

Динамические реакции вала

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

Вариант 1

$a = 35 \text{ см}, b = 55 \text{ см},$
 $c = 45 \text{ см}, R = 45 \text{ см},$
 $m_1 = 80 \text{ кг}, m_2 = 18 \text{ кг},$
 $\alpha = 0.16 \text{ рад}, L = 25 \text{ см},$
 $M_z = 1.4 \text{ Нм}, t = 6 \text{ с}.$

Вариант 2

$a = 45 \text{ см}, b = 65 \text{ см},$
 $c = 55 \text{ см}, R = 55 \text{ см},$
 $m_1 = 85 \text{ кг}, m_2 = 10 \text{ кг},$
 $\alpha = 0.15 \text{ рад}, L = 35 \text{ см},$
 $M_z = 5 \text{ Нм}, t = 4 \text{ с}.$

Вариант 3

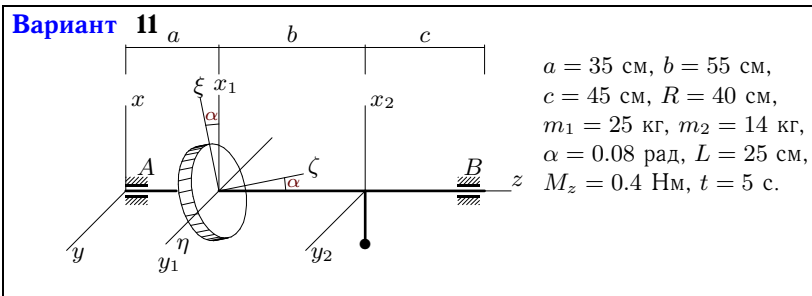
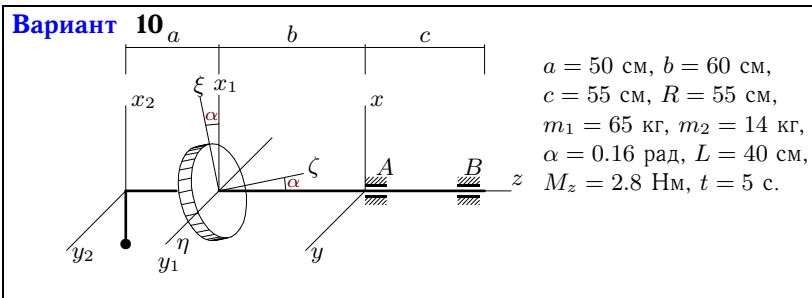
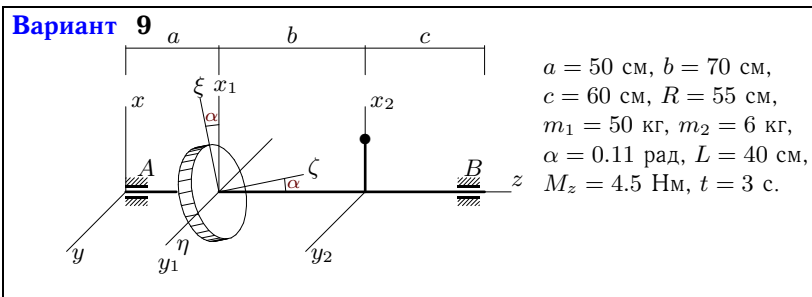
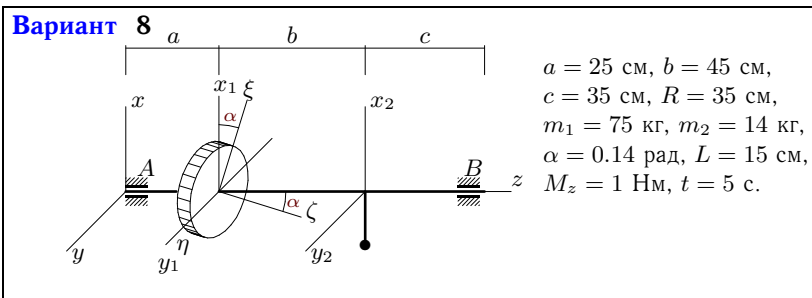
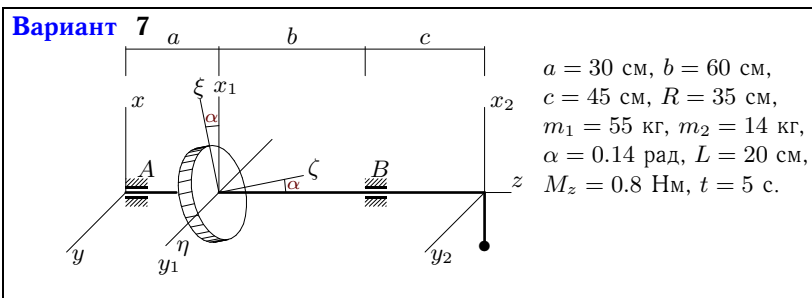
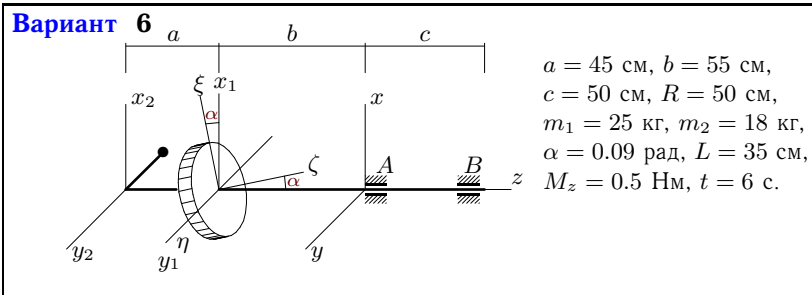
$a = 30 \text{ см}, b = 40 \text{ см},$
 $c = 35 \text{ см}, R = 35 \text{ см},$
 $m_1 = 45 \text{ кг}, m_2 = 18 \text{ кг},$
 $\alpha = 0.13 \text{ рад}, L = 20 \text{ см},$
 $M_z = 0.4 \text{ Нм}, t = 6 \text{ с}.$

