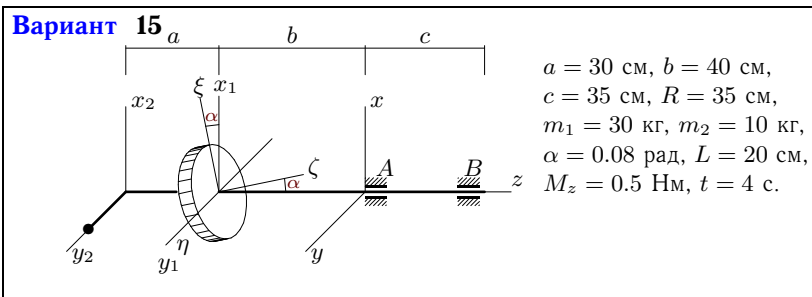
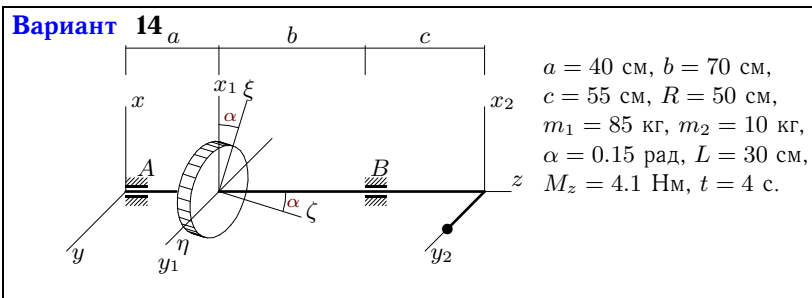
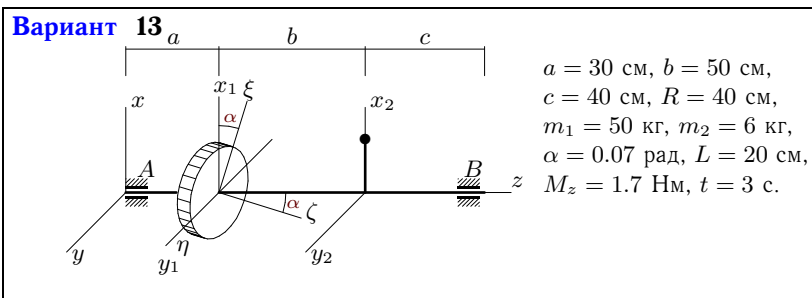
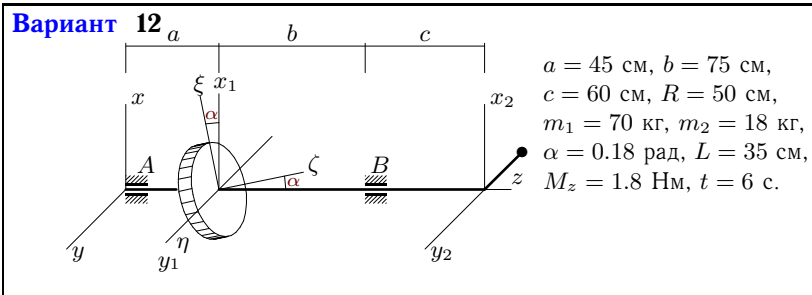
**Вариант 4**