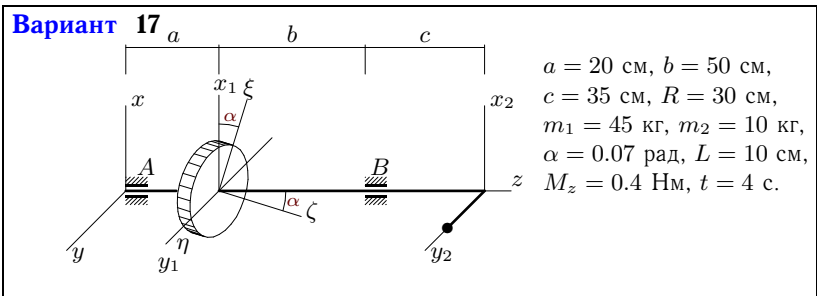
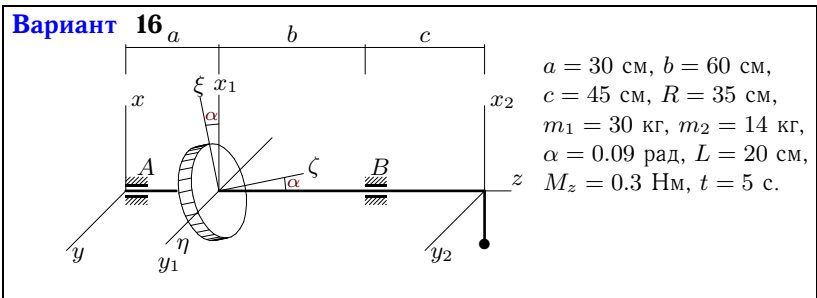
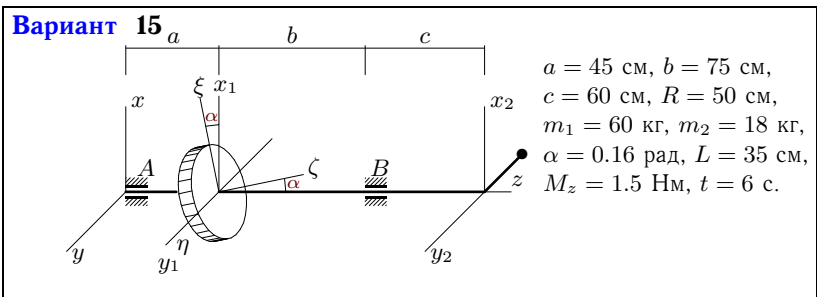
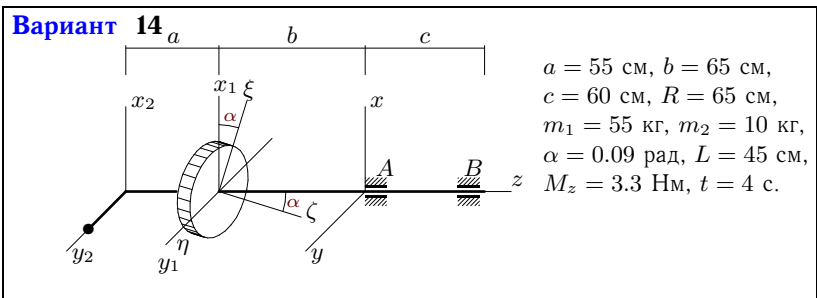
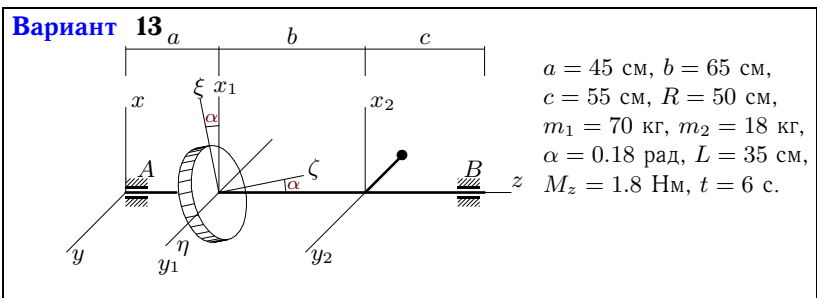
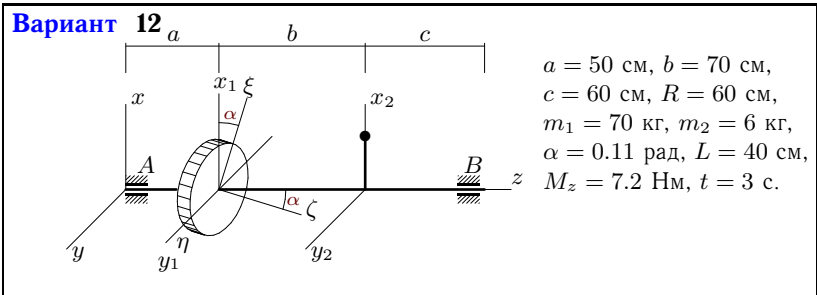
Вариант 4