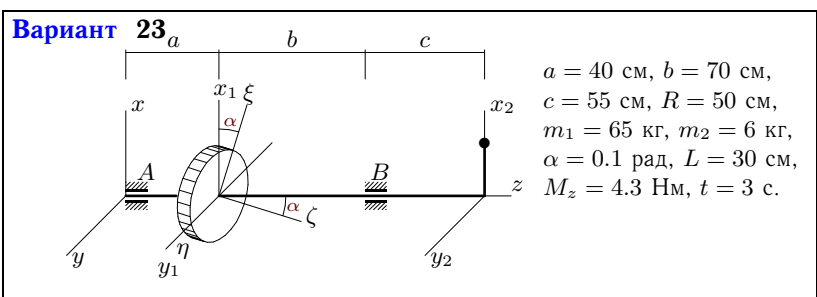
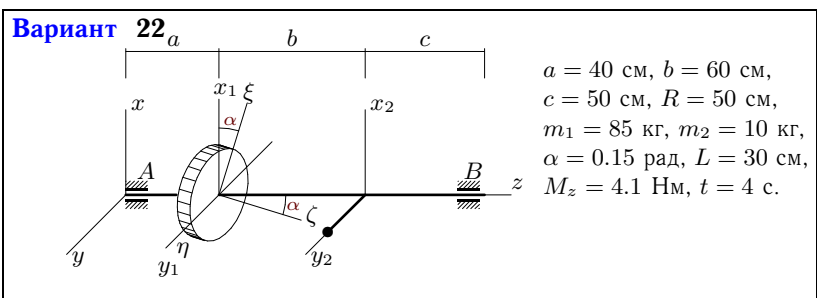
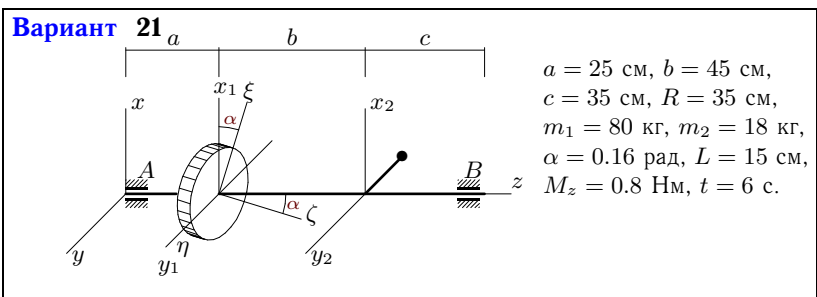
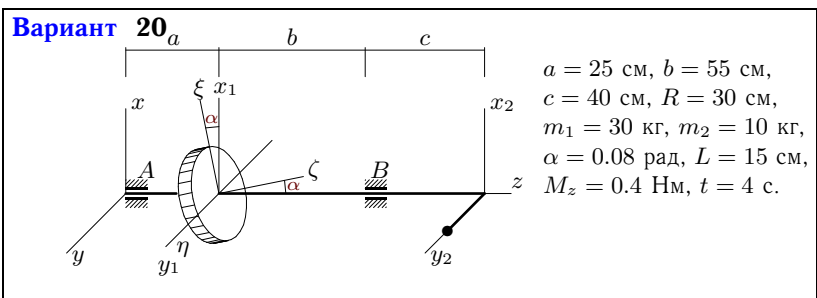
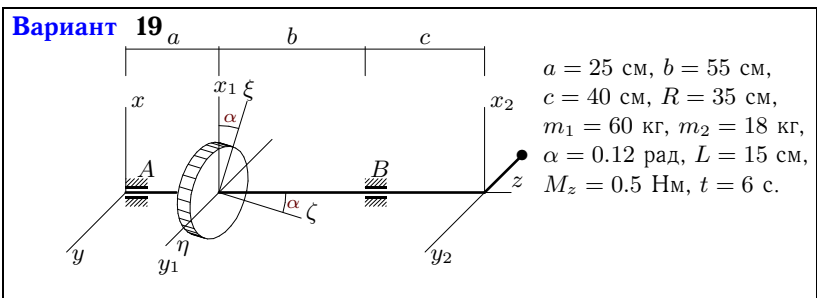
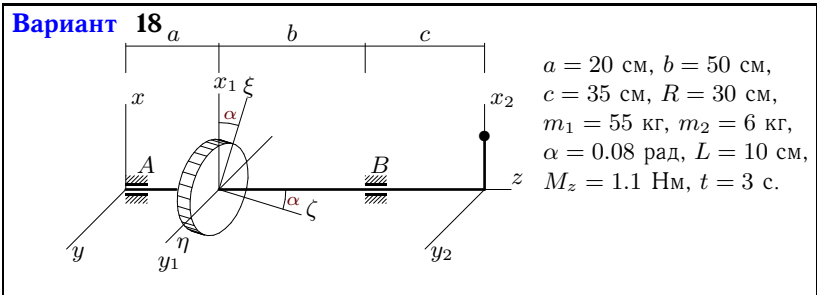
$a = 45 \text{ см}, b = 55 \text{ см},$   
 $c = 50 \text{ см}, R = 55 \text{ см},$   
 $m_1 = 45 \text{ кг}, m_2 = 6 \text{ кг},$   
 $\alpha = 0.06 \text{ рад}, L = 35 \text{ см},$   
 $M_z = 2.8 \text{ Нм}, t = 3 \text{ с}.$