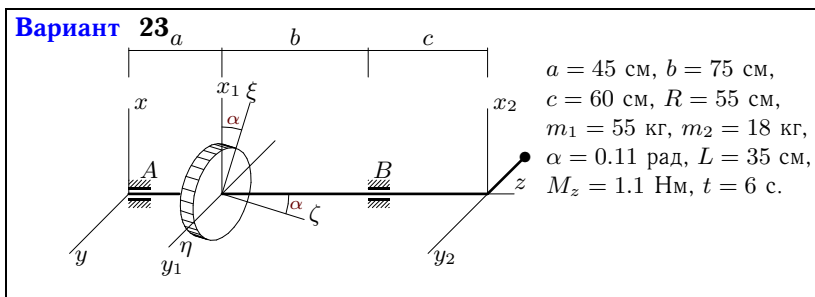
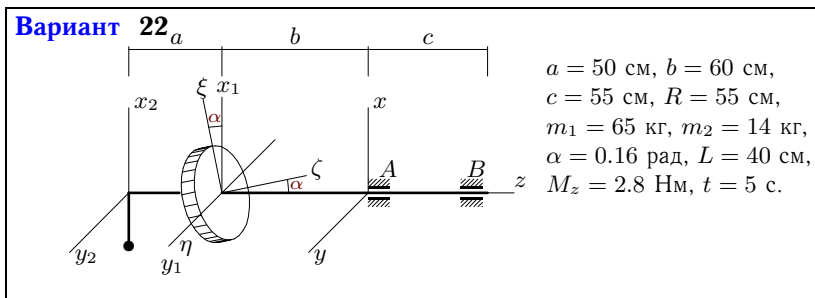
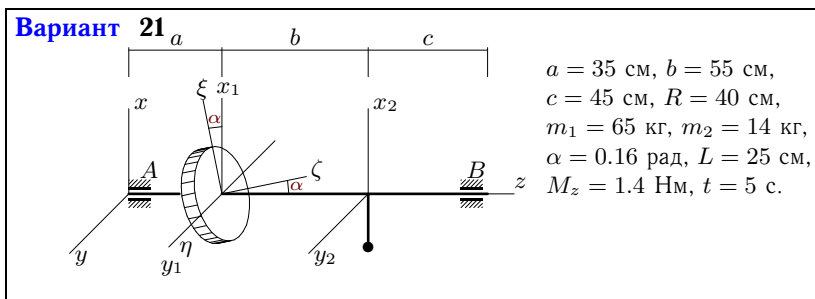
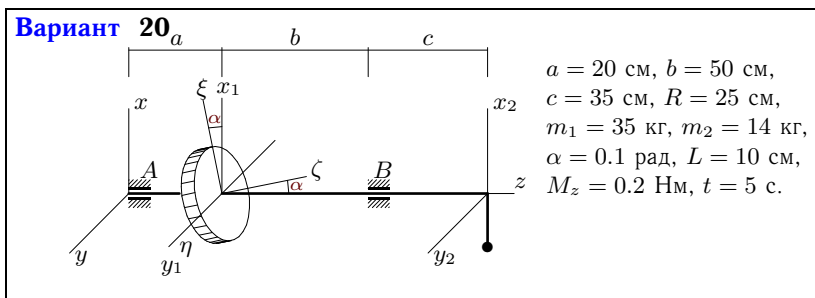
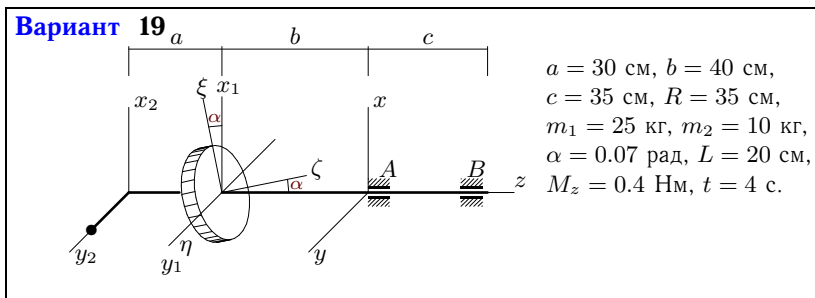
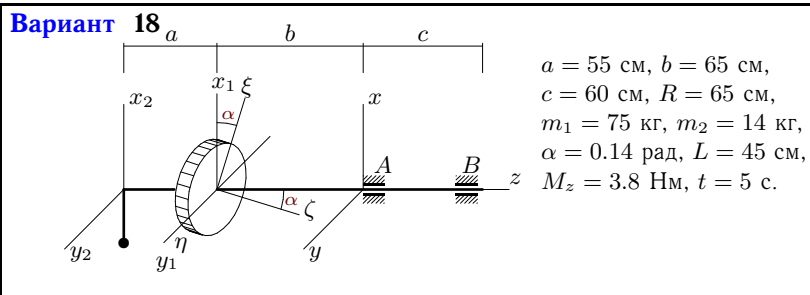
$a = 45 \text{ см}, b = 75 \text{ см},$
 $c = 60 \text{ см}, R = 55 \text{ см},$
 $m_1 = 60 \text{ кг}, m_2 = 14 \text{ кг},$
 $\alpha = 0.11 \text{ рад}, L = 35 \text{ см},$
 $M_z = 1.8 \text{ Нм}, t = 5 \text{ с}.$