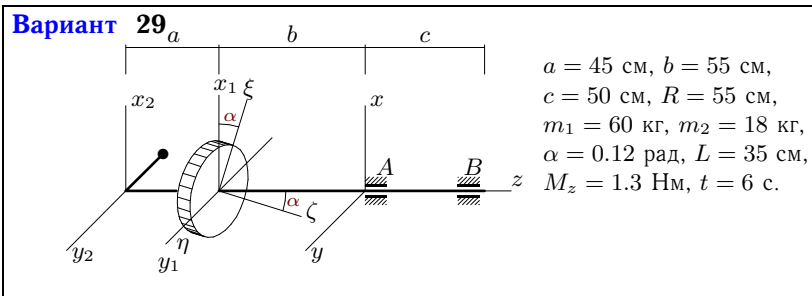
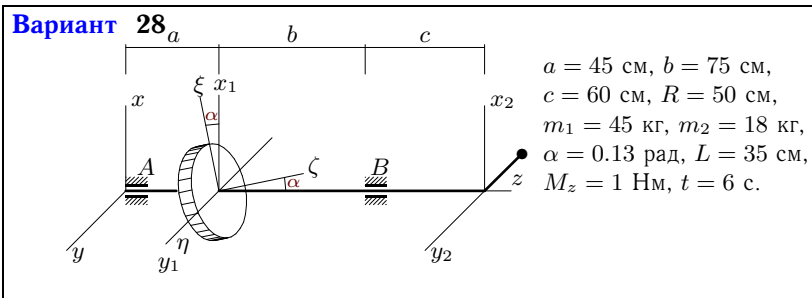
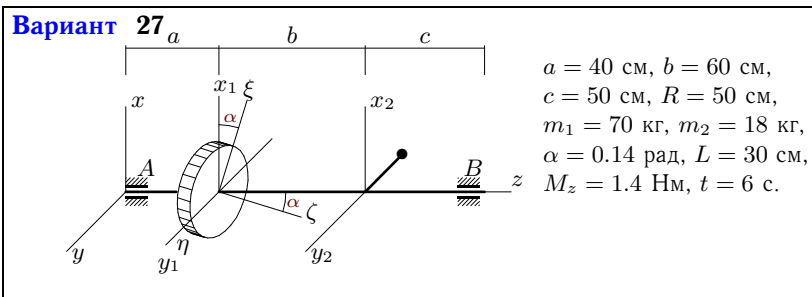
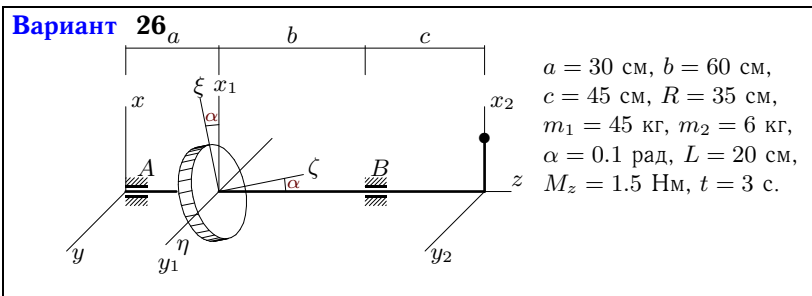
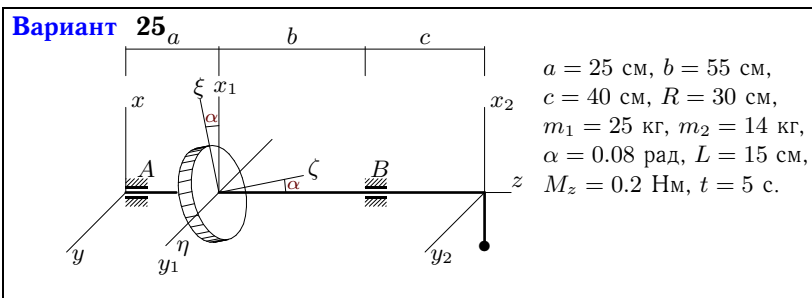
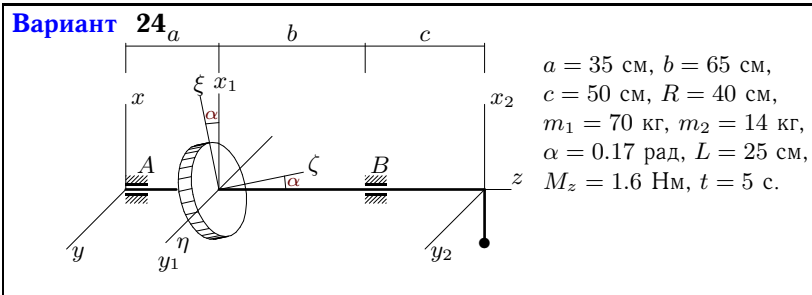
**Вариант 5**

$a = 35 \text{ см}, b = 65 \text{ см},$   
 $c = 50 \text{ см}, R = 40 \text{ см},$   
 $m_1 = 50 \text{ кг}, m_2 = 14 \text{ кг},$   
 $\alpha = 0.13 \text{ рад}, L = 25 \text{ см},$   
 $M_z = 0.9 \text{ Нм}, t = 5 \text{ с}.$

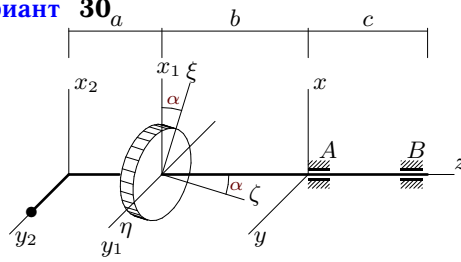








**Вариант 30**



$a = 50$  см,  $b = 60$  см,  
 $c = 55$  см,  $R = 60$  см,  
 $m_1 = 50$  кг,  $m_2 = 10$  кг,  
 $\alpha = 0.08$  рад,  $L = 40$  см,  
 $M_z = 2.4$  Нм,  $t = 4$  с.

Ответы

	$\varepsilon$	$\omega$	$x_c$	$y_c$	$z_c$	$X_A$	$Y_A$	$X_B$	$Y_B$
1	0.257	1.028	0.000	7.000	-64.000	-3.227	-10.970	2.328	7.271
2	0.154	0.925	0.000	-4.369	44.612	0.695	1.200	-0.001	2.650
3	0.134	0.807	0.000	-11.912	-79.559	2.584	15.953	-1.495	-10.682
4	0.371	1.114	4.118	0.000	-60.294	-7.310	2.188	4.704	-1.408
5	0.185	0.923	-5.469	0.000	60.156	-1.713	0.371	4.695	-1.017
6	0.212	0.849	0.000	4.545	45.000	-0.092	-0.626	-0.439	-1.177
7	0.166	0.831	-5.185	0.000	42.963	0.566	-0.136	1.365	-0.329
8	0.236	0.943	0.000	4.444	-46.667	-1.661	-5.276	1.189	3.496
9	0.503	1.509	4.118	0.000	60.882	1.858	-0.410	-6.643	1.467
10	0.333	1.333	0.000	2.308	31.923	-0.439	-0.838	-0.061	-1.829
11	0.295	1.179	0.000	6.667	61.667	-0.743	-1.778	-0.436	-3.779
12	0.164	0.986	0.000	-7.159	72.614	-1.155	-2.954	2.191	9.077
13	0.401	1.203	2.143	0.000	35.357	-0.410	0.114	-1.326	0.368
14	0.356	1.423	0.000	3.158	53.158	2.001	2.780	-3.068	-8.854
15	0.223	0.894	0.000	5.000	-47.500	-1.509	-4.747	1.062	3.149
16	0.344	1.374	0.000	2.857	-44.286	-3.449	-11.079	2.762	7.302
17	0.097	0.582	0.000	-6.618	49.559	0.209	0.490	0.227	1.034
18	0.434	1.302	0.984	0.000	28.361	0.748	-0.192	-1.765	0.452
19	0.123	0.735	0.000	-3.462	46.923	-0.016	-0.764	0.347	2.223
20	0.254	1.016	0.000	3.750	48.750	0.121	0.791	-0.502	-2.339
21	0.151	0.905	0.000	-2.755	33.265	0.441	0.681	-0.034	1.530
22	0.356	1.423	0.000	3.158	46.316	0.720	-2.214	-1.787	-3.861
23	0.496	1.489	2.535	0.000	50.563	2.813	-0.630	-6.803	1.523
24	0.247	1.236	-4.167	0.000	54.167	-3.398	0.550	8.741	-1.415
25	0.139	0.694	-5.385	0.000	59.103	-0.533	0.154	1.546	-0.445
26	0.501	1.502	2.353	0.000	42.353	1.008	-0.224	-3.715	0.824
27	0.135	0.810	0.000	-6.136	52.273	0.511	1.126	0.218	2.417
28	0.128	0.766	0.000	-10.000	83.571	-0.581	-1.811	1.386	5.510
29	0.115	0.691	0.000	-8.077	-65.385	2.699	8.912	-1.973	-5.899
30	0.226	0.906	0.000	6.667	-68.333	-2.180	-9.991	1.274	6.710