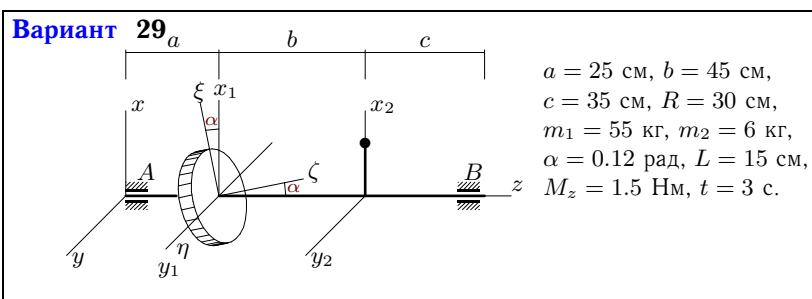
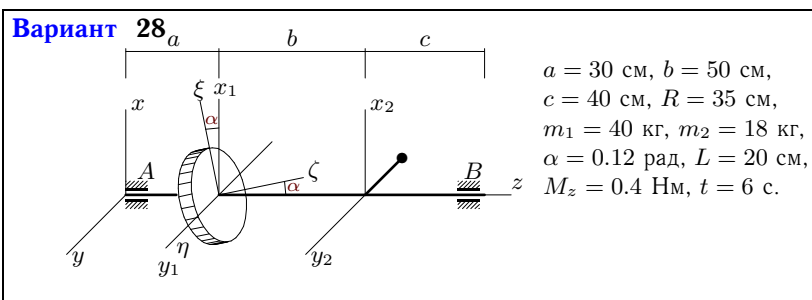
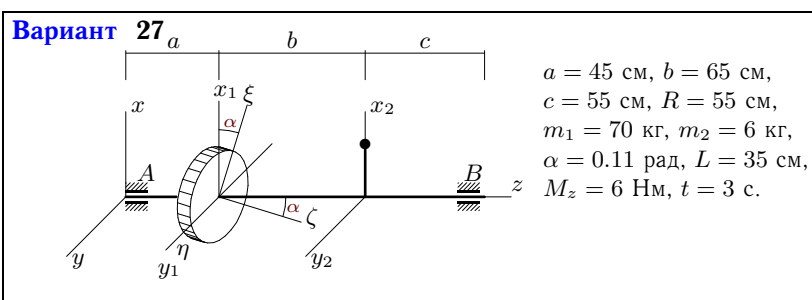
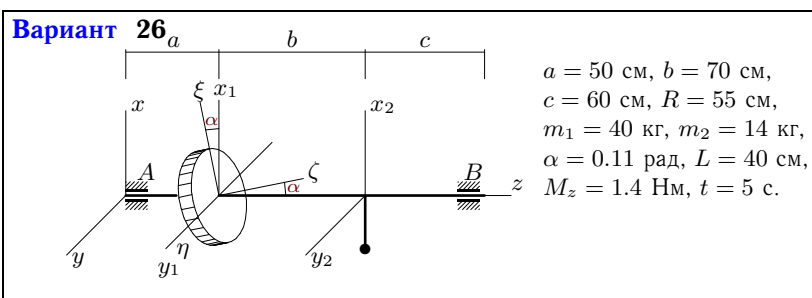
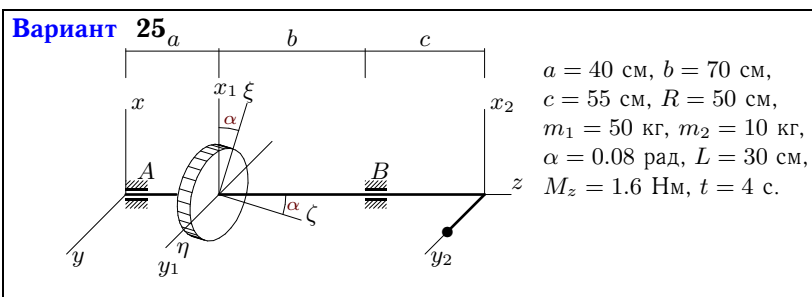
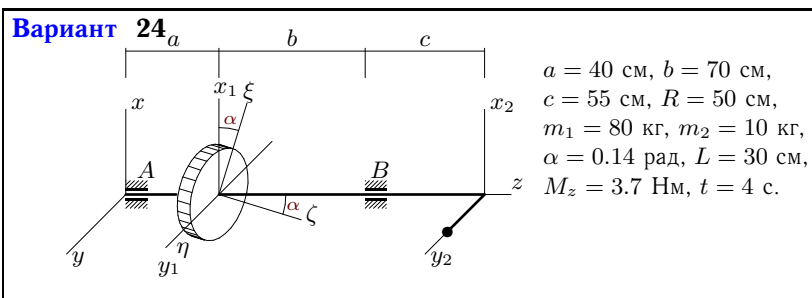
Вариант 5

$a = 25 \text{ см}, b = 55 \text{ см},$
 $c = 40 \text{ см}, R = 30 \text{ см},$
 $m_1 = 25 \text{ кг}, m_2 = 10 \text{ кг},$
 $\alpha = 0.07 \text{ рад}, L = 15 \text{ см},$
 $M_z = 0.3 \text{ Нм}, t = 4 \text{ с}.$

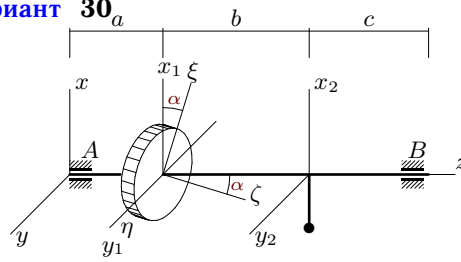








Вариант 30



$a = 50$ см, $b = 70$ см,
 $c = 60$ см, $R = 60$ см,
 $m_1 = 60$ кг, $m_2 = 14$ кг,
 $\alpha = 0.11$ рад, $L = 40$ см,
 $M_z = 2.2$ Нм, $t = 5$ с.

Ответы

	ε	ω	x_c	y_c	z_c	X_A	Y_A	X_B	Y_B
1	0.152	0.911	0.000	-4.592	45.102	0.626	1.171	0.057	2.560
2	0.355	1.420	0.000	3.684	51.842	0.765	-2.561	-2.007	-4.500
3	0.115	0.690	0.000	-5.714	-48.571	0.999	5.207	-0.584	-3.491
4	0.167	0.834	-6.622	0.000	70.541	-1.415	0.339	4.824	-1.157
5	0.222	0.889	0.000	4.286	52.143	0.128	0.604	-0.461	-1.789
6	0.094	0.563	0.000	-14.651	-73.837	1.684	6.014	-1.093	-4.018
7	0.204	1.018	-4.058	0.000	51.304	-1.723	0.338	4.625	-0.909
8	0.204	1.019	-2.360	0.000	32.079	1.044	-0.205	1.135	-0.223
9	0.528	1.584	4.286	0.000	57.500	-2.587	0.544	-3.435	0.723
10	0.232	1.160	-7.089	0.000	-68.861	20.674	-3.565	-13.142	2.266
11	0.139	0.696	-8.974	0.000	54.744	0.536	-0.154	1.158	-0.333
12	0.531	1.593	3.158	0.000	55.526	-1.053	0.220	-5.037	1.054
13	0.164	0.986	0.000	-7.159	58.295	-0.119	2.119	1.154	4.004
14	0.242	0.967	0.000	6.923	-73.462	-2.450	-12.847	1.361	8.635
15	0.155	0.927	0.000	-8.077	76.154	-0.917	-2.632	1.891	8.050
16	0.125	0.626	-6.364	0.000	63.409	-0.584	0.187	1.680	-0.537
17	0.188	0.753	0.000	1.818	35.455	0.152	0.264	-0.340	-0.831
18	0.203	1.017	-7.079	0.000	-73.652	21.468	-4.221	-14.950	2.939
19	0.207	0.828	0.000	5.714	-48.571	-1.348	-4.087	0.934	2.714
20	0.162	0.811	-2.857	0.000	44.286	-0.511	0.126	1.431	-0.353
21	0.230	1.152	-4.430	0.000	44.747	1.140	-0.198	3.507	-0.609
22	0.232	1.160	-7.089	0.000	-68.861	20.674	-3.565	-13.142	2.266
23	0.105	0.627	0.000	-8.630	78.288	-0.179	-1.279	0.838	3.757
24	0.339	1.358	0.000	3.333	53.889	1.682	2.549	-2.701	-8.080
25	0.224	0.895	0.000	5.000	60.833	0.518	1.151	-1.189	-3.555
26	0.169	0.844	-10.370	0.000	68.148	1.199	-0.284	2.794	-0.662
27	0.530	1.590	2.763	0.000	50.132	-0.877	0.184	-4.430	0.929
28	0.126	0.757	0.000	-6.207	45.517	0.081	0.703	0.373	1.360
29	0.575	1.724	1.475	0.000	29.426	-1.312	0.254	-1.363	0.264
30	0.169	0.844	-7.568	0.000	63.243	1.563	-0.371	2.422	-0.574